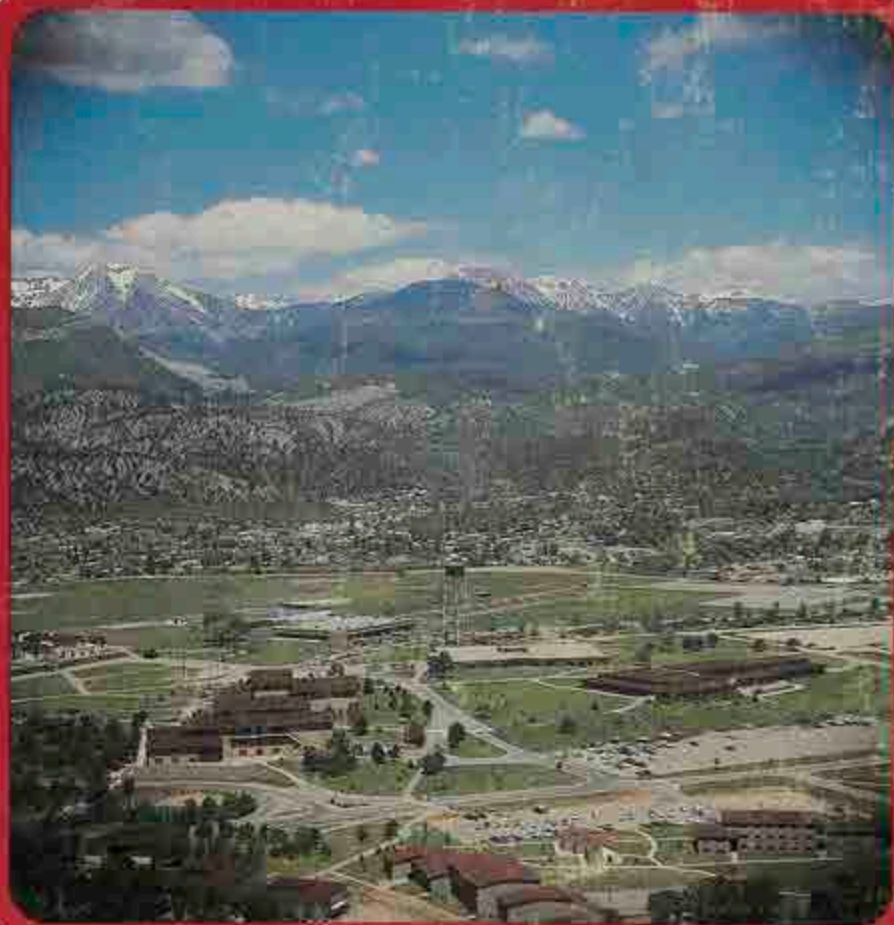


# FORT LEWIS COLLEGE

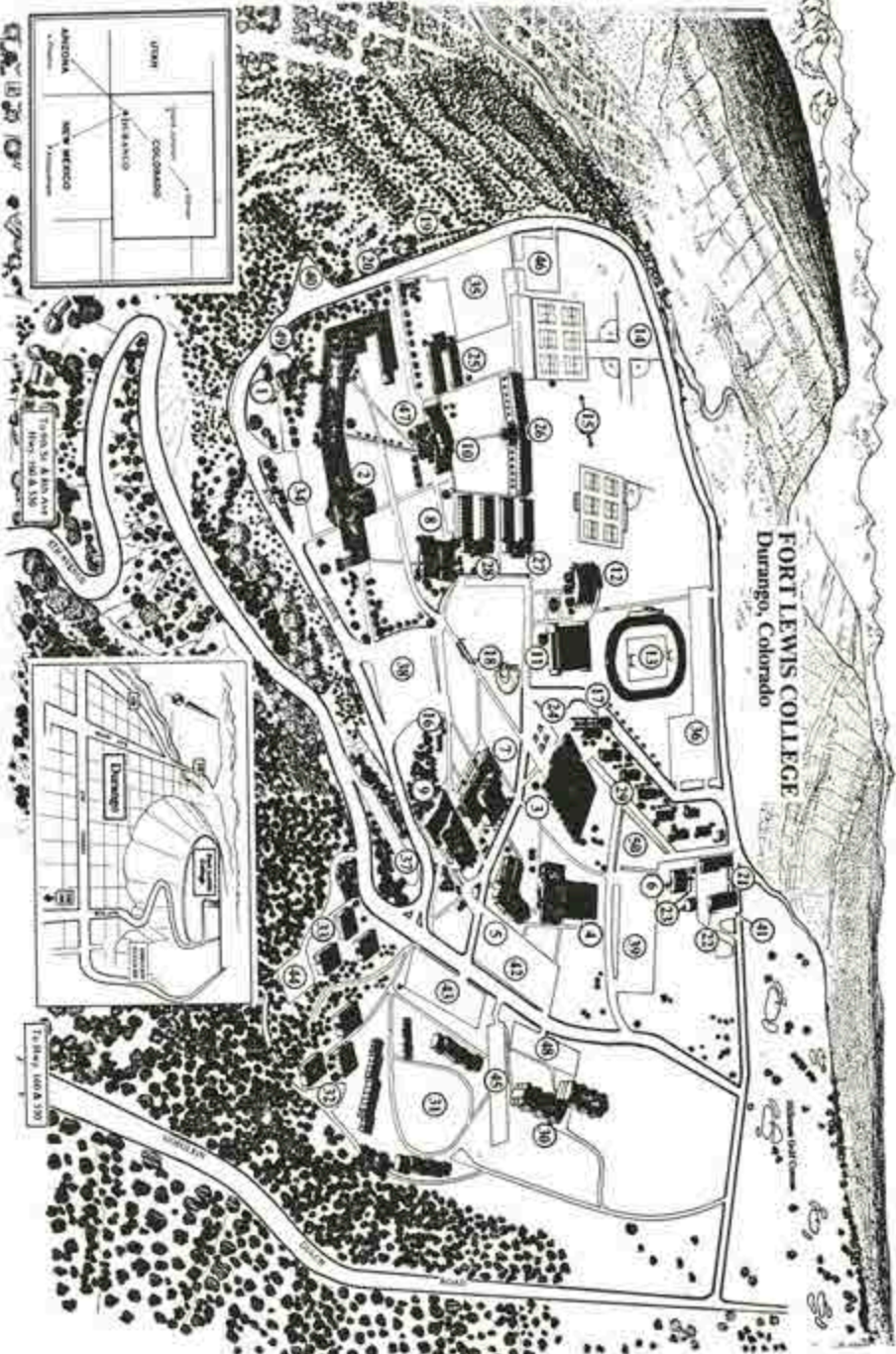
Durango, Colorado



CATALOG 1988-89

# FORT LEWIS COLLEGE

Durango, Colorado



CAMPUS BUILDINGS

- 1 Administration
  - 2 Administration/Academic Bldg.
  - 3 Hesperus Hall
  - 4 Administration/Industry offices
  - 5 Power Arts Building
  - 6 Education/Industry (offices)
  - 7 John F. Boyd Library
  - 8 Theater
  - 9 College Union (CUB)
  - 10 Reuben A. Miller Student Center
  - 11 Gymnasium
  - 12 Natatorium
  - 13 Recreation Memorial Stadium
  - 14 Recreation Campus
  - 15 Tennis Courts
  - 16 Recreation Center
  - 17 Health Center
  - 18 Amphitheater
  - 19 McPherson Chapel
  - 20 Nature Trail Head
  - 21 Physical Plant
  - 22 Central Stores & Kitchens
  - 23 State Forest Service Complex
  - 24 The Fall Hut Student Residence Hall
  - 25 Bachelor Student Residence Hall
  - 26 Cooper Student Residence Hall
  - 27 Condon/Student Residence Hall
  - 28 Camp/Snyder Residence Hall
  - 29 North Campus Residence
  - 30 Avarosa Apartments
  - 31 Continental Apartments
  - 32 Baker Residence Hall
  - 33 Sheridan Residence Hall
  - 34 Parking Lot A
  - 35 Parking Lot C
  - 36 Parking Lot E
  - 37 Parking Lot F
  - 38 Parking Lot G
  - 39 Parking Lot H
  - 40 Parking Lot I
  - 41 Parking Lot J
  - 42 Parking Lot K
  - 43 Parking Lot L
  - 44 Parking Lot M
  - 45 Parking Lot P
  - 46 Parking Lot R
  - 47 Parking Lot S
  - 48 Parking Lot U
  - 49 Parking Lot V
  - 50 Overlook Parking
- DEPARTMENT OFFICE LOCATIONS**
- Administration  
 President  
 Provost  
 Financial Affairs  
 Academic Affairs  
 Student Affairs  
 Records  
 Registrar  
 Business Office  
 Housing  
 Financial Aid  
 Security

# FORT LEWIS COLLEGE

Durango, Colorado 81301

## CATALOG FOR THE ACADEMIC YEAR 1988-89

Course offerings and requirements at all colleges vary with time and demand. The administration of Fort Lewis College reserves the right to alter course listings as necessary without notice.

Fort Lewis College does not discriminate on the basis of race, color, national origin, sex, age or handicap in admission or access to, or treatment or employment in, its education programs or activities. Inquiries concerning Title VI, Title IX, and Section 504 may be referred to the Affirmative Action Officer, Fort Lewis College, 247-7578 or to the Office for Civil Rights, U.S. Department of Education, 1961 Stout Street, Denver, Colorado 80294.

## FORT LEWIS COLLEGE ACADEMIC CALENDAR 1988-89

**FALL 1988**

Faculty meetings, workshops	Fri	September 2, 1988
Confirm registration & new student orientation	Sun	September 4
Registration*	Mon	September 5
Classes begin	Tues	September 6
Deadline for adding classes (census date)	Mon	September 19
Midterm grades due	Fri	October 21
Deadline for dropping classes	Fri	October 28
Advising & winter trimester registration	Mon-Fri & Mon	November 14-18 & 21
Thanksgiving break	Wed-Sun	November 23-27
Last day of classes	Mon	December 12
Study day (no classes or exams)	Tues	December 13
Final exams	Wed-Sat	December 14-17
Term ends	Sat	December 17

**WINTER 1989**

Confirm registration & new student orientation	Mon	January 9, 1989
Registration*	Tues	January 10
Classes begin	Wed	January 11
Deadline for adding classes (census date)	Tues	January 24
Midterm grades due	Fri	February 24
Deadline for dropping classes	Fri	March 3
Spring break	Mon-Sun	March 6-12
Classes resume	Mon	March 13
Advising & fall trimester registration	Mon-Fri & Mon	March 27-31 & April 3
Last day of classes	Fri	April 21
Study days (no classes or exams)	Sat & Sun	April 22-23
Final exams	Mon-Thurs	April 24-27
Commencement	Sat	April 29

**1ST FIVE-WEEK SESSION 1989**

Registration*	Tues	May 2
Deadline for adding classes (census date)	Mon	May 8
Deadline for dropping classes	Mon	May 22
Term ends	Fri	June 2

**2ND FIVE-WEEK SESSION 1989**

Registration*	Mon	June 5
Deadline for adding classes (census date)	Fri	June 9
Deadline for dropping classes	Fri	June 23
Term ends	Fri	July 7

**3RD FIVE-WEEK SESSION 1989**

Registration*	Mon	July 10
Deadline for adding classes (census date)	Fri	July 14
Deadline for dropping classes	Fri	July 28
Term ends	Fri	August 11

\*Registration date is also the deadline for consideration for any changes in tuition classification for the indicated term.



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# General Information



Fort Lewis College is a state-supported undergraduate college offering a broad spectrum of programs in arts and sciences as well as professional programs in business and education. It is accredited by the North Central Association of Colleges and Schools. The College has been given by its governing body, the State Board of Agriculture, the task of developing a program at least equal to the outstanding undergraduate institutions in the nation.

The steady pattern of growth during the past decade is a measure of the successful way in which the College has met this challenge. In 1962, for example, the College enrolled 720 students; current enrollment is 3700. The long-range plan of the College has established a pattern of controlled growth until a maximum of 4000 students is reached.

## HISTORY

Fort Lewis College can be traced back to 1878, when Fort Lewis was staffed as a military post at Pagosa Springs. During 1880 the Fort was moved to Hesperus, Colorado, in order to become more centrally located and eventually, in 1891, the military post was abandoned. Fort Lewis then began operation as an Indian School providing free education to Native American students.

In 1911 a high school of agriculture was established. By 1925 the emphasis began to shift toward college-level courses and in 1933 Fort Lewis became a two-year college exclusively. The Durango campus was opened in 1956 and the first baccalaureate degrees were granted in 1964. In April 1986, Fort Lewis College joined the Colorado State University System which also includes the University of Southern Colorado and Colorado State University.

## LOCATION

The College is situated on a mesa overlooking Durango, the largest city in southwestern Colorado with a population of 12,000. Durango is approximately 350 miles from Denver, 200 miles from Albuquerque and 450 miles from Phoenix. At an elevation of 6500 feet, Durango is surrounded by the Colorado Rockies, yet is just 50 miles from the southwestern deserts.

## THE CAMPUS

The campus is relatively new with all buildings constructed since 1956. Academic activities are centered in Hesperus Hall, the Fine Arts Building, the John F. Reed Library, the Theatre, Dan Noble Hall, and the academic wing of the Academic-Administration Building. The College Union Building houses one of the two cafeterias, snack bar, post office, bookstore, lounge and meeting rooms. The second cafeteria, on-campus housing office, financial aid office and Intercultural Center are located in Miller Student Center.

Students are housed in 13 residence halls and two apartment complexes. Physical education and recreation facilities include a large modern gymnasium, indoor swimming pool, football stadium, 12 tennis courts, softball fields and track.



## THE FACULTY

The Fort Lewis faculty has been recruited from the best colleges and universities in the country. Approximately 80% of the 160 faculty members hold the terminal degree for their disciplines and many have gained national reputations for teaching, research, and curriculum development.

Because Fort Lewis offers only undergraduate education, faculty concentrate on classroom and laboratory teaching, and demonstrate always their concern for individual students.

## MISSION

The following mission statement has been adopted by the State Board of Agriculture, the governing body of Fort Lewis College:

The mission of Fort Lewis College is to approach both general studies and professional programs from the perspective of the liberal arts. This mission has evolved within the 1962 mandate from the State of Colorado that the College offer "a curriculum in the sciences, arts, business, education and vocational education." In 1978, the Colorado Commission on Higher Education further stated that "as a small liberal arts institution, Fort Lewis College shall continue its commitment to broad cultural undergraduate instruction, somewhat in the tradition of New England scholarship."

The liberal arts mission means that Fort Lewis College shall offer an education that is broadly based on common general studies and which continually emphasizes the wider implications of the particular field of study a student may choose. Whether the student's field be in the sciences and engineering, arts and humanities, social sciences, business administration, or education, the liberal arts provide a strong focus. As it strives for excellence in all its programs, the College shall continue to develop and strengthen the liberal arts.

The history of Fort Lewis College and its location in the Four Corners region have influenced the development of its curriculum and the nature of its growth. While continuing to meet the needs of its own geographical area, the College shall seek to contribute to the orderly development of the Four Corners region, an area rich in both natural and cultural resources. While the College fulfills the needs of area students, including those of distinct ethnic groups, it also will offer opportunities to students from other areas. A student body which is diverse in background but involved in a common educational endeavor will strengthen the college. Moreover, the College shall continue the 1911 commitment to provide tuition-free education for Native Americans. This commitment is stipulated in Colorado Statute 23-52-101 which provides that "...the State will continue and improve the outstanding Indian education program now in existence at Fort Lewis College. . ."

Fort Lewis College shall continue to emphasize excellence in teaching and shall continue its efforts to attract mature scholars dedicated to teaching who also are engaged in research, scholarly inquiry and

creative activity. The College shall also encourage other professional activities and those community services which complement the primary goal of excellent teaching.

The uniqueness of Fort Lewis College derives from a blending of programs and resources (including its faculty), its physical and cultural setting, the continuing role of the Intercultural Center, and the interdependence of general studies and professional programs grounded in the liberal arts. Fort Lewis College shall continue its commitment to preserve and enhance this uniqueness.

## EDUCATIONAL GOALS

The various curricula are designed to provide a broad cultural background that includes a critical awareness of the human heritage, an understanding of the requirements and opportunities of present and future, and an appreciation of the complexities and resources of the human mind and personality. From this, the College believes that students will best learn how to identify and make use of their unique abilities and training.

In this context, the College recognizes the primary importance of, and provides wide opportunities for, preparation for a career — whether it be in the arts, in business, in education, in the sciences, or in any of the many ways a student may desire to serve mankind and self.

One of the goals of the liberal arts at Fort Lewis College is scholarly attainment through creative work, performance, and research, communicated by written papers and public presentations. Encouraging skillful oral, written, or artistic expression is the responsibility of all faculty.

The goals are broadly the same, although individual results are often quite different for each student, whether he or she represents the majority or minority sector of our culture. Philosophically, historically, and by virtue of its location, Fort Lewis College has, therefore, a clear responsibility to develop the best possible undergraduate education for all students, including those of American Indian and Spanish-American background.

## ACCREDITATION

The College is accredited by the North Central Association of Colleges and Schools. In addition, the School of Business Administration is accredited by the American Assembly of Collegiate Schools of Business. The Teacher Education Program is accredited by the National Council for the Accreditation of Teacher Education. Accreditation by NCATE provides for reciprocal teacher certification in 25 states. The Chemistry Department offers a bachelor of science degree which is accredited by the American Chemical Society and the Music Department is accredited by the National Association of Schools of Music.

## COOPERATION WITH OTHER INSTITUTIONS

### **Transferring from Fort Lewis College to Other Institutions:**

In cooperation with Colorado State University, Fort Lewis College offers programs in agriculture, forestry, and engineering. In forestry and engineering, a student may take two years of work at Fort Lewis. If the student follows the prescribed program and maintains a 2.5 average, the work will be transferred as a block to Colorado State University at the beginning of the junior year. A grade point average of 2.0 is required for students planning to transfer to CSU under the Guaranteed Transfer Program in agriculture. For more information about the above programs, see the "Programs of Study" section beginning on page 59 of this catalog.

A transfer agreement in forestry between Fort Lewis College and Northern Arizona University is also in effect.

Engineering agreements also have been established in cooperation with the Colorado School of Mines, the University of New Mexico and the University of Colorado at Boulder. By taking a prescribed block of courses at Fort Lewis College in the first two years, a student can transfer to either of these institutions with junior standing if all requirements are met. These programs are, of course, transferable to other schools as well, on the basis of a course-by-course evaluation.

In engineering, Fort Lewis also offers a 3-2 cooperative program in which the student spends three years at Fort Lewis followed by two years at Colorado State University. At the conclusion of the program, the student receives a Fort Lewis College degree in mathematics and a degree from Colorado State University in engineering.

The Department of Biology prepares students for training in medical technology at accredited teaching hospitals.

### **Transferring to Fort Lewis College from Other Institutions:**

Fort Lewis College accepts transfer students in geology from the University of Southern Colorado. By following the prescribed curriculum for two years, students are assured that they can transfer to Fort Lewis as junior geology majors.

Fort Lewis College has an articulation agreement with the Colorado Community College and Occupational Education System. Fort Lewis accepts the community/junior college general education common core curriculum toward the general studies requirement at Fort Lewis College. Specific course transfer agreements are in place between Fort Lewis and several community colleges; others are being developed.

## TRIMESTER CALENDAR

Fort Lewis College operates on a modified trimester plan. The fall and winter trimesters are each approximately 15 weeks long. The third trimester also is 15 weeks long but is divided into three five-week sessions.

The fall trimester begins early in September and ends in mid-December; the winter trimester begins in January and ends in late April. The three five-week summer sessions extend from about the first of May through early August.

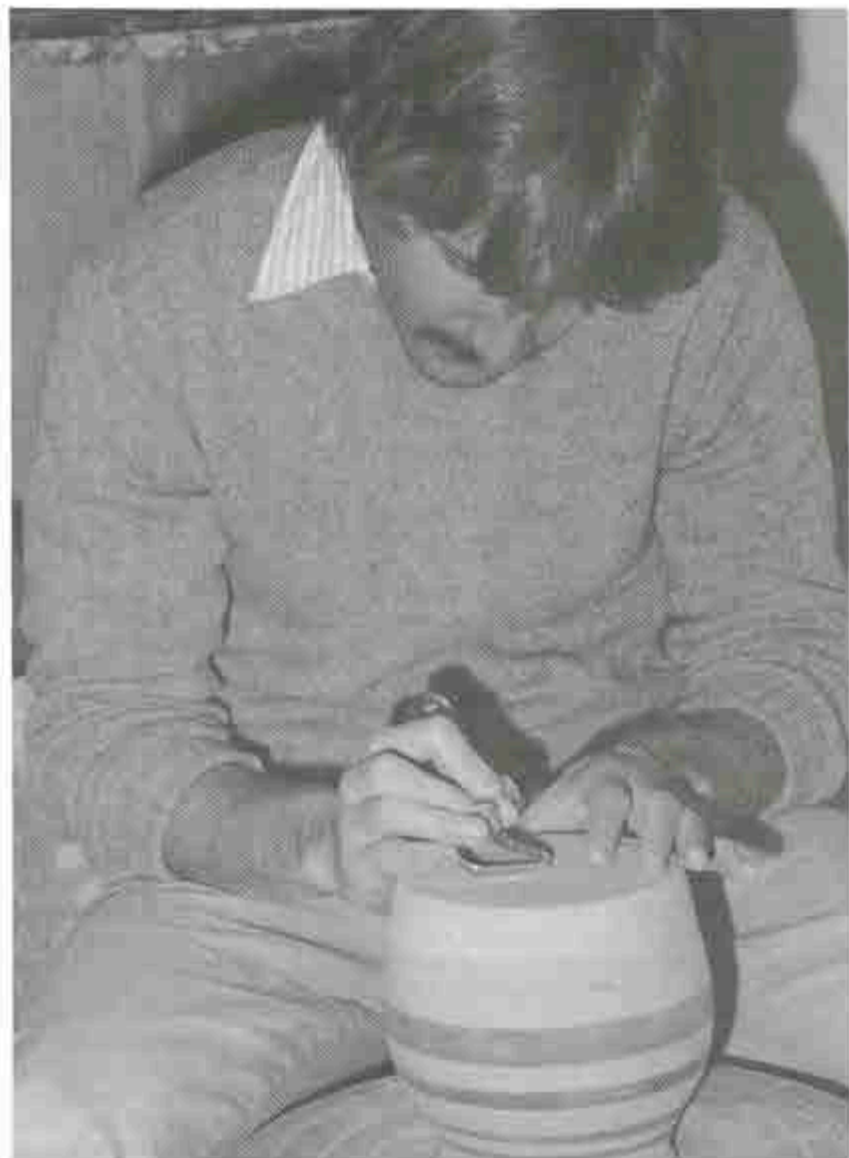
Students who choose to attend all three trimesters can graduate in as few as two and two-thirds calendar years. Those who attend only during the winter and fall trimesters graduate in the traditional four years and often find the long summer a valuable time for employment as well as for a pleasant vacation period.

## SUMMER PROGRAMS

The summer programs at Fort Lewis College offer a rich variety of courses from the regular curriculum for students who wish to graduate in less than four years.

In addition, a wide choice of special "innovative month" courses is provided for those seeking new approaches to learning. Typically, these special projects are full-time courses carrying six semester credits. Often, the courses are conducted off campus in nontraditional settings. In the past, the projects have ranged from a geology field camp to creative writing in a wilderness situation; from an archaeological "dig" to four weeks in Denver studying the management process in metropolitan business firms; and from a two-week arts tour of New York City to a four-week "theatre-tour" in England.

# Admission



Fort Lewis College selects for admission those applicants who appear to be best qualified to benefit from and contribute to the educational environment of the College.

Students may apply for admission to Fort Lewis College any time after completion of their junior year of high school. An application should be submitted as early as possible and at least one month prior to registration. The required application form usually will be available at the office of any Colorado high school counselor. It can always be obtained from the Admission and Development Office, Fort Lewis College. To request an application, call toll free 1-800-233-6731 (within Colorado), 1-800-826-6718 (outside Colorado), or (303) 247-7184.

Students desiring on-campus housing should apply early and must be accepted by the College before applying for on-campus housing.

## STUDENT CLASSIFICATIONS

### Freshmen

High school students should:

1. obtain an application blank from their high school counselor or from Fort Lewis College.
2. fill out the application for admission and mail it with the \$15 non-refundable application fee to the Admission and Development Office.
3. request an official transcript from their high school principal or counselor. (This transcript is to be forwarded directly to the College by the high school.)
4. take the **American College Test (ACT)** or **Scholastic Aptitude Test (SAT)** and have the results sent to Fort Lewis College. It is suggested that one of these tests be taken in the spring of the junior year of high school. Complete information regarding these tests may be secured from the student's high school counselor or principal, or by writing to: Registration Department, American College Testing Program, P. O. Box 414, Iowa City, IA 52240, or Registration Department, Scholastic Aptitude Test, Box 592, Princeton, NJ 08541.

The entering freshman class is selected from applicants who, by their records from high school and the American College Test or Scholastic Aptitude Test results, show promise of profiting from the educational opportunities offered by Fort Lewis College. The Dean of Admission and Development and his advisors base their judgment on the high school record, the rank in class, and the ACT/SAT test results, as well as recommendations and other pertinent information.

Those admitted to Fort Lewis College should be high school graduates who have completed 15 acceptable secondary school units with preference being given to students who have followed a strong college preparatory program.

The College recognizes the importance of advising high school students, their counselors, and instructors sufficiently early so that potential college

students can prepare adequately for a successful college career. Therefore, the College has determined high school coursework most useful to college-bound students. Students should understand, however, that the more nearly their curricula meet the recommendations the better prepared they will be for college.

The following annotated chart presents RECOMMENDED coursework for admission to Fort Lewis College. Both prospective students and their counselors should realize that, while specific courses are important for college preparation, of perhaps even greater importance is the manner in which the courses are presented. Studies indicate that even students who take appropriate college preparatory courses often are unprepared for the quality and quantity of reading and writing expected of them in college. **The well-prepared student will be able to read, write, and calculate reasonably well before entering college.**

#### RECOMMENDED Coursework for Prospective Students

ACADEMIC AREA	NUMBER OF UNITS
English (including Speech)	4 <sup>1</sup>
Mathematics	2 <sup>2</sup>
Natural Science	2
Social Science	2
Modern Language	Encouraged
Computer Science	Encouraged
Academic Units <sup>3</sup>	11
Total Units <sup>3</sup>	15

These recommendations are based on four years of high school.

<sup>1</sup>The work in English should emphasize both reading and writing. Past experience indicates that college freshmen are unprepared for the quantity of both expected of them.

<sup>2</sup>College preparatory math should include algebra and geometry and, when a third year is taken, Algebra II.

<sup>3</sup>A unit is accrued when a student takes a course five days a week for one academic year. An academic unit is a unit earned in English, modern languages, mathematics, natural science, or social science.

Students who have not graduated from high school but who have satisfactorily completed a GED program with a minimum score of 45 overall and no less than 35 in each subject area may be admitted as degree-pursuing students if appropriate ACT or SAT scores are attained.

**Summer Orientation Programs.** During the summer months, Fort Lewis College conducts several freshman orientation programs for new freshmen and their parents. The orientations provide an opportunity to register early, make new friends, and meet faculty and staff. Information regarding these special programs is mailed to all accepted freshmen during the spring.

## Transfer Students

College students wishing to transfer to Fort Lewis College should:

1. request an application form from the Admission and Development Office.
2. complete the application and send it to the Admission and Development Office with a \$15 nonrefundable application fee.
3. request an official transcript from **each** college or university attended be forwarded to Fort Lewis College to the attention of the Admission and Development Office. Generally, ACT/SAT test results are not required of transfer students who have earned more than 12 semester college credits.
4. If less than twelve semester college credits have been completed, students should also have a high school transcript and ACT or SAT results forwarded to the Admission and Development Office.

Applicants with a cumulative scholastic average of C and honorable separation from other colleges and universities may be admitted at the beginning of any term. College course credits that fulfill the requirements for a degree program at Fort Lewis College will ordinarily be acceptable for transfer if grades are C or better. A student with less than 30 semester credits may be reviewed on the high school record if deemed appropriate.

Normally, a maximum of 72 semester credits or equivalent from a junior college may be applied toward a degree. Credit in courses from junior colleges will not be accepted as upper-division work at Fort Lewis College. Also, if a student attends a junior college after attending a senior college or university, a maximum of only 72 semester hours from all schools may be applied toward a degree. Efforts are made to bring college transfer students into Fort Lewis without loss of previously earned credits.

### **Procedure for Resolution of Student disputes regarding Student Transfer between Colorado Public Institutions:**

Student transfer disputes will be resolved using the following appeals process:

- A. Students must file a complaint within 30 days of receiving their transcript evaluation by writing the central student academic records office of the receiving institution. The decisions made in the transcript evaluation will be binding if the student fails to file a complaint within this time frame.
- B. If the issue cannot be resolved between the student and the institutional staff, the student may appeal in writing to the sending institution. The campus presidents from the sending and receiving institution will attempt to resolve the issue within 30 days from receipt of the student appeal. Agreement between the sending and receiving institutions will constitute a final and binding decision which the receiving institution will communicate to the student.

An ongoing registration period during the summer is available to allow transfer students an opportunity to register early for fall classes. Information regarding this special program is mailed to all accepted transfer students in the spring.



## Former Students

A former student is one who registered for classes at Fort Lewis College at any time in the past but has withdrawn and/or has not been registered during the last two consecutive trimesters. Students in this category must petition to resume studies. Students who have been under academic suspension must also petition to resume studies. If the student has attended other collegiate institutions in the interim, complete transcripts of all work taken must be submitted from each institution attended. Petitions should be submitted to the Office of Admission and Development.

## Indian Students

Fort Lewis College, as a matter of policy and in compliance with state law, allows Indian students, as defined below, to attend the institution tuition-free.

Fort Lewis College adheres to the following definition: "The term Indian shall include all persons of Indian descent who are members of any recognized Indian tribe now under federal jurisdiction, and all persons who are descendants of such members who were, on June 1, 1934, residing within the present boundaries of any Indian reservation, and shall further include all persons of one-half or more Indian blood. Eskimos and other aboriginal people of Alaska shall be considered Indians ." (United States Code, 1964 Edition, Vol. 6, Title 25, Chapter 14, Section 479, Page 4, 897).

The College will review all applications of American Indian students to determine if they qualify for the tuition waiver. If an American Indian qualifies according to an appropriate tribal certification, such student will be admitted tuition-free.

## Foreign Students

Fort Lewis College is authorized under federal law to enroll nonimmigrant alien students.

In general, the same qualifications for admission are required for foreign students as for American applicants. A brief statement concerning the admission policies for foreign applicants may be obtained from the Admission and Development Office.

## Unclassified Students

Under special circumstances students are permitted to register without having been admitted formally to the College. Usually these are adults whose objectives may be realized by taking a few courses rather than by pursuing a degree. The privilege of continuing may be withdrawn at any time when the accomplishments of a student are not deemed satisfactory. Satisfactory performance as an unclassified student may qualify such a student to apply for regular admission. Unclassified students seeking regular admission must contact the Admission and Development Office as to the procedure for establishing regular status.

## Veteran Students

Fort Lewis College is authorized by the state approving agency according to federal law to educate students receiving benefits through the Veterans Administration.

## Concurrent Students

Superior high school seniors who attend a high school within commuting distance of the campus may be admitted as part-time freshmen in order to take one or two courses. Concurrent students who wish to be considered for regular admission to the College must meet the same criteria and submit the same application as first-time freshmen students.

Students wishing to participate in this program should obtain further information from the Admission and Development Office or their high school counselor.

## CREDIT FOR PRIOR WORK

### Credit By Examination

Credit for some courses may be earned by special examination. Application should be made to the chairman of the appropriate department.

College credit also is awarded for exceptional performance on tests administered by three external testing agencies.

1. Fort Lewis College participates in the Advanced Placement Program of the College Entrance Examination Board. Under this program, outstanding secondary school students may take certain college-level courses in their own high schools. Satisfactory scores on an examination administered and graded by the College Board are forwarded to Fort Lewis and may serve as a basis for credit and/or advanced placement. For additional information students should consult their high school counselor or write to the College Entrance Examination Board, Box 592, Princeton, New Jersey 08550.
2. Superior scores on the ACT Assessment Battery also serve as a basis for credit and/or advanced placement. The decision of the College is final in awarding credit by examination. For further information, contact the Admission and Development Office at (303) 247-7184.
3. Fort Lewis College has adopted a policy whereby up to a maximum of 24 credits may be granted on the basis of appropriate scores on the General Examinations of the College Level Examination Program. Students who obtain at least a standard score of 500 or the 50th percentile in natural sciences, humanities, social sciences, history, and mathematics will receive 6 semester credits for each examination provided the following stipulations are met:
  - The examinations must be taken prior to the end of the student's first year at college.

- No credit will be granted if college coursework has been taken that covers much of the area covered by the examinations.

Fort Lewis College also grants additional credits on the basis of appropriate results of the Subject Matter Examinations of the College Level Examination Program. Further information may be obtained from the Records Office or from C.L.E.P., Box 1821, Princeton, New Jersey 08540.

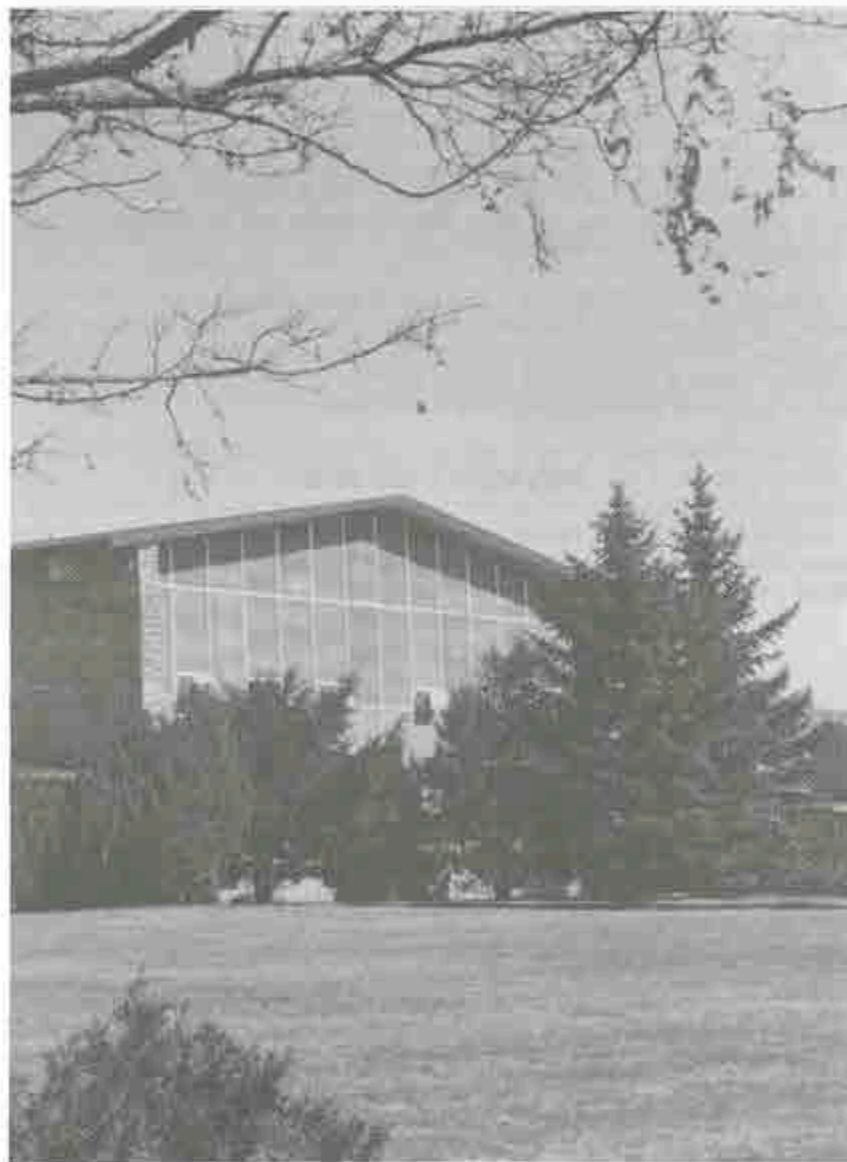
## **Credit for Military Service**

Veterans often are allowed credit for previous education. Credit for military experience also may be allowed according to the American Council on Education recommendations. The D.D. 214 form and other relevant information should be submitted to the Records Office at the College.

ANY QUESTIONS ABOUT ADMISSION NOT ANSWERED HERE  
SHOULD BE ADDRESSED TO:  
OFFICE OF ADMISSION AND DEVELOPMENT  
FORT LEWIS COLLEGE  
DURANGO, COLORADO 81301  
Phone - (303) 247-7184  
1-800-233-6731 (Colorado)  
1-800-826-6718 (outside Colorado)



# Fees and Expenses



Costs for Fort Lewis College students will vary according to the number of trimesters they attend. Specific costs are published annually in the Tuition and Fee Schedule for the academic year and in the Tuition and Fee Schedule for the spring trimester. For details, please consult the appropriate Tuition and Fee Schedule.

The Fort Lewis College Foundation has established a monthly Budget Installment Program for payment of tuition, fees and on-campus room and board. For additional information, call and ask for Student Alternative Financing at 1-800-233-6731 (in-state) or 1-800-826-6718 (out-of-state).

A student, by the act of registration, automatically incurs a financial obligation to the College. This obligation must be satisfied by payment to the College. Those students registering for 8 credits or less will be charged on a per-credit-hour basis. Students who take over 8 credits, up to and including 18, during either the fall or winter trimester will be charged full tuition and fees. Students registering for more than 18 credits will be assessed an additional charge on a per-credit-hour basis.

Personal expenses such as clothing, travel, social activities, books and supplies, will depend upon the individual and are in addition to the scheduled expenses. The State Board of Agriculture, governing body for Fort Lewis College, reserves the right to change any fee at any time without formal notice whenever conditions warrant such change.

## **PAYMENT OF FEES**

All charges, including tuition, room and board, are due and payable at the time of registration. Only under special circumstances will a request for delayed payment of any charge be considered.

## **DELINQUENT ACCOUNTS**

It is College policy that students who fail to pay financial obligations when due are subject to termination of student status at Fort Lewis College. The College will not register a student, nor provide a transcript to any student or former student, with a past-due financial obligation to the College.

## **REFUND OF TUITION AND FEES**

A student withdrawing from college by the specified withdrawal date may obtain a 90% refund of tuition and refundable student fees only. (See Schedule of Courses for each term for the appropriate withdrawal date.) No refund will be made after the specified withdrawal date. A student dismissed or suspended from college as a result of official college action will automatically forfeit all tuition and fees. The Student Union fee and the Facilities Use fee are non-refundable.

## **TUITION ADJUSTMENT FOR SCHEDULE MODIFICATION**

During the period from the official registration day to the census date, a student is permitted to change course loads by adding or dropping courses with no grade record. A student's tuition and fees will be adjusted according to the net number of credits for which he or she is registered on the final date for adding courses. When an exception is made because of special circumstances and the net credits are increased by a class being added, the appropriate charge will be assessed. No adjustment will be made for decreasing the number of credits by dropping classes subsequent to the above period. The class-drop process may not be used to withdraw from college.

## **CLASSIFICATION FOR TUITION PURPOSES**

Every student, when admitted to Fort Lewis College, is classified as either an in-state or out-of-state student for tuition purposes according to the provisions of Title 23, Article 7, Colorado Revised Statutes, as amended (The Tuition Classification Statute). This tuition classification is stated on the Permit to Register. Additional information is available in the Records Office, Room 240 of the Administration Building. The classification continues while attending Fort Lewis unless changed as a result of the procedure noted below.

Any student has the right to challenge his or her tuition classification by obtaining a Petition for In-State Tuition Classification form from the Records Office, completing it, and returning the petition with the required documentation to the Records Office no later than the official registration date as published in the appropriate Schedule of Courses.

## **New Mexico Reciprocal Student Program**

The Colorado Commission on Higher Education and the New Mexico Board of Educational Finance have signed a three-year agreement allowing a limited number of selected New Mexico resident students, normally from San Juan County, to enroll at Fort Lewis College at the in-state rates. Each year a fixed number of F.T.E. students will be allocated to Fort Lewis College under this program. For details, consult the Admission and Development Office or the Records Office.

## **HOUSING RESERVATIONS**

Rooms in residence halls and apartments are reserved, if space is available, upon receipt of a signed contract and a \$100 security deposit. This deposit and contract will reserve accommodations for the fall and winter trimesters of each academic year (eight months), or the remaining portion thereof if the entering date occurs after the opening date of the fall trimester. The \$100 deposit, less any damages or obligations owed the College, will be returned approximately sixty (60) days after the close of the winter trimester unless

the student has applied for the following trimester, in which case the security deposit will be carried over and no additional deposit will be required. For details of the refund policy for room and board charges consult the On-Campus Housing Office.

Residents living in the apartment complexes will be permitted to remain in their units during official college vacation times provided they will be continuing residence during the eight-month contract period. Residents terminating occupancy at the end of the fall or winter trimester must vacate residency prior to the last calendar date of the particular trimester.

## SUMMER HOUSING

The College provides on-campus housing during the summer. A \$100 security deposit is required when making a housing application for the summer months. For more information, please contact the On-Campus Housing Office.





# Student Financial Aid



## FINANCIAL AID PROGRAMS

Fort Lewis College offers a complete student financial aid program of scholarships, grants, loans, and student employment.

### Federally Funded Programs:

1. Pell Grant
2. Perkins Loans (formerly NDSL)
3. Supplemental Educational Opportunity Grant (SEOG)
4. College Work-Study (CWS)
5. Guaranteed Student Loan Program (GSL)

### State Funded Programs:

1. Colorado Student Grant (CSG)
2. Colorado Scholars Program
  - a. Presidential Scholarship (entering freshmen only)
  - b. Continuing Student Scholarship (post-freshmen only)
  - c. Performing Arts Scholarship
3. Athletic Award (men and women)
4. Colorado Work-Study Program
5. Colorado Student Incentive Grant (CSIG)
6. Congressional Teacher Scholarship Program

### Institutionally Funded Programs:

1. Fort Lewis College Foundation Scholarships and Awards
2. First Generation College Student Award Program

All financial aid awards, with the exception of Athletic Awards, Presidential Scholarships, Continuing Student Scholarships, Performing Arts Scholarships, and some FLC Foundation scholarships/awards, are based on financial need.

Every effort is made to provide the best type of aid or combination of aid to assist students in completing a college education. All financial aid awards, however, are contingent upon availability of funds.

A number of other scholarships are available. Eligibility and selection criteria vary depending on donor instructions. Additional information may be secured from the Office of Financial Aid.

## APPLICATION PROCEDURE

Students wishing to be considered for all programs of need-based student financial aid must apply by using the American College Testing (ACT) Family Financial Statement (FFS). Students wanting **only** to apply for the Pell Grant should fill out the Application for Federal Student Aid Programs (AFSA).

The appropriate financial aid application may be secured from the student's high school counselor or by request from the Office of Student Financial Aid, Fort Lewis College, Durango, Colorado 81301.

Applications for student aid must be completed by May 1, 1988 for complete consideration for the 1988-89 academic year. In order to allow adequate time for completion of the aid application file, it is suggested that the student mail the FFS to ACT no later than March 1, 1988.

Applications for the Guaranteed Student Loan Program may be obtained from a lender (bank, credit union or savings and loan association) that participates in the program. The loan application must then be processed by the Office of Financial Aid and returned to the lender for loan consideration and approval.

Complete consumer information relevant to all student services programs is available upon request. Requests for information should be directed to the appropriate office.





# Campus Life



## STUDENT SERVICES

To foster the academic, cultural, and personal development of each student, Fort Lewis College provides the best possible social and physical environment. The Office of the Vice President for Student Affairs is responsible for the coordination of the various student services programs.

### Housing

The 13 residence halls, Centennial Apartments, and Anasazi Apartments provide many students with an excellent physical environment. The College provides housing for approximately one-third of the student enrollment.

All residence halls are financed in such a manner that they are paid for by the students who occupy them. Because the College has a considerable financial investment in these facilities, it is necessary to manage them efficiently under the terms of a policy established by the State Board of Agriculture. This policy assures a level of occupancy enabling Fort Lewis College to meet its financial obligation.

All new applicants for campus housing are assigned to a residence hall or apartment according to date of application (with required deposit). Students who are not accommodated on campus will be assisted in finding off-campus housing through the Off-Campus Housing Office.

After one term in on-campus housing and having proven themselves to be mature and responsible residents, students who wish housing for the next academic year must make application. Spaces are assigned on a first-come, first-served basis. The student is then eligible to request a roommate and room from those available. Detailed information regarding this procedure is available in the On-Campus Housing Office.

It is the student's responsibility to make proper application for housing upon receipt of the Permit to Register or acceptance by the College. The \$100 deposit must accompany the housing application. If space is available, the student will be sent a notice of assignment or Housing Agreement which will assure on-campus accommodations if signed and returned to the Housing Office within the specified time. The Housing Agreement is for the fall and winter trimesters of an academic year.

Fort Lewis College may be characterized as "traditional" in its approach to residence hall living policies. Resident students are issued keys which permit them to gain entrance to their residence halls and rooms. Residents are expected to live by the rules and regulations as outlined in their Housing Agreement, the Guide to Residence Living, and the Student Handbook.

Each residence complex is staffed by Hall Directors and Resident Assistants (RA). It is their responsibility to promote a living environment conducive to study and pleasant living. They are there as added resources for students as they adjust to college living. The Student Services staff also attempts to stimulate supplementary social activities to aid each student's personal growth and development. All campus living is a learning experience. The

Fort Lewis College Residence Hall Program is predicated upon this principle. Our mission is carried out in an educationally responsible manner, and is dedicated to providing healthy and relaxed places for all resident students. Fort Lewis College does not believe that such principles are best served through completely nondirective, open residence facilities.

## **Off-Campus Housing**

The Fort Lewis College Off-Campus Housing Office is located in the College Union Building and is designed to help students make arrangements concerning off-campus housing. This service maintains computerized lists of rooms, houses, apartments, and mobile homes for rent and of persons looking for roommates. In addition, the service provides information pertinent to off-campus housing — maps, newspaper want ads, general housing data, and information on Durango's housing codes and zoning ordinances.

## **Counseling and Student Development**

Counseling services at Fort Lewis College are based on the philosophy that a student's personal/emotional development is an integral part of his/her intellectual development. The Counseling Center has a professional staff of counselors committed to implementing this philosophy. The primary goals of the Counseling Center are: an academic support system to help students overcome obstacles in their academic programs; a counseling service to help students cope with crises or other immediate needs in their lives; an educational service to promote positive personal development; and finally, a support and information/referral service.

Personal counseling is confidential and is offered through individual and small group counseling. It is intended to be supportive to assist students in solving their problems of a short-term nature. The Center does not offer long-term or intensive psychological treatment. If needed, students can be referred to the Health Center, appropriate mental health agencies, or practicing professionals in the community.

## **Career Planning and Placement**

The focus of Career Planning and Placement Services is upon the student, not only immediately before graduation, but also during earlier undergraduate years. The office assists the undergraduate student in the higher quest for self-understanding, appraisal of interests and abilities, and efforts to determine vocational objectives which will be the most meaningful and satisfying.

The services offered are geared to meet individual needs and are available to all Fort Lewis students and alumni. The Career Planning and Placement Office provides one-to-one counseling, credential files, on-campus interviews, workshops and presentations, a resource library, SIGIPlus (a computerized career guidance system), interest inventories, and graduate school information.

Students are encouraged to become familiar with these services in their freshman year and to establish a credential file by the end of the junior year. In this way, the student has the optimum opportunity for contact with the Career Planning and Placement Center's professional staff and the employers who visit the campus.

## Health Services

The Student Health Center, an outpatient treatment center, is located in the North Complex adjacent to the water tower. A physician's assistant is on duty during the daytime hours. A college physician is on the premises during hours posted at the Center. One of the college physicians is on call evenings, weekends and holidays.

The Student Health Center provides general medical/nursing care and minor surgical procedures. All medical records are confidential. No release of information is possible without the written authorization of the individual involved. An exception to this policy is required under Public Health Law which requires all contagions to be reported to a state health agency.

In addition to college-provided services, accident and sickness (hospitalization) insurance is available to students and dependents through an independent carrier. Student group health insurance may be purchased during registration at the beginning of each trimester. Students are encouraged to have some type of accident-medical coverage, either through the Fort Lewis insurance program or a private program.

In an effort to eliminate measles and rubella outbreaks on campus, Fort Lewis College requires all students to provide proof of immunization as a prerequisite to registration. An exception to this requirement may be made for *bona fide* medical or religious reasons.

No pre-entrance physical examination is required. A complete physical evaluation will be performed by the physician's assistant or physician for participation in intercollegiate athletic programs.

Students with medical problems or chronic illnesses are asked to submit a detailed statement (obtained from their personal physician) to the Student Health Center, Fort Lewis College.

## College Union Building (CUB)

The College Union building is located on the southeast corner of the campus. It is the central meeting area for students and offers lounges, meeting rooms, cafeteria, snack bar, and a large ballroom. The Student Government and Student Court offices are located in this building, as are the offices of Student Activities and Food Service. Also located in this building are the Sutler Shop (bookstore), the post office, *Independent Newspaper*, KDUR Radio Station, Outdoor Pursuits, and the Pub.



## **Bookstore**

The campus bookstore, called the Sutler's Shop, is located in the basement of the College Union Building. In addition to textbooks and supplies for all classes, the bookstore sells candies, tobaccos, greeting cards, stationery, Fort Lewis jackets and shirts, magazines and non-course books, toiletries, and various other sundries. The bookstore is designed to serve the students' needs, especially those who live on campus. The hours are 8 a.m. to 5 p.m., Monday through Friday.

## **Post Office**

A post office is maintained in the College Union Building for the convenience of the students. Students living on campus have their mail delivered to the residence halls. **STUDENTS LIVING OFF CAMPUS SHOULD OBTAIN A POSTAL BOX AT THE COLLEGE POST OFFICE UNLESS THEIR PERMANENT ADDRESS IS DURANGO.**

## **Alumni Association**

The Alumni Association of Fort Lewis College is increasingly active as both a service organization and as a means of helping former students enjoy memories of their college days. The Association supports the College in many areas, such as providing scholarships, funding special programs, and assisting with the placement of graduates.

Newsletters are produced regularly with news of classmates, activities, and projects that help the College. Among these are sponsorship of admission activities, social functions and athletic events; placement assistance; and financial support.

# **STUDENT LIFE**

## **Associated Students of Fort Lewis College (ASFLC)**

The Student Senate of Fort Lewis College is the central agency for student policy, planning, coordinating, and budgeting for all student organizations. The Senate consists of fifteen senators elected at large by the student body. One-half of the senate members are elected each trimester for terms of one year. Many of the diverse responsibilities of the Student Senate are delegated to various standing committees and numerous temporary committees.

The largest committee in scope and membership is the Student Union Board (SUB). SUB formulates policies for the operation of the College Union. Events and programs sponsored by SUB are planned through the following committees: Concert, Cultural, Lecture, Movie, and Special Events. The Board is chaired by the Director of Student Activities. Interested students may become Board members, committee chairpersons, or members of SUB.

The executive branch of the student government at Fort Lewis is unique among Colorado colleges because it consists of a Student Body President, Executive Vice President, an Activities Vice President and the Student Court.

The Student Body President coordinates the efforts of the legislative and executive branches and provides communication between the faculty, administration, and students.

The Executive Vice President chairs Senate meetings and is responsible for preparing the agenda.

The Student Court is counsel to the Executive Vice President and Senate regarding all actions taken within the ASFLC Constitution. It interprets the Constitution and provides adjudication of student on-campus parking violations.

## **Student Newspaper**

The Fort Lewis College *Independent* is the student newspaper, edited and staffed by students. Usually, a committee composed of students and faculty members serves the newspaper in an advisory capacity. It is published once a week on Friday mornings during the fall and winter trimesters.

Any student is welcome to work on the "Indy". Writers, photographers, cartoonists, layout persons, ad salespersons, bookkeepers, editors and artists are always in demand.

## **Campus Radio Station**

KDUR is a noncommercial, educational radio station run by Fort Lewis students. The station began broadcasting in the spring of 1975 and has become one of the school's fastest growing sources of communication. KDUR not only serves the college community, but also the community of Durango.

## **Athletics and Recreation**

Fort Lewis College has a comprehensive intercollegiate athletic program. The College sponsors men's teams in football, basketball, wrestling, cross-country, golf, and tennis. The women's intercollegiate program includes volleyball, basketball, cross-country, tennis, and softball. All Raider teams compete against four-year colleges in Colorado and the Rocky Mountain region. Facilities include 12 tennis courts, softball fields, gymnasium, football stadium, track, weight room, and swimming pool. Located adjacent to the campus are the municipal golf course and a ski hill. Fort Lewis is a member of the Rocky Mountain Athletic Conference and the National Association of Intercollegiate Athletics.

An excellent intramural and recreation program is also offered. There are opportunities for competition in basketball, volleyball, softball, wrestling, tennis, table tennis, bowling, archery and swimming.

The physical education facilities are also available to students during the evenings and on weekends for informal recreation activities such as swimming, basketball, weight training, volleyball, archery, and gymnastics.

## **Outdoor Pursuits**

The Outdoor Pursuits program provides students with the opportunity to experience the mountain and desert lands adjacent to Durango. The program offers trips nearly every weekend with activities ranging from hiking or rock climbing to cross-country skiing or river rafting and much more. In addition, students may check out equipment free of charge, utilize the program's library of maps, books, and magazines and benefit from workshops sponsored by the program. Outdoor Pursuits is an excellent way to meet people and enjoy the College's unique geographical location.

## **Motor Vehicles**

Students are permitted to have their cars on campus; however, freshmen often find that the ready availability of a car is a contributing factor to a poor academic record. The Vice President for Student Affairs may have the use of an automobile restricted if excessive use appears to be resulting in poor grades or other misuse.

Students and all Fort Lewis College personnel must register their vehicles and pay the scheduled fees during the official registration period. Campus traffic and parking regulations are distributed at the time of registration.

Students using campus parking lots are assessed an automobile registration fee to pay for the construction and maintenance of parking areas, since it is the policy of the State of Colorado not to build parking lots with state funds. All parking sticker permits are prorated on a monthly basis. Special decals may be issued to students or college personnel who have disabling handicaps.

## **Identification Cards**

Validated identification cards are required of all students. They are important in helping a student establish identification for all financial transactions and for admission to many campus events and facilities. They should be carried at all times and presented when requested by college officials.

## **Guns and Weapons**

Unlawful or unauthorized use, possession or storage of guns, ammunition, other lethal or dangerous weapons, explosive substances, or chemicals is expressly prohibited on the Fort Lewis College campus. Students are reminded that it is also against school policy to store guns in their cars.

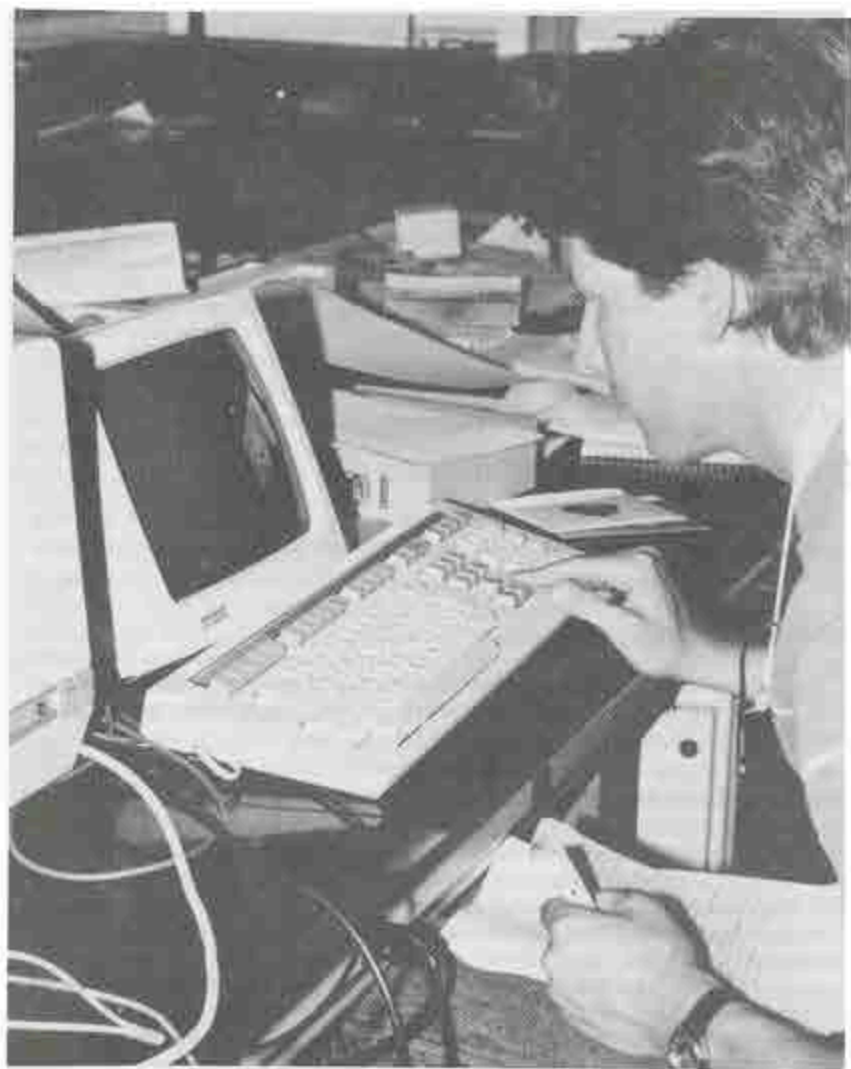
## **Student Conduct Code and Disciplinary Action**

All students at all times are expected to behave in accordance with the Student Conduct Code which calls for a high standard of personal behavior governed by good taste and personal maturity. This code warns that any student behavior which threatens the individual, the community, or property will not be tolerated.

Violation of the Student Conduct Code will result in disciplinary action. One possible consequence of disciplinary action is dismissal from Fort Lewis College.

The Student Conduct Code is published annually in the Fort Lewis College Student Handbook. It is the responsibility of the student to be familiar with and abide by the Student Conduct Code.

# Academic Programs and Policies



## ACADEMIC PROGRAMS

The academic programs at Fort Lewis College are offered through the Schools of Arts and Sciences, Business Administration, and Education.

### Degrees Offered

Fort Lewis College offers a number of programs leading to the bachelor's degree. The Bachelor of Science degree is offered in biology, chemistry, geology, physical science and physics; the Bachelor of Arts degree is granted in all other four-year programs. In addition, the College offers a program leading to the Associate of Arts degree in agricultural science.

The Fort Lewis College teacher education programs have been approved by the Colorado State Board of Education. Certification is offered in elementary education and a wide variety of secondary school teaching fields.

### School of Arts and Sciences

Courses in agriculture, anthropology, archaeology, art, biology, chemistry, computer science, engineering, English, forestry, French, geology, German, history, Japanese, Latin, mathematics, music, philosophy, physics, political science, sociology, Spanish, and theatre, as well as interdisciplinary work in the humanities, the physical sciences and Southwest Studies, are offered in the School of Arts and Sciences.

### School of Business Administration

The School of Business Administration is a professional school offering instruction in accounting, business administration, business education, management, marketing, and economics.

### School of Education

The School of Education prepares students professionally for teaching at both the elementary and secondary levels; it also offers major programs of study in physical education and psychology.

### Student Constructed Major

The College has established the student constructed major, which the student designs to meet specific purposes. These frequently are interdisciplinary and designed to meet the special needs and talents of individual students. Among recent student constructed majors have been those in criminal justice, international studies, agricultural economics, commercial art and southwestern peoples. The major may be related to any school or include course offerings from more than one school. Student constructed major contract forms and requirements are available in the Office of Academic Affairs.

Also, Fort Lewis College offers a rich variety of special programs which are available to students regardless of the specific school in which they are enrolled.

## ACADEMIC SUPPORT PROGRAMS

### The Library

In addition to serving as a resource and reference center, the John F. Reed Library is a popular study area with both individual carrels and lounge furniture for quiet study and research. In addition, there are several conference rooms where students may meet or study in small groups. An experienced professional staff, all of whom hold graduate degrees, and a well-trained complement of library assistants provide prompt, competent service to students, faculty, staff, and citizens from the community.

Library holdings include over 155,000 volumes of books, 8,600 reels of microfilm, 1,000 journal subscriptions, approximately 30,000 volumes of microfiche, and a wide selection of audiovisual material. The approximately 4,500 recordings include popular and classical music, poetry, dramatic readings and speeches. Films, filmstrips, videocassettes, and more than 6,000 overhead projector transparencies are important components of the audiovisual collection. The Audiovisual Center has the capability to produce, or help students produce, audiovisual materials, ranging from simple overhead transparencies and 35mm slides to complex computer graphics and videocassette tapes.

Individualized reference service by a professional librarian is provided during most hours of library operation. Additionally, library orientation is a regular feature of the Freshman Seminar Program. An essential part of this orientation is instruction in the use of bibliographic tools, such as periodical indexes and abstracts and basic reference books needed in the preparation of research papers and reports.

The library is a member of the MARMOT and Online Computer Library Center (OCLC) computer networks. The MARMOT system serves as a catalog for many of the libraries in western Colorado and in the Denver area, providing easy access to several million volumes in over twenty libraries. The MARMOT system also serves as the circulation system for the library, making it easy for students to check out books by simply having their identification card and the books they wish to borrow scanned by the computer. OCLC is a national network linking over 3,000 libraries to a database of over 16,000,000 books. These systems facilitate interlibrary loans for books, articles, and other materials. Students may use these systems to borrow research materials from other libraries free of charge or for a small fee. Thus, students have access to the resources of all the major libraries in Colorado and most of the major libraries in the rest of the country.

### Center of Southwest Studies

The Center of Southwest Studies is closely allied to both the library and the instructional schools. As a major field of study, the Center provides the focus for an interdisciplinary approach to an investigation of the history and culture of the Southwest. The coursework for this program is drawn mostly from anthropology, history and Spanish.

The holdings of the Center include books, magazines, newspapers, separates, photographs, and records of all kinds. At the present time, the materials on the American Indians are among the largest in the entire western portion of the United States. Other important collections include mining, railroad, and military records. Most of the collection is housed in the Southwest Room of the John F. Reed Library, where the materials are available to students and faculty in all disciplines and research scholars throughout the nation.

A brief visit to the Southwest Room reveals the fact that Fort Lewis College is located in a fascinating multicultural area where the rich traditions of the Spanish, the American Indians, and western America are developing a new and even richer culture. Fort Lewis College, through its federally funded intercultural program, is a significant part of this process.

## **Office of Computing and Telecommunications**

The overall function of the Office of Computing and Telecommunications is to provide computing resources, voice/data communications and technical support for the students, staff, and faculty of Fort Lewis College.

The College provides extensive computing resources for use on approved projects in the areas of instruction, administration, and limited research. Things are changing in the computer industry at an ever accelerating pace and Fort Lewis College is making every effort to meet this challenge. The College emphasizes computer use in student instruction, with this function accounting for more than half of all computer use. A variety of computers are available seven days a week, except during holiday periods, to students and faculty in support of their academic needs. Three networked Digital VAX computers, accessed by 60 interactive terminals, and about 175 various microcomputers are available for student use.

Telephones are provided in each of the students' rooms in the residence halls/apartments as well as all administrative offices. Students are not allowed to receive collect calls or make long distance calls charged to any campus phone at Fort Lewis College. Long distance calls may be made by using a calling card or by reversing the charges.

Misuse of computing resources or violation of telephone policies will result in disciplinary action and possible criminal prosecution.

## **Learning Assistance Center**

Most students during their college careers need help in achieving their educational goals. The Learning Assistance Center exists to provide academic support to any student who requests it. This support is supplied in a number of different forms.

Courses sponsored by the Center offer students the opportunity to improve their basic skills in writing, reading, and mathematics. In addition, the learning skills classes aid entering freshmen in developing time management skills, proficiency in note-taking, concentration, and test-taking skills. The Center also provides a peer tutorial program. Students needing assistance in a par-



ticular subject are assigned a free tutor; students who serve as tutors receive elective credit.

In order to select appropriate curricula, students may benefit from diagnostic tests in reading, writing, and/or mathematics. The Center's personnel can evaluate the examination results and recommend courses or individual student programs. Furthermore, the staff of the Center is prepared to offer noncredit minicourses and workshops to help students overcome academic difficulties. Other available resources in the Learning Assistance Center include computerized review programs, course outline texts, handouts, individual academic counseling, and review for graduate record and teacher certification examinations.

## **Division of Intercultural Studies**

The purpose of the Division of Intercultural Studies is to provide an academic setting that promotes cultural pluralism and addresses the needs of students who are faced with the complexities and opportunities of education in a multicultural society. This effort is primarily tailored to the needs of the major ethnic societies in the service region of Fort Lewis College, but also seeks to enhance the educational accomplishments of other ethnic and cultural groups.

To accomplish this purpose, the Division of Intercultural Studies, in coordination with the college departments, offers academic, service, experiential and cultural approaches in multicultural education that relate to the following basic aspects of the college community: academic programs, student services, community services, social and living experiences and cultural activities.

An important part of the Division of Intercultural Studies is the Intercultural Center, located in the Miller Student Center. It is a place where students of many cultural backgrounds may meet in an informal atmosphere for tutoring, studying, or simply relaxing with friends. Faculty of the Division of Intercultural Studies are on hand at the Center to assist students with their studies and to help make the college experience for people of diverse backgrounds a rewarding one. Native Americans, Hispanics, and foreign students make up a significant part of the Fort Lewis College student body.

## **Office of Community Services**

The Office of Community Services has been established to offer technical assistance to a five-county area surrounding Fort Lewis College (Archuleta, La Plata, San Juan, Montezuma, Dolores). The Office has three purposes: to increase the opportunities for students and faculty to actively participate in public service projects in this region; to assist local communities with significant policy issues having to do with human service programs, natural resource management, community and economic development; and to insure an educational partnership between students, faculty and citizens by establishing a community service learning process supported by the Fort Lewis College curriculum resources. The Office of Community Services contributes to the accomplishment of the College's mission in regard to public service by offering students an opportunity to gain valuable experience in direct community involvement.

Each public service project is initiated by a community request; linkages to the community are established through a local task force of appointed leaders. Students and faculty provide assistance to the community task force in setting its goals, collecting needed research data, and identifying alternative policy, planning and physical design solutions. Each project establishes a problem-oriented learning process for both the students and the community, guided by Office of Community Services staff and Fort Lewis College faculty members.

## **Cooperative Education Program**

The Cooperative Education Program (Co-op) is designed to assist students in applying valuable classroom knowledge to practical work and internship experiences. It also provides an opportunity for career exploration. Co-op at Fort Lewis was established in 1970 as the first college-level Co-op program in the state of Colorado. More than 200 Fort Lewis students per calendar year participate in the program.

Generally, students are eligible to participate in Co-op after they have completed their freshman year with a minimum 2.0 cumulative grade point average. Plans for enrollment should be initiated with the Co-op Director and the student's advisor in the semester prior to the experience. No adding of Co-op credits will be permitted after the deadline for adding classes (census date).

The first step involves an interview with the Co-op Director during which a written essay is submitted on the student's learning objectives for the Co-op experience. The decisions to admit the student into Co-op and to award final credit reside with the Director of Cooperative Education.

The Director assists students in defining career goals and locating appropriate placements. Student initiative is also supported and encouraged in designing internships and in contacting prospective employers. Students may work with private or public employers throughout the United States.

Cooperative Education credits are counted as general electives. They can be earned under the headings of Co-op 200, 300, or 400. The level and amount of credit depend on a variety of factors. The nature of the work experience is evaluated in the context of the student's course background, and career and personal goals, before a final determination is made on an individual basis for both the level and amount of Co-op credit.

The general criteria for a 200-level experience are that the student will be undertaking career exploration or is beginning an entry level position that is related to the major. First-time Co-op experiences are typically 200 level, particularly for students with lower division standing.

A 300-level Co-op experience typically applies to upper division students who bring a significant degree of appropriate course work into the workplace. Such students may qualify for 300-level credit in their first Co-op placement.

A 400-level experience is for seniors in their second or third placement where they have obtained a promotion to higher responsibilities than in their previous 300-level placement.

Generally, one Co-op general elective credit may be earned in a trimester for each segment of fifty contact hours on the job. The student's major requirements and limits imposed by the major on general elective credits are taken into account.

Co-op students have come from all majors at Fort Lewis; however, departments and schools vary in the number of elective credits accepted toward graduation. It is possible to earn up to 15 Co-op elective credits in some programs. The School of Business Administration allows a maximum of ten Co-op credits to apply toward graduation. It is the student's responsibility to verify the number of elective credits available in his/her degree program. In addition, the student should have the Co-op plan evaluated by his/her academic advisor.

Cooperative Education students analyze their work experience in a daily work journal and a formal typed paper at the end of the trimester. These written materials are evaluated by the Co-op Director, in cooperation with other faculty members when appropriate. Grading is on a credit (S) or no-credit (NC) basis.

At the beginning of the work experience an on-the-job supervisor is identified for each student. The supervisor submits a written performance evaluation at the end of the trimester to the Co-op Director. This document becomes part of the overall evaluation process.

The Cooperative Education Program operates through the calendar year and enrolls students for the fall, winter and summer trimesters. Each student receives a complete program information packet which includes instructions, policies, a listing of due dates, a job description form, a learning objectives statement, guidelines for journals and final papers and a publication from the National Commission for Cooperative Education of which Fort Lewis College is a member. Students who are based in Durango pay regular tuition and fees. Students who work outside a twenty mile radius of the college pay regular tuition and reduced fees.

The Director of Cooperative Education at Fort Lewis assists all students without discrimination.

## **Continuing Education**

The Continuing Education Program endeavors to fill the needs and demands of the people in the San Juan Basin. Through night classes, it can help the employed to complete courses for graduation, the interested to attain worthwhile leisure-time goals, and the unemployed to equip themselves for gainful employment. Many courses are offered as an aid to teachers to meet certification requirements or to keep up with new developments in their fields. When possible, Fort Lewis College, in cooperation with other colleges and universities, will attempt to make graduate courses available, both on

and off campus. Fort Lewis College will offer specialized or hobby courses in diverse fields providing sufficient interest exists. Inquiries concerning Continuing Education should be addressed to the Director of Continuing Education in the Placement Building.

## **The Japan Program**

The Japan Program was established at Fort Lewis College in 1975. The high quality of the program was fully recognized by 1976-77 when the College became the only small college in the United States to be awarded a full Education Abroad Grant of \$10,000 from the Japan Foundation. As of 1988, 130 Fort Lewis students have studied in Japan and have lived with Japanese families.

The Japan Program Director organizes groups every year to study at Fort Lewis' sister school, Kansai Gaidai University in the Kyoto-Osaka area. Students may study in Japan either the fall or spring semester or for an entire academic year.

In the new Kyoto Program, students who have completed two semesters of Japanese language study at Fort Lewis are eligible for a special intermediate course in Kyoto, Japan. The program is conducted in May and June and includes homestays with Japanese families.

Some former Japan Program students have entered graduate school in international management and developed careers in international business, often with the assistance of the Japan Program staff at Fort Lewis College. The Japan Program also places Fort Lewis graduates in teaching positions in Japan and arranges visiting professorships for faculty members.

The Japan Program staff arranges visits to the Fort Lewis campus for Japanese groups and formal study for Japanese students who wish to enroll in American colleges. The ten-week summer intensive English program at Fort Lewis usually enrolls 30 to 40 Japanese students. Between 40 and 50 students from Japan are continuously enrolled at Fort Lewis as regular degree students.

## **The Mexico Program**

Fort Lewis College has encouraged a number of Study Abroad opportunities in Mexico. The main purpose of this program is to develop fluency in the use of the Spanish language and to acquire an in-depth knowledge of the culture of the Spanish-speaking people by immersion and by studying specific courses in the social sciences and arts oriented toward this goal. The normal duration of this experience is one or two trimesters. Most opportunities to study in Mexico require a good background in the language with at least one year of previous language study. Students are strongly encouraged to live with a Mexican family. Students interested in a Study Abroad experience in Mexico are encouraged to discuss various opportunities with members of the Modern Language Department.

## REQUIREMENTS FOR GRADUATION

### General Requirements

Each candidate for graduation must complete a minimum of 128 credits, with at least a minimum cumulative grade point average of 2.0, and a minimum grade point average of 2.0 for those courses accepted to meet the requirements for the major course of study. Of the 128 credits required for graduation, each student is required to complete a minimum of 50 credits outside the discipline in which he or she is majoring. It is the responsibility of the student to know and complete all graduation requirements.

Candidates for bachelor's degrees must complete three elements in their academic programs: general studies, a major, and electives. Each candidate must complete a minimum of 44 credits in the general studies program to be chosen as outlined below and a minimum of 30 credits in a field of specialization, called the major. The balance of the 128 credits required for graduation are called electives. The student has wide latitude in selecting these, although some of them may be specified in certain programs as auxiliary to the major or for teacher certification.

A student must complete his or her final 28 credits in residence. Exceptions to this requirement include such programs as medical technology and engineering (3-2 program). Other exceptions may be made in unusual circumstances by the Vice President for Academic Affairs on recommendation of the appropriate school dean. Among the 128 credits required for the degree, 40 credits must be upper-division courses. No more than 28 credits will be accepted for work completed by correspondence, extension, or educational television.

A course offered in substitution for a required course or the request that a requirement be waived must have the approval of the student's faculty advisor, the school dean, and the Vice President for Academic Affairs or his designee.

### General Studies

Fort Lewis requires a broad background in general studies of all candidates for the bachelor's degree. Students have a variety of choices, but they are specified by general categories in order to assure breadth of education in addition to the specialization required in the major. Each student will be aided by a faculty advisor in choosing a general studies program best suited to his/her own needs and interests.

#### 1. FRESHMAN/SOPHOMORE SEMINARS

Every beginning freshman will take a freshman composition seminar in one of his/her first two trimesters at Fort Lewis. (Freshmen in the intercultural program may postpone their first seminar for one or two trimesters if this is recommended by their advisors.) Sophomores are required to take a seminar in one of the trimesters of the sophomore year. Only two seminars can be counted toward graduation.

## II. DISTRIBUTION REQUIREMENTS

The outline below indicates the number of courses required in each group. The listing is by academic field in most cases, and any course in the field may be chosen except for individualized studies, independent studies, practicums, internships, and courses noted in parentheses. Courses taken in the major field will not apply toward groups A, B, C, D, or E except for the broad majors of humanities, physical science, and Southwest Studies. However, courses required for a major that are under "Auxiliary Requirements from Other Departments" may apply toward General Distribution Requirements.

**Furthermore, courses of less than 3 credits will not meet these requirements, except where there are laboratory activities related to other courses taken at the same time or previously.**

### Group A. LANGUAGE AND THE ARTS — 3 Courses

**Purpose:** To provide an understanding of human expression through language, literature, the fine arts, and the performing arts, with special emphasis on developing creativity and aesthetic sensitivity. Three courses must be chosen — at least one from each subgroup.

1. English (except Engl 216, Engl 316, and courses numbered below Engl 130)  
Modern Language (except for first-term courses such as ML 109, 115, 123, and 147)
2. Art (except Art 273)  
Southwest 154, 155  
Music (except Mu 314, Mu 315 and Mu 316). Three consecutive trimesters (i.e., fall, winter, fall) in any one large music ensemble (Band, Choir, or Orchestra) will equate for one course from this subgroup.  
Theatre (except Thea 121)

### Group B. QUANTITATIVE AND NATURAL SCIENCES — 3 Courses

**Purpose:** To provide an understanding of the physical world and the formal, theoretical, and empirical methods by which it is studied. Three courses required — at least one must be a natural science course with associated laboratory; the three must be chosen from at least two different fields.

- Biology
- Chemistry
- Geology
- Physical Science
- Physics
- Mathematics (except Computer Science)

The following individual courses outside these fields may also be chosen:

- BA 253 Business Statistics
- Phil 271 Logic
- Psych 241 Basic Statistics for Psychologists

**Group C. FOUNDATIONS OF CULTURE - 2 Courses**

Purpose: To provide an understanding of fundamental values and world views through the study of human society's past, its formative ideas, and its alternative cultural expressions. Two courses required:

Anthropology  
History  
Philosophy (except Phil 271)

**Group D. SOCIAL STRUCTURE AND BEHAVIOR — 2 Courses**

Purpose: To provide an understanding of human beings, both as individuals and as socially, politically, and economically related groups. Two courses required:

Economics (except Econ 201)  
Geography 271  
Political Science  
Psychology (except Psych 218, 241)  
Sociology

**Group E. NON-WESTERN STUDIES — 1 Course**

Purpose: To provide an understanding of a cultural view quite different from the students' own, which is generally North American and European, in order to broaden their horizons of thought and their understanding of the world's peoples; to promote peace and understanding; and to help students have more objectivity toward and appreciation of their own culture as seen from another perspective.

At least one course must be taken in Non-Western Studies. These courses are culturally rather than geographically defined and focus on Latin America, Asia, Africa, Eastern Europe, the Islamic World, and Native American cultures. Courses meeting this requirement will be so designated in each term's course schedule.

**III. PHYSICAL EDUCATION**

Two activity courses of 1 credit each are required; the two must be in different activities or levels.

## Majors

Each student seeking a baccalaureate degree must select a major area of study for specialization. The College now offers majors in accounting, anthropology, art, biology, business administration, chemistry, economics, English, geology, history, humanities, mathematics, music, physical education, physical sciences, physics, political science, psychology, sociology and human services, Southwest Studies, and Spanish. In addition to these regular majors, the College has established a procedure whereby a student with a special purpose may construct his own major. Ordinarily, this major should be of an interdisciplinary character and be submitted for approval not later than the end of the first term of the junior year. The student constructed major contract must be approved by the advisor, the appropriate school dean, a representative of the Curriculum Committee, and the Vice President for Academic Affairs.

Students desiring a degree with a major in elementary education must complete all degree requirements and apply for Colorado teacher certification

by December 31, 1988. As of January 1, 1989, the Colorado Department of Education will no longer recognize elementary education as a major for candidates seeking elementary teacher certification. After that date, students seeking elementary teacher certification must complete a degree with a subject major as well as the elementary teacher certification program. Fort Lewis College will no longer offer a degree with a major in elementary education after December 1988.

Associate of Arts degrees are offered in agricultural science and secretarial studies. The Associate of Arts degree in secretarial studies will not be awarded after August, 1989.

## **Minors**

Minors, even though not required for graduation, are offered by most departments. Requirements for a minor are described under the program of study for each department. General Studies requirements and minor requirements may overlap. For additional information regarding a minor, consult the department chairperson.

## **Electives**

The third part of a student's program of study consists of additional courses called "electives," selected in accordance with his or her ability, interest and purpose. The courses permit the student to become acquainted with other areas of knowledge to broaden his education, to supplement his major area of concentration, to meet specific requirements of a graduate school, to take professional teacher certification courses, or to add a second teaching field.

## **Second Bachelor's Degree**

A student who for special reasons desires to secure a second bachelor's degree must complete a minimum of 28 credits in addition to the total number of credits required for the first degree. The student is required to complete all requirements for the second degree, including general graduation requirements and specific requirements for the major selected. No honors are awarded upon the receipt of a second bachelor's degree. If a student receives his first bachelor's degree from another accredited college, the additional 28 credits must be in residence to fulfill the requirements for the second bachelor's degree. The additional credits required for the second degree may be completed concurrently with those credits applying to the first degree and the two degrees may be granted simultaneously, providing all requirements have been completed for both degrees.

## **Repeatable Courses**

Certain courses are repeatable but have limits on the number of credits that can be counted toward graduation. Art courses may be repeated once for a total of 6 credits in the following: Art 201, 226, 227, 301, 309, 313, 324, 331, 343, 350, 357, 401, 409, 413, 424, 425, 431, 443, and 450. The limit on physical activity courses is 6 credits in different physical activities or levels.



Theatre 100, 200, 300, 400, and 401 may each be repeated for 6 credits, as well as Engl 250, 251, 450, and 451. Theatre 253 and 453 may be repeated for up to 12 credits each. A maximum of 24 credits are allowable toward graduation for any combination of the above designated theatre and English credits. Up to 24 credits are allowable toward graduation in either series of courses.

A combined maximum of 12 credits from large ensembles — Mu 105, 110, 117, 121, 305, 310, 317, and 321 — is allowable toward graduation. A maximum of 2 credits from each small ensemble — Mu 106/306, 111/311, 112/312, 113/313, 118/318, and 119/319 — is allowable toward graduation. Each applied music course — Mu 109, 308, and 309 — may be repeated for a maximum of 4 credits. Mu 209 and 409 may be repeated for a maximum of 8 credits. A maximum of 16 credits in a single applied music area is allowable toward graduation.

## Petitioning to Graduate

In order to graduate from Fort Lewis College, each student must submit a signed Petition for Candidacy for a Degree, which can be obtained from the Records Office. The signed petition must be returned to the Records Office within a month after the completion of 80 credits for the bachelor's degree and after the completion of 30 credits for the Associate of Arts degree. Also, the graduation fee must be paid by that date.

## ACADEMIC POLICIES

### Examinations

The number and type of examinations in any particular course are determined by the instructor. Separate days are set aside for the final examinations at the close of each trimester. It is the student's responsibility to take all examinations or to arrange for exceptions directly with the instructor.

### Grading

The quality of a student's work is appraised according to grade point averages. Fort Lewis uses the four-point system, which assesses grade points as follows:

A	= 4 points	C	= 2 points
A-	= 3.75 points	C-	= 1.75 points
B+	= 3.25 points	D+	= 1.25 points
B	= 3 points	D	= 1 point
B-	= 2.75 points	D-	= .75 point
C+	= 2.25 points	F	= 0 points

The grade point average, carried to two decimal places, will be computed by dividing the total number of grade points by the total number of credits attempted. Grades of X, S, P, W, NC, and NG do not affect the grade point average.

The grade of *X* means the student has passed a course by special examination.

The grade of *P* means that the student has passed a course on a Pass-Fail basis.

The grade of *W* signifies that the student has withdrawn from the course while passing; ordinarily that grade is given between the census date and one week past midterm of any term.

The grade of *S* (credit) means that the student has successfully completed the course.

The grade of *NC* (No Credit) means the student did not complete the course. No credit is given nor is the grade figured in the grade point average.

The grade of *NG* (No Grade) indicates that the instructor did not report a grade by the deadline for submission of final grades.

**Incompletes.** A grade of Incomplete (*I*) is a student-initiated grade which must have the instructor's approval. It is appropriate only under the following conditions:

1. The major part of the course requirements has been met.
2. The student is unable to complete the requirements in the term in which the course is taken for compelling and unforeseen reasons.
3. In the opinion of the instructor, the requirements can be completed by the student without repeating the course.

If the course requirements are not completed within one year after the end of the appropriate term, the incomplete grade will revert to an *F* (see below for the single exception to this change). The dean of the school in which the course is offered may waive for good reason the one-year deadline upon petition by the student. If, within the time allotted, the student completes the course requirements, the instructor will initiate the grade change by filing a Special Grade Report form.

When giving an Incomplete, the faculty member must file a Report of an Incomplete form with the dean and the Records Office, specifying in detail: (1) what work must be done in order to remove the Incomplete, and (2) the time deadline for completing the work. The student should sign this form at the time it is prepared. A copy of the form should be given to the student. An Incomplete cannot be removed by registering to repeat the course. When the student cannot complete the course material without repeating the course, he or she should not receive an Incomplete; *W* or *F* would be more appropriate.

A course for which a student has a grade of *I* at the time of graduation cannot be used to satisfy any graduation or major requirement and is not counted in units attempted or GPA. In the event that a student has graduated prior to removing the Incomplete, the *I* grade will remain permanently on the graduate's transcript.

**Grade Replacement Policy.** When a course is repeated, all grades for that course will remain on the student's record, but the credit will count only once. For the first 12 credits of repetition of courses in which the initial grade was C- or less, only the last grade earned will be counted in the grade point average. When a course for which the initial grade was C or better is repeated, or when a student has already excluded 12 credits or C- or lower grades from his grade point average, there shall be no exclusion of grades from the

**Credit—No Credit Option.** Courses that primarily utilize field experience may, at the discretion of the sponsoring school, be graded either "credit - no credit," or with the traditional "A through F" letter grade system.

Should the "credit - no credit" option be utilized, the courses may still be applied to either the major or General Distribution Requirements.

**Pass-Fail Electives.** Students with a cumulative average of at least a C are permitted to take up to four pass-fail electives during their undergraduate career. The pass-fail basis is limited to elective courses only. Pass-fail may not apply to General Studies Requirements, Departmental Requirements, or Teacher Education Requirements. Students may take no more than one pass-fail elective in any one trimester and no more than 18 credits may be taken during the term they are carrying the pass-fail elective. Freshmen may not choose a course on this basis before their second term. Students taking a pass-fail elective must fulfill all necessary prerequisites for that course. Changes to or from pass-fail status after the beginning of a term are limited to the normal period for adding courses.

**Audit.** Students may audit courses with the permission of the instructor if they desire to attend classes regularly but do not wish to receive grades and credit. Upon registration, the students must declare whether they wish to take a course for audit or for credit. Students may not change from audit to credit, or vice versa, after the closing date for adding classes in each trimester. When registering, students may take both audit and credit courses but the total should not exceed a normal load.

Students auditing courses are required to pay fees at the same rate as if enrolled for credit.

Students who wish to audit a course and later wish to obtain credit for it may do so by special examination.

## Academic Progress

Fort Lewis College students are generally given two trimesters to make proper academic adjustments to college, but anyone not doing satisfactory academic work may receive a probation or suspension notice at any time.

An overall grade of 2.0 is considered satisfactory progress toward a degree. A grade point average of less than 2.0 may result in a student being placed on probation, suspended or dismissed from college. A student who has been suspended may petition for readmission after completion of his or her suspension period. However, such petition does not guarantee readmission.

## Academic Renewal

A transfer or returning Fort Lewis College student who has not attended any college for at least five years (60 consecutive months) may apply for "academic renewal" during the first year when studies are resumed. Academic renewal is defined as the elimination of the student's entire previous academic record toward meeting graduation requirements. A student requesting academic renewal must submit a written petition to the Academic Standards Committee through the Records Office within a year of resumption of studies. If the petition is approved by the Academic Standards Committee, the student's permanent record will denote "academic renewal approved" with the date.

## Dean's List/Graduating with Honors

The Dean's List, published at the end of each trimester, honors students for high scholastic achievement. Students who attain a grade point average of 3.4 or better in not less than 14 hours of graded credit and who have completed all work for which they are registered by the end of the term will be listed for that term.

To graduate with honors, students must have earned in residence at Fort Lewis at least the same number of credit hours that are required for their major. No honors are awarded upon receipt of a second bachelor's degree. Grade point averages required for honors are as follows:

- Summa cum laude — Grade point average of 3.8 to 4.0
- Magna cum laude — Grade point average of 3.6 to 3.7
- Cum laude — Grade point average of 3.4 to 3.5

Graduation with "honors" depends wholly on achieving a high grade point average. It should not be confused with participation in the John F. Reed Honors Program, which is described on pages 56 through 58 of this catalog.

## ACADEMIC PROCEDURES

### Registration

Registration for each trimester immediately precedes the beginning of classes for that trimester; however, both new and continuing students are encouraged to register early. For new or transfer students, early registration for the fall trimester is held from early June through early August. Freshmen also have an opportunity to register early during the three Summer Orientation Programs.

Early registration for continuing students is held early in December for the winter trimester and in late March for the fall trimester. Registration for the three 5-week summer sessions is held on the Tuesday afternoon prior to the beginning of classes for each session.

Any student registering after the official registration date for each trimester will be assessed a late charge.

## **Non-Scheduled Courses**

In exceptional cases, a regularly offered course not scheduled during a term may be taken on a non-scheduled basis when approved by the instructor, department chairman, and the appropriate dean. The Schedule Modification for Non-Scheduled Courses form is available in the Records Office.

## **Academic Advising**

Upon entering the College, each student is assigned an academic advisor. The program of courses selected by the student is approved by the advisor; the advisor also is available to counsel with the student about career plans and long-term academic programs and objectives. As the career and academic plans of the student evolve, he or she may select an advisor whose interests and specializations are consistent with the student's goals. Fort Lewis believes deeply in the importance of academic advising and encourages all students to make liberal use of the opportunity to meet and confer with their academic advisors.

## **Classification**

A regular student is one who has been admitted to the College and has declared an intention to pursue the requirements for the baccalaureate or associate degree.

Regular students are classified as follows according to semester credits completed:

Freshman	Less than 30 semester credits
Sophomore	30-59 semester credits
Junior	60-89 semester credits
Senior	90 or more semester credits

An unclassified student is one who has been permitted to enroll but who does not intend to work toward a degree.

## **Course Load**

The normal student load in a given trimester is 16 semester credits. A 3 credit course will customarily be taught three hours per week, a 5 credit course, five hours per week.

The maximum regular load is 18 credits in a trimester. Students who wish to take additional credits must obtain permission from their advisor and school dean and pay the surcharge. Students should plan to spend a minimum of two hours of outside preparation per week for every credit carried.

## **Program Changes**

Once a student has registered and confirmed a given set of courses, records are established and no courses are dropped from or added to the student's official registration except on forms provided by the Records Office or pur-

chased from the Cashier's Office. Such changes are the responsibility of the individual student, who must make arrangements with the Records Office, the faculty advisor, and the instructor(s) concerned. After the census date for each term the cost of a Drop/Add form increases from \$1.00 to \$5.00. For dates, fees, and other details, see the Schedule of Courses for each term.

As of 5:00 p.m. on the census date for any trimester or five-week summer session, all courses for which a student has registered will appear on the student's permanent academic record. Up through this date, all courses dropped from a student's registration will not appear on the student's permanent academic record.

A student has the right to withdraw from a class, at which time the instructor has the obligation to provide a grade of *W* or *F*. A grade in a course dropped by a student prior to 5:00 p.m. of the Friday following the date midterm grades are due is recorded as *W* or *F*, at the discretion of the faculty, for either the fall or winter trimester; during each of the five-week summer sessions, the deadline for the policy stated above is the third Friday of the session. After these deadlines, the grade is automatically an *F* except in a case of unusual circumstances as determined by the course instructor, when a grade of *W* may be given.

## **Attendance**

Regular class attendance is expected. Each instructor keeps a record of student absences and determines the extent to which absences affect final grades.

## **Effective Catalog**

The academic policies and regulations are changed by the College from time to time. Which set of regulations (as published in the catalog) applies to a given student is determined by the following rule: all students intending to graduate from Fort Lewis College must meet the course requirements for graduation set forth in the catalog in effect at the time of their matriculation or the one in effect by the time of their graduation. Students may choose between the catalogs but may not combine them. Regulations other than course requirements will apply according to the catalog in effect at the time of graduation except as new regulations have other effective dates specifically fixed. However, no catalog more than ten years old at the time of the student's graduation will be accepted as the source of graduation requirements. A student who matriculated more than ten years before graduation will meet the requirements of the catalog in effect at the time of graduation, or may petition the Vice President for Academic Affairs to be permitted to graduate under some intervening catalog not more than ten years old. Any student who is not registered at Fort Lewis College for any continuous period of two calendar years or more forfeits his claim to the catalog under which he entered and comes under the catalog in effect at the time he next returns to Fort Lewis College as a student. Students also have the right of appeal to the Vice President for Academic Affairs for use of an earlier catalog.

The College reserves the right to cancel a class (for that trimester) if enrollment is not deemed sufficient.

## Transcripts

The first transcript (record of grades) for a Fort Lewis College student is supplied free of charge. A charge is made for additional transcripts. All accounts with Fort Lewis must be settled before a transcript may be issued. Transcripts are processed as rapidly as possible and are usually issued within three working days from the date of request. However, at the end of a term, allow five to ten working days for issuing a transcript.

## Family Educational Rights and Privacy Act of 1974

In compliance with the Family Educational Rights and Privacy Act of 1974 (P.L. 93-380), as amended, each eligible student has the right to review his or her own academic records, to seek correction of information contained in those records, and to limit disclosure of information from the records.

Student academic records are kept in the Records Office and are confidential to the student, the academic advisor, and to those faculty or staff members who must have access to the files to perform their duties. No information from a student's file will be released to any other party without the written permission of the student. This information plus the policy and details concerning the Act (copy of which is available in the Records Office) constitute the annual notification to students of their rights under the Act.

## THE CURRICULUM

### Interpreting The Catalog

The figures after each course have the following meanings: the first figure in the parentheses refers to hours spent in lecture or seminar sessions and the second number refers to hours in laboratory each week. The figure outside the parentheses refers to semester credits. Disciplines generally appear alphabetically according to school and the schools themselves are in alphabetical order beginning with the School of Arts and Sciences.

The course numbering system is described in the following table:

Course Number	Intended for:	Open to:	Instructor Permission Required for:
Below 100	Open only to students with demonstrated need.		
100-199	Freshmen	Sophomores	Juniors, Seniors
200-299	Sophomores	Freshmen, Juniors	Seniors
300-399	Juniors	Sophomores, Seniors	Freshmen
400-499	Seniors	Juniors	Sophomores

Entry to all courses is limited to students who have completed published prerequisites, or to those with instructor permission. Courses numbered below 100 do not count toward graduation. Courses numbered below 300 are called lower-division courses, while those 300 or above are known as upper-division courses.

## Courses Common To All Programs

### FCS — Freshman Composition Seminars

At Fort Lewis College the Freshman Composition Seminar is offered in lieu of what many other colleges and universities call Freshman English. This course is designed to teach library research methods as well as strengthen written and oral communication skills. To meet these objectives, students become familiar with library resources and write at least one research paper which involves collecting, organizing, and documenting library material. In addition, students write a number of other papers, each of which is evaluated by the instructor. Oral skills are improved through formal oral presentations and class discussion.

Seminars are taught on a variety of topics by faculty from throughout the College. Motivation for learning these important communication skills is enhanced by allowing students to choose topics of individual interest upon which to focus their written and oral presentations.

The seminar format, limited enrollment, and student choice of topics make the Freshman Composition Seminar a particularly effective means of learning basic oral and written communication skills.

### SCS — Sophomore Composition Seminars

In the Sophomore Composition Seminars students continue to strengthen their communication skills. Library, laboratory, or field work require more sophisticated research techniques than those required in the Freshman Composition Seminars. Students use primary resources as well as other kinds of materials in preparation of expository papers and oral presentations. Students complete at least one research project, either a paper or a documented speech.

The Sophomore Composition Seminar topic is selected by the student from a variety of topics offered in a wide range of disciplines. Students should select a topic in which they are interested, but one which differs from their Freshman Composition Seminar topic. Credit cannot be given for a Sophomore Composition Seminar taught by the same professor who taught the student's Freshman Composition Seminar.

**COOP ED 200 Cooperative Education** 1-10  
A first-time cooperative education work experience by underclassmen.

**COOP ED 300 Cooperative Education** 1-10  
A cooperative education work experience by upperclassmen. A maximum number of credits is allowed toward a degree.

**COOP ED 400 Cooperative Education** 1-10  
An advanced cooperative education work experience by upperclassmen who have completed one or more Co-op terms. A maximum number of credits is allowed toward a degree.

**GENERAL STUDIES 90 Writing Skills** (3-0) 3  
This course provides personalized review and instruction designed to raise quickly a student's writing proficiency to the college level. This course does not count toward the minimum credits required for a degree.



**GENERAL STUDIES 92 Math Skills** (2-0) 2

This course provides personalized review and instruction in college preparatory mathematics for students with deficiencies or apprehensions concerning required entrance-level courses. Individualized diagnosis and teaching programs are applied to the student's specific problem areas. This course does not count toward the minimum semester credits required for a degree.

**GENERAL STUDIES 200** 2-4

A lower-division seminar in interdisciplinary studies. Offered on sufficient demand. This course and General Studies 300 may be repeated for a combined maximum of 9 credits.

**GENERAL STUDIES 300** 2-4

An upper-division seminar in interdisciplinary studies. Offered on sufficient demand. This course and General Studies 200 may be repeated for a combined maximum of 9 credits.

**GENERAL STUDIES 361 Man and Computers** (3-0) 3

A study of the broad social, political, ethical, and philosophical issues raised by the existence and use of the computer. Topics may include artificial intelligence (can computers think?), the impact of enhanced storage and retrieval of information, computer ethics, computer languages vs. natural languages, and the impact of the computer on our concepts of ourselves. C.S. 100 or 120 or experience with computers is recommended but not required of those taking this class.

**SPECIAL TOPICS 190** 1-6

This is not a fixed course but is a designation to take advantage of special opportunities and topics. It can be offered in any area with the consent of the school dean and the Vice President for Academic Affairs. From 1 to 6 credits may be earned.

**SPECIAL TOPICS 191** 3-6

This is not a fixed course but is a designation to take advantage of special opportunities and topics which meet the purpose of one of the groups under the General Studies Program. It can be offered in any area with consent of the school dean and curriculum committee. Credit may vary from 3 to 6 credits.

**SPECIAL TOPICS 390** 1-6

Same as Special Topics 190 except that this course is taught at the upper-division level.

**SPECIAL TOPICS 391** 3-6

Same as Special Topics 191 except that this course is taught at the upper-division level.

**INDIVIDUALIZED STUDY 299** 1-3

Independent study for lower-division or non-major students. Available in most disciplines.

**INDEPENDENT STUDY 499** 1-3

All major fields require either independent study or a seminar at the senior level. Independent study may be undertaken in a field other than the student's major. To do so, the student must have the approval of his or her advisor, department chairman, the department chairman in whose area the study will be made, and the professor who will supervise the study. However, inde-

pendent study in the field outside the student's major cannot be substituted for the requirement of independent study or seminar in his or her major field.

## John F. Reed Honors Program

The College offers the John F. Reed Honors Program (named for a former president of the College) for students of superior ability. Students who complete the Honors Curriculum and additional requirements are excused from the General Distribution Requirements and receive special recognition at graduation and on their transcripts. Students not wishing to enroll in the John F. Reed Honors Program may request permission (from the instructor or from the chairman of the Honors Council) to take individual Honors courses.

All Honors courses are small seminars and the approach is interdisciplinary. The John F. Reed Honors Program seeks to offer an enriched educational opportunity to able students who enjoy working in small groups with others like themselves.

Entering freshmen may be admitted to the John F. Reed Honors Program on the basis of high school records and ACT or SAT scores. Second-term freshmen and sophomores may be admitted on the basis of academic achievement and faculty recommendations. Students already at Fort Lewis College should petition the Honors Council through its chairman if they wish to be considered for admission.

Reed Scholars must maintain a minimum cumulative grade point average of 3.2. They may leave the program at any time without loss of academic credit, but must, in conference with the Director of Records and a representative of the Honors Council, decide which of the General Distribution Requirements will be considered satisfied by the Honors seminars they have completed.

The John F. Reed Honors Program consists of the following core courses and additional requirements:

### I. The Honors Core:

		Credits
Freshman Year		
1st Term:	Hon 101 Freshman Honors Seminar in Literature	4
2nd Term:	Hon 104 Honors Seminar in History and Humanities	3
Sophomore Year		
1st Term:	Hon 205 Honors Seminar in Aesthetics and Fine Arts	3
2nd Term:	Hon 212 Honors Seminar in the Shaping of the Modern Mind	4
Junior Year		
1st Term:	Hon 306 Honors Seminar in the Natural Sciences	3
2nd Term:	Hon 310 Honors Seminar in Philosophy, Religion and Morality	3

## Senior Year

1st Term:	Hon 403 Honors Seminar in the Social Sciences	3
	Hon 499 Honors Thesis (writing of first draft)	1
2nd Term:	Hon 404 Honors Seminar in the Nature of Man	3
	Hon 499 Honors Thesis (completion and public presentation)	1-2

## II. Additional Requirements:

1. Modern Language: The completion of the second term of the second year of a modern language or the demonstration of an equivalent proficiency	0-14
2. A Natural Science with a Laboratory	3-5
3. Formal Reasoning: Mathematics (Math 111 or above), Computer Science or Logic	3
4. A Non-Western course	3
5. P.E.: Two activity courses	2
	<hr/> 42-60

Honors courses will satisfy the General Distribution Requirements for students not enrolled in the Honors Program as follows: Hon 101, Freshman Composition Seminar; Hon 104, Group A or C; Hon 205, Group A; Hon 212, Sophomore Composition Seminar; Hon 306, Group B; Hon 310, Group C; Hon 403, Group D; or Hon 404, Group C.

Each honors course has the prerequisite that the student must be admitted to the Honors Program or have the consent of the instructor.

**HONORS 101 FRESHMAN HONORS SEMINAR IN LITERATURE** (4-0) 4

An examination of great works of literature chosen from various cultures and eras. Students will write essays and do research, as well as improve their ability to read critically.

**HONORS 104 HONORS SEMINAR IN HISTORY AND HUMANITIES** (3-0) 3

An examination of selected issues in the humanities prior to 1700. Issues are considered both in their historical context and with regard to their importance in shaping today's culture.

**HONORS 205 HONORS SEMINAR IN AESTHETICS AND THE FINE ARTS** (3-0) 3

An examination of the nature of the artistic experience through the study of theories of aesthetics as well as selected great works of art representing various eras and cultures.

**HONORS 212 HONORS SEMINAR IN THE SHAPING OF THE MODERN MIND** (4-0) 4

An examination of selected issues in such fields as the arts, economics, science, philosophy, and religion which have played major roles in forming the institutions and values of western society since the Renaissance.

**HONORS 306 HONORS SEMINAR IN THE NATURAL SCIENCES (3-0) 3**

An examination of technological and scientific developments that have shaped human lives and people's views of themselves, of one another, and of their universe. The course also considers the moral issues involved in the application and control of scientific knowledge.

**HONORS 310 HONORS SEMINAR IN PHILOSOPHY, RELIGION, AND MORALITY (3-0) 3**

An examination of issues in philosophy, religion, and morality through the reading and discussion of important works from various cultures of the world.

**HONORS 403 HONORS SEMINAR IN THE SOCIAL SCIENCES (3-0) 3**

An examination of the problems man faces in contemporary society, through such perspectives as those provided by politics, history, sociology, and economics. The course considers the social process and its influence on the chances of human survival.

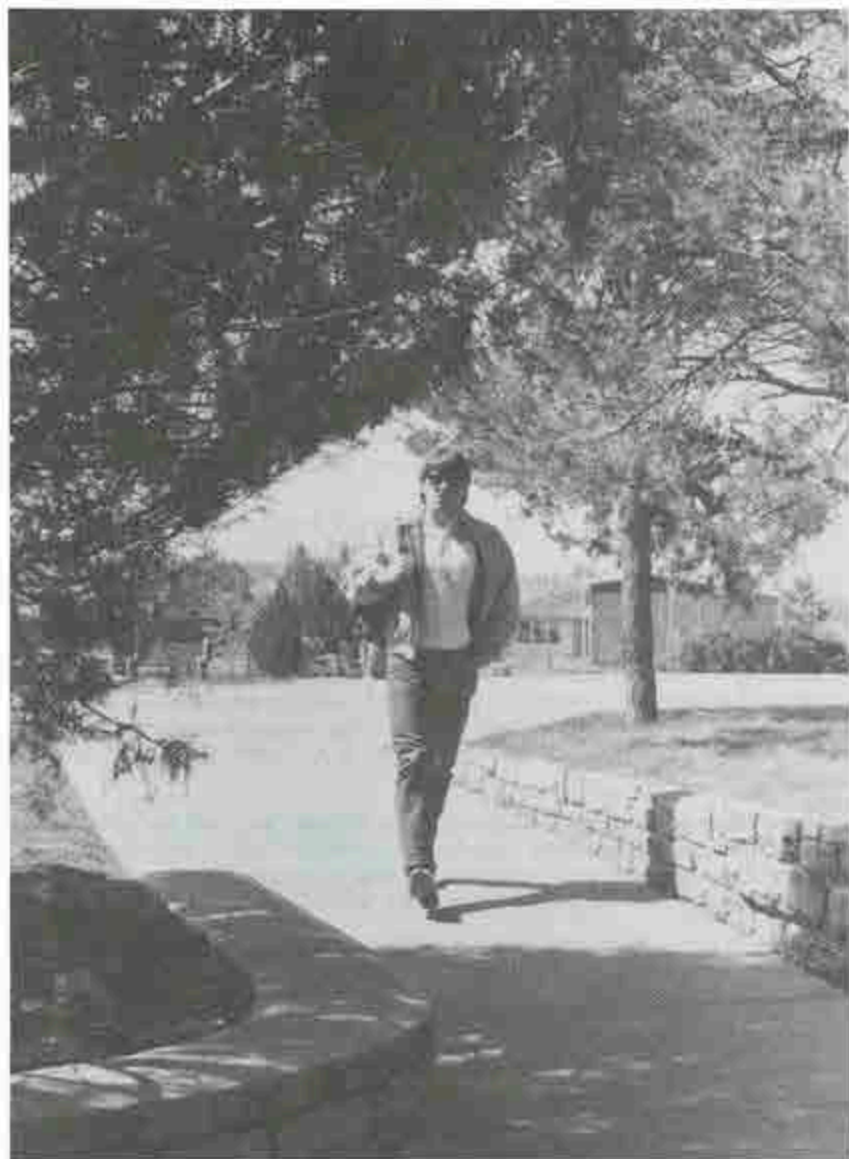
**HONORS 404 HONORS SEMINAR IN THE NATURE OF MAN (3-0) 3**

An examination of interpretations of human nature from viewpoints as diverse as those provided by anthropology, psychology, biology, and religion. The course considers what people are "from as many perspectives as possible.

**HONORS 499 HONORS THESIS 1-2**

An independent study usually taken in both terms of the senior year. The first term is devoted to writing the first draft of a senior honors thesis on a topic chosen by the student with the aid of a faculty advisor approved by the Honors Council. In the second term, the thesis is finished and a copy of it is placed in the library's permanent collection. The student also conducts a public oral presentation based on the thesis.

# Programs of Study



## THE SCHOOL OF ARTS AND SCIENCES

EDWARD L. ANGUS, DEAN  
JACK A. ELLINGSON, ASSISTANT DEAN

### Departments and Programs:

*Anthropology* — Susan M. Riches, Chair  
*Art* — Ellen Cargile, Chair  
*Biology, Agriculture, and Forestry* — David W. Jamieson, Chair  
*Chemistry* — Ron C. Estler, Chair  
*Community Services* — Samuel A. Burns, Director  
*English and Theatre* — Shaila Van Sickle, Chair  
*Geology* — John A. Campbell, Chair  
*History* — Thomas R. Eckenrode, Chair  
*Humanities* — Carroll V. Peterson, Coordinator  
*Mathematics* — William C. Ramaley, Chair  
*Modern Languages* — Deborah A. MacKeefe, Chair  
*Music* — Ralph A. Downey, Chair  
*Physics, Physical Science, and Engineering* — Tom Norton, Chair  
*Political Science and Philosophy* — William Coe, Chair  
*Sociology and Human Services* — Dennis W. Lum, Chair  
*Southwest Studies* — Richard N. Ellis, Director

The programs in the School are administered through its academic departments, but for easy reference the separate curricula are listed alphabetically.

### Agriculture

Assistant Professors John R. Greathouse and Dean L. Winward

The Agriculture Department offers a choice of four program options. A Guaranteed Transfer Program with Colorado State University is available for students interested in pursuing a four-year bachelor's degree. Through this program a student can complete a prescribed sequence of coursework at Fort Lewis during the freshman and sophomore years and, with a minimum grade point average, be qualified for full transfer to Colorado State with junior standing.

Major areas of study offered through the transfer program include: Agricultural Business, Agronomy (production management, crop science, soil science, soil resources and conservation, and international concentrations), and Animal Sciences (industry and science concentrations).

A second agricultural option is a two-year program at Fort Lewis College, leading to an Associate of Arts degree in Agricultural Science. This program is designed to fill the needs of those students pursuing an agricultural career on a farm, ranch, or other agriculture-oriented business. Students may decide to concentrate in animal science, agricultural business, or agronomy.

Students also have the option of developing a student constructed major. This option is for students who plan to continue in a four-year program and combine agriculture with a second field of study such as agricultural marketing or agricultural chemistry.

A minor in agriculture is available for students majoring in other disciplines. Requirements for a minor in agriculture are described on page 62.

#### REQUIREMENTS FOR AN ASSOCIATE OF ARTS DEGREE IN AGRICULTURAL SCIENCE:

*Credits*

##### General Studies:

Freshman Composition Seminar .....	4
Sophomore Composition Seminar .....	4
Approved math course (Math 110 or above, not Math 130) ...3-5 (The above math requirement does not fulfill the Group B General Distribution Requirement, although a second math course could be used.)	
Four courses to be selected from the General Distribution groups A-D, one from each group .....	12-16

Total.....23-29

Physical Education Activity.....2

##### Specific Agricultural Science Requirements:

Ag 101 Introductory Animal Science .....	4
Ag 102 Principles of Crop Production .....	4
Ag 150 Farm Records and Accounts .....	3

Total.....11

Agricultural Science Electives (at least five courses selected from the following):

Ag 202 Weeds and Weed Control.....	4
Ag 235 Soils and Soil Fertility .....	4
Ag 240 Principles of Animal Nutrition .....	4
Ag 245 Irrigation Principles .....	3
Ag 301 Range Management.....	4
Ag 325 Beef Science .....	3
Ag 340 Agricultural Marketing.....	3
Ag 350 Agricultural Law .....	3
Ag 390 Special Topics (as offered) .....	3-5

Total.....minimum 15

##### Suggested Electives:

Engr 102 Technical Drafting	
Engr 205 Surveying I	
Computer Science, Economics, Chemistry, Biology, Business Administration	

TOTAL REQUIRED FOR GRADUATION.....64

**Agriculture Experience:** A student is required to have a minimum of 15 weeks of work experience on a farm, ranch, or other acceptable agricultural business prior to the awarding of the Associate of Arts degree in Agricultural Science.

## PROGRAM OF STUDY FOR GUARANTEED TRANSFER PROGRAM:

Students participating in the guaranteed transfer program will select courses in consultation with their academic advisors. The specific courses required will depend on which concentration is selected.

## REQUIREMENTS FOR A MINOR IN AGRICULTURE:

One or both of the following:

Ag 101 Introductory Animal Science .....	4
Ag 102 Principles of Crop Production .....	4

Additional courses (select three to five of the following):

Ag 150 Farm Records and Accounts .....	3
Ag 202 Weeds and Weed Control.....	4
Ag 235 Soils and Soil Fertility .....	4
Ag 240 Principles of Animal Nutrition .....	4
Ag 245 Irrigation Principles .....	3
Ag 301 Range Management.....	4
Ag 325 Beef Science .....	3
Ag 340 Agricultural Marketing.....	3
Ag 350 Agricultural Law .....	3
Ag 390 Special Topics.....	3-4

Total..... 20\*

\*A minimum of 20 credits is required, six of which must be 300 level or above. Students may concentrate in such areas as: General Agriculture, Animal Science, Agronomy, or Agricultural Business.

### *Courses*

- Ag 101 INTRODUCTION TO ANIMAL SCIENCE (3-3) 4  
Basic introduction to the aspects of animal science, concentrating on products, reproduction, genetics, anatomy, basic production in cattle, sheep, swine, and dairy.
- Ag 102 PRINCIPLES OF CROP PRODUCTION (3-3) 4  
Basic principles of crop production, concentrating on growth, development, management, utilization and cultural practices dealing mainly with the crops of Colorado.
- Ag 150 FARM RECORDS AND ACCOUNTS (3-0) 3  
This course is designed to give proficiency in keeping farm records for income tax and management purposes.
- Ag 202 WEEDS AND WEED CONTROL (3-3) 4  
Principles and practices of weed control and recognition of important weed species.
- Ag 235 SOILS AND SOIL FERTILITY (3-3) 4  
A basic course dealing with soil formation, physical and chemical properties, fertility, management, and conservation.  
*Prerequisite:* Chem 150.



Ag 240 PRINCIPLES OF ANIMAL NUTRITION (3-3) 4  
 Nutrient sources and requirements of livestock, including ration balancing and laboratory analysis of feedstuffs.

*Prerequisite:* Ag 101 or consent of instructor.

Ag 245 IRRIGATION PRINCIPLES (2-3) 3  
 Basic introduction to surveying, irrigation water and soil moisture measurements, conveyance, and application methods emphasizing soil-plant-water relationships.

Ag 301 RANGE MANAGEMENT (3-3) 4  
 Application of range science principles in managing rangelands emphasizing range history, ecology, multiple-use, grazing systems, range improvements and identification, physiology and utilization of important range plants.

*Prerequisites:* Bio 100 and 101.

Ag 325 BEEF SCIENCE (3-0) 3  
 A comprehensive course in beef cattle production, including topics in breeding and selection, reproduction, nutrition, herd health, and marketing. Commercial beef cattle production enterprises will be emphasized.

*Prerequisite:* Ag 101.

Ag 340 AGRICULTURAL MARKETING (3-0) 3  
 An introduction to agricultural grain and livestock marketing in the U.S. Basic marketing principles and practical marketing strategies will be discussed.

Ag 350 AGRICULTURAL LAW (3-0) 3  
 An overview of the U.S. judicial system and a study of various laws, regulations, and case decisions which directly pertain to the agricultural production sector.

## Anthropology

Professor Susan M. Riches; Professor Emeritus John C. Ives;  
 Associate Professors Philip G. Duke and Donald R. Gordon;  
 Assistant Professor Kathleen Fine

Fort Lewis College offers a program of courses leading to the Bachelor of Arts degree with a major in Anthropology. A variety of courses is offered to serve the interests of all students. Courses within the department are suitable as electives in the broad liberal arts tradition and also are designed to fulfill the requirements of those who wish to continue their studies in one of the subfields of the discipline.

The department also offers an archaeological field school program and a variety of archaeological and ethnographic innovative month trips, both on this continent and in Europe.

Students majoring in anthropology may be certified to teach in the broad area of social studies at the secondary level. To obtain requirements for teacher certification, please contact the Department of Teacher Education.

The Anthropology Department offers two minors for students majoring in other disciplines. Requirements for these minors are described on page 64.

**REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN ANTHROPOLOGY:**

	<i>Credits</i>
General Studies (not satisfied below) .....	41
Specific Departmental Requirements:	
Anth 201 Introduction to Archaeology .....	3
Anth 205 Introduction to Physical Anthropology .....	3
Anth 210 Introduction to Cultural and Social Anthropology ....	3
Anth 301 Human Evolution.....	4
Anth 496 Senior Seminar .....	2
Total.....	15
Other Departmental Requirements:	
Two additional courses in Cultural Anthropology.....	6
Two additional courses in Archaeology, at least one to be a non- new world oriented course.....	6
Anthropology electives.....	5
Total.....	17
Requirements Outside the Department:	
Math 201 Elementary Statistics or equivalent (General Studies, Group B).....	3
Electives.....	52
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

**REQUIREMENTS FOR A MINOR IN ANTHROPOLOGY OR ARCHAEOLOGY:**

Anthropology:	
Anth 151 Introduction to Anthropology .....	3
Anth 205 Introduction to Physical Anthropology .....	3
Anth 210 Introduction to Social and Cultural Anthropology or	
Anth 211 Tribal Peoples.....	3
Anth 301 Human Evolution.....	4
Anth 496 Senior Seminar .....	2
6 additional upper-division credits of Anthropology.....	6
Total.....	21
Archaeology:	
Anth 151 Introduction to Anthropology or	
Anth 201 Introduction to Archaeology .....	3
Anth 231 Archaeology of the Southwest, Part 1.....	4
Anth 259 Field School in Archaeology.....	6
Anth 496 Senior Seminar .....	2
6 additional upper-division courses to be selected from Anth 306, 307, 308, 309, 331, 341, 402, 403 or approved 390, 391.....	6
Total.....	21
No grade of less than C will be accepted for the minor.	

### Courses

- Anth 151 INTRODUCTION TO ANTHROPOLOGY (3-0) 3  
A comprehensive study of general anthropology. This course is recommended as a beginning course for students who have no previous background in anthropology. Fall and winter terms.
- Anth 201 INTRODUCTION TO ARCHAEOLOGY (3-0) 3  
This course is designed to introduce the student to the basic techniques, concepts and theories of archaeology and its relation to the wider field of anthropology. Fall and winter terms.
- Anth 205 INTRODUCTION TO PHYSICAL ANTHROPOLOGY (3-0) 3  
This course is designed to introduce the student to the basic concepts and techniques used in the study of human biology and human evolution. Fall term.
- Anth 210 INTRODUCTION TO CULTURAL AND SOCIAL ANTHROPOLOGY (3-0) 3  
This course covers general concepts, development and selected subfields of social/cultural anthropology. The study of both American and non-Western culture is emphasized and integrated with a practical application of anthropological methods and research. Fall and winter terms.
- Anth 211 TRIBAL PEOPLES (3-0) 3  
A comparative study of band and tribal peoples of Africa, Eurasia, Oceania and the New World. Fall term.
- Anth 213 PEASANT SOCIETIES (3-0) 3  
A study of agricultural societies throughout the world and the position of these societies within more complex systems. Winter term.
- Anth 215 MAGIC, WITCHCRAFT AND RELIGION (3-0) 3  
A study of religious behavior in nonliterate societies. Alternate years.
- Anth 231 ARCHAEOLOGY OF THE SOUTHWEST, PART I: THE ANASAZI CULTURE (3-2) 4  
The development of the pueblo-dwelling peoples of the Four Corners area. Fall term.
- Anth 259 FIELD TRAINING IN ARCHAEOLOGY 4-8  
Actual excavation in the field with instruction in the various techniques of archaeology. The student will spend all day, five days a week, in the field. The length of the dig is based on current excavation plans and may vary. Credit is determined by field school period. A written description of the field school for each year will be furnished to prospective students. Summer term.
- Anth 301 HUMAN EVOLUTION (3-2) 4  
This course will review the history and theory of organic evolution including elementary genetics. Subsequent topics will include human and infrahuman fossils, human anatomy, primatology and behavioral evolution and subspecies variation. Winter term.  
*Prerequisite:* Anth 205 or consent of instructor.
- Anth 306 PLAINS ARCHAEOLOGY (3-0) 3  
This course examines the prehistoric and historic cultures of the Plains of North America. Particular emphasis is placed on how recent archaeological theory can contribute to a deeper understanding of past cultural dynamics. Alternate winter terms.

- Anth 307 ARCTIC ARCHAEOLOGY (3-0) 3  
A survey of Arctic and circumpolar archaeology, focusing on major areas of research such as Beringia, Eskimo archaeology, and the Viking settlement of Greenland. Alternate fall terms.
- Anth 308 THE SEA OF CIVILIZATION:  
MEDITERRANEAN ARCHAEOLOGY (3-0) 3  
This course covers the rise of the ancient civilizations of the Mediterranean and combines archaeological data with historical and epigraphic evidence. A final section covers how these ancient civilizations are still an integral part of Western culture. Alternate winter terms.
- Anth 309 ARCHAEOLOGY OF BRITAIN (3-0) 3  
A survey of the cultural history of the British Isles from the Paleolithic to the Medieval Period as seen from the archaeological record. Alternate winter terms.
- Anth 331 ARCHAEOLOGY OF THE SOUTHWEST,  
PART II: THE HOHOKAM & MOGOLLON CULTURES (3-2) 4  
The development of the Hohokam and Mogollon cultures in the southern Southwest. A study of archaeological interpretations and methods as applied to southwestern United States. Winter term.  
*Prerequisite:* Anth 231 or consent of instructor.
- Anth 341 OLD WORLD PREHISTORY (3-0) 3  
A survey of Europe, Asia and Africa from the first evidence of culture until the development of civilizations. The emphasis is on the European sequence. Fall term.
- Anth 350 ETHNOLOGY OF MESOAMERICA (3-0) 3  
This course is the comparative study of major cultural topics of contemporary ethnic groups of central Mexico and northern Central America. Geography, ecology and prehistory will be touched upon, while social, economic and political systems will be studied in more depth. Alternate fall terms.
- Anth 351 ETHNOLOGY OF SOUTH AMERICA (3-0) 3  
Selected societies of highland and lowland South America are examined, with an emphasis on indigenous and black cultural and historical patterns. Fall term.
- Anth 352 PEOPLES OF AUSTRALIA, NEW GUINEA  
AND OCEANIA (3-0) 3  
A survey of the indigenous peoples of the area both before and after European contact. Alternate winter terms.
- Anth 353 CULTURE OF INDIA (3-0) 3  
While we are overwhelmed by the cultural diversity of the Indian subcontinent, this course focuses on the unity of cultures in the area. Topics include the caste system, contemporary economic and political systems, and a brief look at geography, ecology and prehistory. Alternate fall terms.
- Anth 354 PUEBLO INDIANS OF THE SOUTHWEST (3-0) 3  
This course deals with the traditional lifeways of southwestern Pueblo peoples. Religion, language, art and their adaptation to the environment are discussed. Alternate fall terms.
- Anth 355 THE ANTHROPOLOGY OF WOMEN (3-0) 3  
Sex and gender relations are examined cross-culturally from the perspectives of biology, symbolism and political economy. Winter term.

Anth 361 THE NORTH AMERICAN INDIAN (3-0) 3  
 Archaeology, ethnology, and linguistic relationships of the Indians of North America. Alternate years.

Anth 402 ADVANCED ARCHAEOLOGICAL LABORATORY  
 TECHNIQUES (2-4) 4

This course covers laboratory techniques and analysis of prehistoric artifacts, with special emphasis on lithic, ceramic, and bone technology, and the preparation of technical reports. Fall term.

Anth 403 ADVANCED ARCHAEOLOGICAL FIELD TECHNIQUES 4-8

This course involves actual excavation and survey in the field. It will cover a range of advanced field techniques, such as the development of research designs and strategies, and the rudiments of leading field crews. Summer term.

*Prerequisite:* Anth 259 or equivalent experience.

Anth 404 CULTURAL ECOLOGY (3-0) 3

The comparative study of human populations in ecosystems is made, stressing the relations between culture and the biophysical environment with the focus on cultural adaptations. Implications for anthropological theory, socio-cultural evolution and contemporary problems will be investigated. Alternate winter terms.

Anth 496 SEMINAR (2-0) 2

Advanced study and research in anthropological method and theory. Winter term.

*Prerequisites:* senior standing and consent of instructor.

Anth 499 INDEPENDENT STUDY 1-3

Individual research is conducted under the supervision of a faculty member. Offered on demand.

*Prerequisite:* approval of department chairman.

## Art

Professor Stanton Englehart;

Associate Professors Ellen Y. Cargile, David J. Hunt, Mick Reber,  
 Laurel Vogl and C. Gerald Wells

The art program is designed to increase the student's awareness and understanding of art and its relationship to society within a broad liberal arts background. The art major prepares the student to be a practicing artist, to enter graduate school for further professional schooling, or to teach on either the elementary or secondary level. The program also seeks to provide art experiences for application to problem solving, the use of leisure time, as well as a fuller and richer visual life.

Students, along with faculty members and other art professionals, have a continual opportunity to display their works in the Art Gallery on the Fort Lewis campus.

A minor in art is available for students majoring in other disciplines. Requirements for a minor in art are described on page 68.

## REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN ART:

	<i>Credits</i>
General Studies.....	44
Specific Departmental Requirements:	
Art 101 Drawing.....	3
Art 109 Basic Design .....	3
Art 262 Art History to the Renaissance .....	3
Art 263 Art History from the Renaissance.....	3
Art 486 Theory and Aesthetics.....	3
Art 496 Seminar	
or	
Art 499 Independent Study .....	2
Total.....	17
Other Departmental Requirements:	
15 credits from the remainder of Art offerings with the exception of Art 273 Art for Elementary Teachers .....	15
Electives.....	52
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

Students seeking secondary certification must complete, in addition to the specific requirements of the art major, the following courses:

Art 154 or 155 Indian Arts and Crafts .....	3-4
Art 213 Basic Sculpture.....	3
Art 224 Basic Painting .....	3
Art 231 Introduction to Printmaking .....	3
Art 243 Basic Photography .....	3
Art 250 Ceramics .....	3

(Recommended courses are Art 201 Drawing; and Art 273 Art for Elementary Teachers)

## REQUIREMENTS FOR A MINOR IN ART:

Students must complete 18 credits, including six credits of upper-division work, and have the approval of the department chairperson.

### *Courses*

**Art 101 DRAWING** (0-6) 3  
Practice in problems of technique, perspective, color design, and basics of composition. Subject matter includes still life, landscape, animals, and the human figure. (Coursework in this area offered at the beginning and advanced levels.) Fall and winter terms.

**Art 109 BASIC DESIGN** (0-6) 3  
An exploration into the principles of design and composition utilizing line, shape and color theory with an emphasis on the development of visual communication. An introduction to basic tools and materials used in the visual process. Fall and winter terms.

Art 154 INDIAN ARTS/CRAFTS I (0-6) 3

A two-term course which includes working in the following media: leather, basketry, pottery, weaving, spinning, experimental vegetal dying, painting with sandstone, carving, decorative feather, quill and antler work, fabric molas, applique and batik, and stained glass. Whenever possible, the projects are started with the raw material. Fall and winter terms. This course is the same as SW 154.

Art 155 INDIAN ARTS/CRAFTS II (0-6) 3

A two-term course which includes such media as weaving, silver-smithing, pottery work, leathercraft, bead work, and basketry. Each course will end with an exhibit of student work. Fall and winter terms. This course is the same as SW 155.

Art 162 ART IN THE HUMANITIES (3-0) 3

Art in the Humanities explores various forms of visual arts produced in different cultures and times. The purpose is to develop visual perceptiveness, a method of judgement, increased recognition and enthusiasm for the major art works of mankind.

Art 201 FIGURE DRAWING (0-6) 3

A studio experience designed to allow an in-depth study of the human figure in drawing. Live models will be used exclusively. May be repeated once for an additional 3 credits.

*Prerequisites:* open to non-art majors without prerequisite. Art 101 and 109 are prerequisites for art majors.

Art 209 BASIC COMMERCIAL ART (0-6) 3

A basic course in art as it relates to commercial advertising. The course consists of projects ranging from logotype design to story illustration. Portfolio preparation will be emphasized.

*Prerequisites:* open to non-art majors without prerequisite. Art 101 and 109 are prerequisites for art majors.

Art 213 BASIC SCULPTURE (0-6) 3

A course in three-dimensional and two-dimensional (bas-relief) sculpture. Consists of modeling, carving, and shaping rigid and pliable material. Some work will utilize the human form.

*Prerequisites:* open to non-art majors without prerequisite. Art 101 and 109 are prerequisites for art majors.

Art 224 BASIC PAINTING (0-6) 3

Instruction in various painting media. Students will concentrate on compositional and color problems while working from still life, landscape, and figures. (Coursework in this area offered at the beginning and advanced levels.)

*Prerequisites:* open to non-art majors without prerequisite. Art 101 and 109 are prerequisites for art majors.

Art 226 WATER COLOR PAINTING (0-6) 3

This course deals with traditional and contemporary watercolor techniques as they relate to the area of Fine Arts. Subject matter will be landscape, still life and figure. Instruction in the various types and uses of papers, tools, techniques, brushes and paints will be given. May be repeated once for an additional 3 credits. On demand.

Art 227 BEGINNING MURAL PAINTING (0-6) 3  
Mural design and execution will be experienced on an actual location in or near Durango. The processes and problems relating to scale and enlargement will be employed. All paint, brushes, and supplies are furnished by the business or client contacted for the mural site. May be repeated once for an additional 3 credits. On demand.

Art 231 INTRODUCTION TO PRINTMAKING (0-6) 3  
A studio experience exploring the materials and methods basic to making prints. Relief, etching, calligraphic, and silk screen techniques will be emphasized.

*Prerequisites:* open to non-art majors without prerequisite. Art 101 and 109 are prerequisites for art majors.

Art 243 BASIC PHOTOGRAPHY (0-6) 3  
A basic studio course supplemented with lectures presenting an overview of photography. A creative approach designed to introduce students to shooting and printing techniques with silver and nonsilver media.

*Prerequisites:* open to non-art majors without prerequisite. Art 101 and 109 are prerequisites for art majors.

Art 250 CERAMICS (0-6) 3  
Individual projects and forming of pottery of varied styles. Emphasis will be placed on expressive forms. Practice in ceramic procedures and use of materials: throwing, slab, molding, glazing, and firing. Fall and winter terms.

*Prerequisites:* open to non-art majors without prerequisite. Art 101 and 109 are prerequisites for art majors.

Art 257 BASIC JEWELRY DESIGN (0-6) 3  
Emphasis is placed on producing good designs for both traditional and contemporary jewelry. A variety of metals and other materials are used, as well as a variety of jewelry techniques including enameling. At the end of this class the student should be able to set up his/her own studio and produce jewelry either as a hobby or in commercial production.

*Prerequisite:* consent of instructor.

Art 262 ART HISTORY TO THE RENAISSANCE (3-0) 3  
History and appreciation of painting, sculpture, and architecture. These forms will be studied through their relationships to each other and to the societies which produced them. Fall term.

Art 263 ART HISTORY FROM THE RENAISSANCE (3-0) 3  
A continuation of Art 262. Winter term.

Art 265 ART HISTORY OF THE SOUTHWEST (3-0) 3  
A comprehensive study of the art forms developed in the Southwest, starting with Mesoamerica and ending with contemporary Southwest artists. The course emphasizes the cultural impact upon design transitions as it traces contemporary designs to their roots. This course is the same as SW 265.

Art 273 ART FOR ELEMENTARY TEACHERS (2-2) 3  
Contemporary concepts, practices, materials, and methods used in the elementary school art program.

Art 301 ADVANCED FIGURE DRAWING (0-6) 3  
A continuation of Art 201. May be repeated once for an additional 3 credits.  
*Prerequisite:* 6 semester hours of Art 201.



- Art 309 ADVANCED COMMERCIAL ART (0-6) 3  
A continuation of Art 209. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 209.
- Art 313 ADVANCED SCULPTURE I (0-6) 3  
A continuation of Art 213. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 213.
- Art 324 ADVANCED PAINTING I (0-6) 3  
Students will continue to develop their technical knowledge and skills. They will concentrate on color and compositional problems while working with their choice of subject matter. The primary teaching concern will be directed toward the discovery and selection of meaningful individualized subject matter. Each continuation will emphasize the search for meaningful content. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 224.
- Art 326 ADVANCED WATERCOLOR PAINTING (0-6) 3  
Continuation of Art 226. Winter term.  
*Prerequisite:* Art 226 or consent of instructor.
- Art 327 ADVANCED MURAL PAINTING (0-6) 3  
Continuation of Art 227. On demand.  
*Prerequisite:* Art 227 or consent of instructor.
- Art 331 ADVANCED PRINTMAKING I (0-6) 3  
Advanced development of printmaking skills with opportunity to do specialized work in one or more areas. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 231.
- Art 343 PHOTOGRAPHIC DESIGN (0-6) 3  
A creative approach to photography generated in basic design principles. A studio course allowing for individual specialization and refinement of basic skills. Experimentation in both black & white and color media will be introduced. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 243.
- Art 350 ADVANCED CERAMICS I (0-6) 3  
A continuation of Art 250. Fall and winter terms. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 250.
- Art 354 ADVANCED CRAFT (0-6) 3  
This class is designed to increase the skill and proficiency in a craft area (see Art 154 and 155, SW 154 and 155). In addition to demonstrating skill in a craft, the student must keep adequate records, price his/her work, and produce his/her portfolio. It also includes seminars on pricing, selling, artist agents, and juried shows.  
*Prerequisite:* consent of instructor.
- Art 357 ADVANCED JEWELRY DESIGN (0-6) 3  
Emphasis is placed on producing good designs for both traditional and contemporary jewelry. A variety of metals and other materials are used, as well as a variety of jewelry techniques including enameling. At the end of this class the student should be able to set up his or her own studio and produce jewelry either as a hobby or in commercial production. May be repeated once for an additional 3 credits.  
*Prerequisites:* Art 257 and consent of instructor.

- Art 365 MESO AMERICAN ART HISTORY (3-0) 3  
 Meso American Art History is an overview of the pre-historic civilizations of Meso America. It examines in detail culture, art and architecture of the area, including Maya, Olmec, Mixtec, Zapotec, Haustec, Colima and Aztec. Winter term.
- Art 386 ART: FORMS AND IDEAS (3-0) 3  
 Philosophical inquiry, by topic, into the formal nature of the various art forms and their possible meanings. One major theme will be the fascinating relationship of custom and nature. Historical art forms and ideas will be compared with contemporary patterns of form and thought. Lecture and discussion.
- Art 401 INTERPRETIVE DRAWING (0-6) 3  
 A class of interpretive drawing, utilizing skills acquired in previous drawing classes, based on a concept approach to drawing. All media and materials used. May be repeated once for an additional 3 credits.  
*Prerequisite:* 6 hours of Art 201.
- Art 409 ADVANCED COMMERCIAL ART II (0-6) 3  
 A continuation of Art 309. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 309.
- Art 413 ADVANCED SCULPTURE II (0-6) 3  
 Continuation of Art 313. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 313.
- Art 424 ADVANCED PAINTING II (0-6) 3  
 Continuation of Art 324. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 324.
- Art 425 ADVANCED PAINTING, PORTRAIT AND FIGURE (0-6) 3  
 Advanced studies in painting as related to the human portrait and figure. Traditional and contemporary philosophies will be explored. Models will be used. May be repeated once for an additional 3 credits.  
*Prerequisites:* Art 224 and 201 or consent of instructor.
- Art 431 ADVANCED PRINTMAKING II (0-6) 3  
 A continuation of Art 331. May be repeated once for an additional 3 credits.  
*Prerequisites:* Art 231 and 331.
- Art 443 ADVANCED PHOTOGRAPHIC DESIGN (0-6) 3  
 Continuation of Art 343. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 343.
- Art 450 ADVANCED CERAMICS II (0-6) 3  
 A continuation of Art 350. Fall and winter terms. May be repeated once for an additional 3 credits.  
*Prerequisite:* Art 350.
- Art 486 THEORY AND AESTHETICS (3-0) 3  
 Appreciation and understanding of various art forms through the study of aesthetics. Material from both historical and contemporary writers will be examined. Lecture and discussion.
- Art 496 SEMINAR (2-0) 2  
 Advanced study and research in selected topics. On demand.  
*Prerequisite:* consent of instructor.

## Art 499 INDEPENDENT STUDY

1-3

Individual research is conducted under the supervision of a faculty member.  
Offered on demand.

*Prerequisite:* approval of department chairman.

## Biology

Professors John E. Dever, Jr., James G. Erickson,  
L. Preston Somers and Albert W. Spencer;  
Associate Professors David W. Jamieson,  
J. Page Lindsey and Thomas P. Sluss;  
Assistant Professor William H. Romme

The various biology curricula are designed to meet the different needs of students considering the broad field of biology. Although all of these curricula lead to a Bachelor of Science degree in Biology, there are three options available: General Biology, Environmental Biology, and Cellular and Molecular Biology.

The General Biology option provides exposure to all the major conceptual areas of biology. It is intended for students wishing to pursue teaching and professional careers or graduate school. It is also recommended for those students who are undecided about specific career goals in biology.

The Environmental Biology option provides a broad exposure to the principles and practices of ecology, environmental conservation, and management of natural resources. Thus, this option is particularly valuable for those students who plan to work for the many private firms and state and federal government agencies concerned with natural resource management, and environmental impact assessment. This curriculum also provides appropriate preparation for students interested in teaching biology at the secondary school level, as well as for those interested in graduate study in ecology and environmental science.

The Cellular and Molecular Biology option is designed to prepare students for graduate study in either molecular or cellular biology or to find employment as laboratory technicians in those areas.

There is considerable demand from both government and industry for people trained in the biological sciences and for which a bachelor's degree is sufficient. Administrative and professional careers may be found in government service and with a variety of conservation and recreation agencies at both state and federal levels. Laboratory and technical work is available with industry and with several government agencies. Some sales positions, especially with pharmaceutical houses, require a biology background. Many positions for biologists require a graduate degree for which a liberal arts biology major is an excellent background.

Students majoring in biology may be certified to teach science at the secondary level. To obtain requirements for teacher certification, please contact the Department of Teacher Education.

A minor in biology is available for students majoring in other disciplines. Requirements for a minor in biology are described on page 77. All minors must be arranged in consultation with the student's biology advisor.

REQUIREMENTS FOR A BACHELOR OF SCIENCE DEGREE WITH A MAJOR IN BIOLOGY:

**The General Biology Option:**

	<i>Credits</i>
General Studies (not satisfied below) .....	34
Specific Departmental Requirements:	
Bio 100 Laboratory Experiences in Biology .....	1
Bio 101 Introduction to Biology .....	3
Bio 102 General Botany .....	4
Bio 103 General Zoology .....	4
Bio 218 Fundamentals of Ecology .....	3
Bio 219 Ecology Laboratory .....	1
Bio 321 General Physiology .....	4
Bio 371 Genetics .....	4
Other biology courses (including one in the 400 series, other than 496 and 499) excluding Cooperative Education .....	11
Bio 496 Seminar .....	2
<b>Total</b> .....	<b>37</b>
Auxiliary Requirements from Other Departments:	
Chem 150-151 Fundamentals of Chemistry	
Chem 231-232 Organic Chemistry	
Math 221 Calculus I	
Psych 241 Basic Statistics for Psychologists or	
Math 201 Elementary Statistics	
<b>Total (General Studies, Group B)</b> .....	<b>29</b>
Recommended Courses (suggested for those students anticipating graduate school):	
Math 222 Calculus II	
Physics 212 Introductory Physics Laboratory and Physics 262, 263 Physics for Science and Engineering	
Computer Science 120 Introduction to Programming (BASIC)	
Chem 311 General Biochemistry	
Foreign Language (French or German recommended)	
Electives .....	28
<b>TOTAL REQUIRED FOR GRADUATION</b> .....	<b>128</b>

**The Environmental Biology Option:**

	<i>Credits</i>
General Studies (not satisfied below) .....	34
Specific Departmental Requirements:	
Bio 100 Laboratory Experiences in Biology .....	1
Bio 101 Introduction to Biology .....	3
Bio 102 General Botany .....	4
Bio 103 General Zoology .....	4

Bio 120 Environmental Conservation .....	3
Bio 218 Fundamentals of Ecology .....	3
Bio 219 Ecology Laboratory .....	1
Bio 302 Systematic Botany.....	4
Bio 304 Field Zoology.....	5
Bio 471 Field Ecology .....	5
Bio 496 Seminar.....	2
Other biology courses (in the 300 or 400 series).....	3
<b>Total.....</b>	<b>38</b>
<b>Auxiliary Requirements from Other Departments:</b>	
Chem 150-151 General Chemistry (General Studies, Group B).....	11
Math 111 Pre-Calculus II (General Studies, Group B).....	5
Math 201 Elementary Statistics, or equivalent.....	3
Ag 231 Range Management.....	4
Ag 235 Soils and Soil Fertility .....	4
<b>Total.....</b>	<b>27</b>
Recommended electives (to be selected in consultation with student's advisor):	
Bio 371 Genetics*	
Math 221 Calculus, and Math 222 Calculus*	
Math 360 Operations Research	
Engr 205 Surveying I	
Geol 113 Physical Geology	
CS 150 Introduction to Programming (FORTRAN)	
Econ 262 Principles of Economics-Micro, or Econ 272 Principles of Economics-Macro	
Engl 363 Advanced Composition	
Chem 231-232 Organic Chemistry	
Chem 365 Analytical Chemistry	
Chem 465 Instrumental Analytical Chemistry	
Physics 132-232-233 or 162-262-263, 211, 212	
<b>Total Electives.....</b>	<b>29</b>
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

\*These courses are necessary for entrance to graduate school.

**The Cellular and Molecular Biology Option:**

*Credits*

General Studies (not satisfied below).....	34
<b>Specific Departmental Requirements:</b>	
Bio 100 Laboratory Experiences in Biology.....	1
Bio 101 Introduction to Biology.....	3
Bio 102 General Botany.....	4
Bio 103 General Zoology.....	4
Bio 321 General Physiology .....	4
Bio 331 Microbiology	

*or*

Bio 400 Plant Physiology.....	4
Bio 342 Embryology & Developmental Biology of Vertebrates	
<i>or</i>	
Bio 473 Mammalian Physiology.....	4
Bio 371 Genetics.....	4
Bio 433 Bacterial Physiology	
<i>or</i>	
Bio 455 Cell & Molecular Physiology	
<i>or</i>	
Bio 322 Radiation Biology.....	4
Bio 496 Seminar.....	2
Total.....	34
<b>Auxiliary Requirements from Other Departments:</b>	
Chem 150-151 General Chemistry	
(General Studies, Group B).....	11
Chem 231-232 Organic Chemistry.....	10
Math 221 Calculus I	
(General Studies, Group B).....	5
Psych 241 Basic Statistics for Psychologists	
<i>or</i>	
Math 201 Elementary Statistics.....	3
Total.....	29
Electives.....	31
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

We recommend that one Group A requirement be fulfilled by Engl 363 Advanced Composition.

### Health Careers Preparatory Programs

Students considering careers in health professions should carefully plan their academic program very early in their undergraduate education. To assist the prospective prehealth professions student in selecting curricula which will satisfy the academic requirements of specific professional schools, Fort Lewis College has established a Pre-Health Advisory Committee. It is strongly recommended that the prehealth professions student, in addition to consulting his or her major advisor, select a member of this committee to serve as a personal academic advisor.

Specific preprofessional course requirements vary significantly depending upon the health field chosen. All professional schools, however, prefer those students who have had a broad undergraduate education, a solid foundation in the natural sciences and who possess well-developed communication skills. Hence, the prehealth professions student should anticipate securing a thorough understanding of biology, chemistry, mathematics, physics, and English. Although most prehealth professions students have majored in biology or chemistry, most professional schools will consider graduates in other major fields who have met the basic requirements for admission.

Students may pursue courses at Fort Lewis College which lead to a variety of health careers. Over the years, the Pre-Health Advisory Committee and Fort Lewis College have developed a very favorable rapport with the profes-

sional schools in Colorado, Arizona, New Mexico, and Utah. Many of our students have chosen to attend schools in the Four Corners states; many also have attended professional schools throughout the nation.

The most popular preprofessional programs at Fort Lewis College have been those in dentistry, medicine, medical technology, and veterinary medicine, but advising and academic planning are also available for programs in dental hygiene, nursing, optometry, pharmacy, and physical therapy.

The purpose of the Pre-Health Advisory Committee is to guide and counsel all students in the health careers preparatory programs. This committee has prepared a Pre-Professional Student Handbook containing examples of suggested course schedules and curricula. Interested students may obtain a copy of the handbook by contacting any member of the Pre-Health Advisory Committee.

In addition to advising students in their preparatory programs, the committee assists students with application procedures and in preparing for professional school admissions interviews. The committee will, upon student request, provide recommendation documents to professional schools in accordance with the student's qualifications.

Regular meetings and field trips are conducted throughout the academic year. Films, slides, and discussions that pertain to the questions students have concerning health careers are presented at the meetings. Field trips are taken to labs, clinics, hospitals, and medical schools.

The Pre-Health Club is a student organization that seeks to promote and develop interest in the health professions. The Pre-Health Club and Pre-Health Advisory Committee invite directors of various health professions schools, local professional health practitioners, and Fort Lewis faculty to present seminars dealing with some aspect of health care or academic preparation for entrance into a professional school.

All students who have an interest in the health professions are encouraged to participate in the Pre-Health Club.

#### REQUIREMENTS FOR A MINOR IN BIOLOGY:

Bio 100 Laboratory Experiences in Biology.....	1
Bio 101 Introduction to Biology.....	3
Bio 102 General Botany	
<i>or</i>	
Bio 103 General Zoology.....	4
Three additional biology courses, and two must be upper- division.....	12
Total.....	20

### *Courses*

Bio 100 LABORATORY EXPERIENCES IN BIOLOGY (0-3) 1  
This course is designed to accompany Bio 101 or 110. Fall, winter, and summer terms.

**Bio 101 INTRODUCTION TO BIOLOGY (3-0) 3**

An introduction to the unifying central concepts of biology, including cell structure, evolution, respiration, photosynthesis, and genetics. This course is designed for science majors. Credit cannot be earned for both Bio 101 and 110. Fall and winter terms.

*Prerequisite:* concurrent enrollment in Bio 100.

**Bio 102 GENERAL BOTANY (3-3) 4**

This course has two parts. Part one addresses the structure, development and physiology of vascular plants. Part two presents a survey of the structure, reproduction, evolution and the relation to humans of the fungi, algae, bryophytes, ferns, gymnosperms and angiosperms. Fall and winter terms.

*Prerequisites:* Bio 100, 101.

**Bio 103 GENERAL ZOOLOGY (3-3) 4**

A survey of the field of zoology and its major subdivisions. It includes an overview of the evolutionary relationships of animal groups from protozoa through vertebrates. Fall and winter terms.

*Prerequisites:* Bio 100, 101.

**Bio 110 SURVEY OF LIFE SCIENCES (3-0) 3**

An introductory biology course providing the nonscience major with a comprehensive view of modern biology, especially how it affects man. Concepts of scientific method will be covered in this course to give the nonmajor a feeling for processes that are carried out in biological research. This course is designed for nonscience majors. Credit cannot be earned for both Bio 101 and 110. Fall, winter and summer terms.

*Prerequisite:* concurrent enrollment in Bio 100.

**Bio 120 ENVIRONMENTAL CONSERVATION (3-0) 3**

A study of natural resources in a global context. Attention is given to public policies and programs which affect the long-range availability and utilization of these resources. Winter term.

**Bio 121 HUMAN ANATOMY & PHYSIOLOGY (2-3) 3**

An introduction to the structure and function of the human body. Fall and winter terms.

**Bio 132 HUMAN SEXUALITY (3-0) 3**

Biological aspects of human reproduction, supplemented by discussion of medical, societal, psychological and ethical issues. Credit not applicable to the biology major. Winter term.

**Bio 218 FUNDAMENTALS OF ECOLOGY (3-0) 3**

A study of the fundamental relationships among organisms and their environments. One all-day Saturday field trip is required. Same as Forestry 218. Fall term.

*Prerequisites:* Bio 100, 101 and Math 111.

**Bio 219 ECOLOGY LABORATORY (0-3) 1**

An introduction to field methods, sampling, analysis of data, and problem solving in ecology. Several class meetings will be field trips. Fall term.

*Prerequisites:* Bio 218 (or For 218) and Math 201 or Psych 241 or concurrent enrollment in these courses.



**Bio 301 THE ANATOMY AND MORPHOLOGY  
OF VASCULAR PLANTS**

(2-6) 4

An examination of the variation in structure and function of plant cells and their arrangement into tissues. The structure and development of plant organs will be studied in detail, and a major emphasis will be the comparative evolutionary survey of the vegetative and reproductive morphology of living and fossil plants. Winter term of even-numbered years.

*Prerequisite:* Bio 102.

**Bio 302 SYSTEMATIC BOTANY**

(2-6) 4

A study of the identification, classification, and relationships of the vascular plants with emphasis on temperate flowering plant families. Major emphasis will be given to the origin of flowering plants and especially the nature of species as revealed by modern techniques. Laboratory work will focus on the use of keys and terminology, the identification of species and the recognition of family characteristics. Fall term.

*Prerequisite:* Bio 102.

**Bio 303 HISTOLOGY**

(2-3) 3

Study of the microscopic anatomy of the vertebrate body. Fall and winter terms.

*Prerequisite:* Bio 103.

**Bio 304 FIELD ZOOLOGY**

(4-3) 5

A study of vertebrate animals with emphasis on taxonomic and ecological relationships. Laboratory work includes collection, identification and museum preparation. Summer term.

*Prerequisite:* Bio 103.

**Bio 305 ENTOMOLOGY**

(2-6) 4

A study of insect anatomy, physiology, identification, ecology, and behavior. Fall term of odd-numbered years.

**Bio 321 GENERAL PHYSIOLOGY**

(3-3) 4

Emphasis is on comparative animal physiology, covering respiration, gas transport, energy metabolism, temperature regulation, osmotic regulation, movement, and hormonal and nervous integration. Fall and winter terms.

*Prerequisites:* Bio 102, 103, Chem 231, 232, and Math 201.

**Bio 322 RADIATION BIOLOGY**

(3-3) 4

An introduction to the theory of radioactivity and the application of isotopes in medicine, physiology and research. Animals and plants will be used to demonstrate tracer techniques and results will be evaluated by use of scaler-counters and liquid scintillation. Offered on demand.

*Prerequisites:* Bio 101, 102, 103, 321 and consent of instructor.

**Bio 331 MICROBIOLOGY**

(3-3) 4

A survey of the microbial world with emphasis on staining and culturing techniques and clinical methods for identification of bacteria and fungi of medical, economic and agricultural importance. Fall and winter terms.

*Prerequisites:* Bio 101, 102, 103 and Chem 150, 151 and 231.

**Bio 332 IMMUNOLOGY**

(3-3) 4

An introduction to the structures and biochemical activities of antibodies and the mechanisms of the immune response. The laboratory will emphasize analytical methods of measuring antibody-antigen reactions. Fall term of odd-numbered years.

*Prerequisite:* Bio 331.

**Bio 341 VERTEBRATE COMPARATIVE ANATOMY (2-6) 4**

A comparative study of the morphology of representative vertebrates with the objectives of understanding their evolutionary relationships and the functional basis of their variations on a common plan. Fall term of even-numbered years.

*Prerequisite:* Bio 103.

**Bio 342 EMBRYOLOGY & DEVELOPMENTAL BIOLOGY OF THE VERTEBRATES (2-6) 4**

A detailed study of reproduction and development in representative vertebrates. The laboratory work explores the anatomy of development in depth, and the lecture correlates this development with and explains it on the basis of cellular and molecular events during ontogeny. Winter term.

*Prerequisite:* Bio 103.

**Bio 350 MYCOLOGY (3-3) 4**

A survey of the Kingdom Fungi covering classification, physiology, development, genetics, and environmental relationships peculiar to the fungi. Fall term of odd-numbered years.

*Prerequisites:* Bio 102 and Chem 150-151.

**Bio 355 PLANT PATHOLOGY (3-3) 4**

A general survey of plant diseases, including viruses, bacteria, nematodes, and fungi. Ecology, epidemiology, physiology, diagnosis, and control are emphasized. Winter term of odd-numbered years.

*Prerequisites:* Bio 102, 103, and Chem 151.

**Bio 360 BRYOPHYTES AND LICHENS (2-6) 4**

A course treating the taxonomy, morphology, ecology, reproduction and evolution of the Bryophytes and Lichens. Winter term of odd-numbered years.

*Prerequisite:* Bio 102.

**Bio 371 GENETICS (3-3) 4**

A survey of modern genetic principles. Fall term.

*Prerequisite:* Bio 321 or consent of instructor.

**Bio 400 PLANT PHYSIOLOGY (3-3) 4**

A study of plant water relations, nutrition, metabolism, and adaptations to different environments. Winter term of even-numbered years.

*Prerequisites:* Bio 102, Chem 231 and Math 201. Previous or concurrent enrollment in Chem 232, 311 and Bio 218 (or For 218) recommended.

**Bio 407 EVOLUTION (3-0) 3**

A survey of the current explanations of evolutionary mechanisms. Winter term of even-numbered years.

*Prerequisite:* Bio 371.

**Bio 433 BACTERIAL PHYSIOLOGY (3-3) 4**

Unique characteristics of metabolic pathways in bacteria will be studied. Major laboratory emphasis is placed on the interrelationships of bacteria, viruses, and immune response, and their effects on human physiology. Offered on demand.

*Prerequisites:* Bio 321, 331, and Chem 232.

- Bio 455 CELLULAR AND MOLECULAR BIOLOGY (3-3) 4  
 Examination of the metabolic processes of the cell with respect to organelle compartmentalization. Emphasis will be placed on bioenergetics, intermediate metabolism, and the biology of the gene. Offered on demand.  
*Prerequisites:* Chem 232, Bio 321 or 433. Biochemistry is strongly recommended.
- Bio 471 FIELD ECOLOGY 5  
 An advanced ecology course that emphasizes sampling methods, description of local plant and animal communities, and techniques of environmental monitoring in terrestrial and aquatic ecosystems.  
*Prerequisites:* Bio 201, 203, and 220. Math 201 or Psych 241.
- Bio 473 MAMMALIAN PHYSIOLOGY (3-3) 4  
 Functions of the mammalian organ systems with emphasis on nutrition, metabolism, and reproduction. Fall term.  
*Prerequisite:* Bio 321.
- Bio 477 BIOGEOGRAPHY (3-3) 4  
 A study of current hypotheses explaining past and present distribution of plants and animals. The emphasis is on seed plants and vertebrate animals. Winter term of odd-numbered years.  
*Prerequisite:* consent of instructor.
- Bio 496 SEMINAR (2-0) 2  
 Advanced study and research in selected topics. Fall and winter terms.  
*Prerequisites:* senior standing and consent of instructor.
- Bio 499 INDEPENDENT STUDY 1-3  
 Individual research under the supervision of a faculty member. Offered on demand.  
*Prerequisite:* approval of department chairman.

## Chemistry

Professors William R. Bartlett, Rodney D. Hamilton,  
 William C. Langworthy,  
 Doreen M. Mehs, James W. Mills and John M. Ritchey;  
 Associate Professor Ron C. Estler  
 Assistant Professor Denise A. Bohemier

The chemistry curriculum prepares students to become chemists in industry and education; provides a background for medical, engineering, or other professional or graduate schools; and provides a general knowledge of chemistry and of the scientific method.

In order to achieve these objectives, a flexible curriculum has been designed, giving the student an opportunity to tailor a degree to fulfill personal needs and interests. The chemistry major prepares the student for professional work in various areas of chemical technology, or may be combined with other majors or minors so that the student may ultimately practice in interdisciplinary vocations. An extended major is recommended for students contemplating graduate school.

The Chemistry Department also offers certification by the American Chemical Society to students who complete the ACS-certified curriculum (described

below). Those students planning on entering professional schools in medicine, dentistry, or veterinary medicine should consult with the chemistry faculty when planning their curriculum.

Chemists are concerned with the structure, composition, energy relationships, chemical conversions and other properties of substances. The various areas of chemical technology offer the largest field of employment in the physical sciences. Chemists are employed in fields such as petroleum, primary metals, electrical equipment, aerospace, biotechnology, pollution control, energy research and production, forensic science, paper, food, rubber, plastics, pharmaceuticals, and textiles.

Chemistry graduates will find many applications for their training, e.g., teaching, research, management, production and sales; and in the fields of education, business, industry, government, and medicine.

A minor in chemistry is available for students majoring in other disciplines. Requirements for a minor in chemistry are described on page 84.

#### REQUIREMENTS FOR A BACHELOR OF SCIENCE DEGREE WITH A MAJOR IN CHEMISTRY:

	<i>Credits</i>
General Studies (not satisfied below).....	34
Specific Departmental Requirements:	
Chem 150-151 Fundamentals of Chemistry .....	11
Chem 231-232 Organic Chemistry .....	10
Chem 264 Inorganic Chemistry.....	2
Chem 358-359 Physical Chemistry.....	6
Chem 360 Physical Measurements.....	2
Chem 365 Analytical Chemistry .....	4
Chem 465 Instrumental Analytical Chemistry.....	4
Chem 496-497 Seminar .....	2
Total.....	41
Auxiliary Requirements from Other Departments:	
Mathematics through Math 222	
(General Studies, Group B).....	14
Phys 162-262-263 (132-232-233), 211	
(General Studies Group B) .....	10
CS 120 or 150.....	3
Total.....	27
Electives.....	26
TOTAL REQUIRED FOR GRADUATION.....	128

#### THE ACS-CERTIFIED BACHELOR OF SCIENCE DEGREE

Chemistry majors may qualify for certification by the American Chemical Society (ACS) upon graduation by successfully completing a core of specified courses in chemistry and related fields. This program is particularly recommended for students planning to seek employment in industry and for those who wish to do graduate work in chemistry.

**REQUIREMENTS FOR A BACHELOR OF SCIENCE DEGREE WITH AN ACS-CERTIFIED MAJOR IN CHEMISTRY:**

General Studies (not satisfied below).....	34
Specific Departmental Requirements:	
Chem 150-151 Fundamentals of Chemistry .....	11
Chem 231-232 Organic Chemistry .....	10
Chem 264 Inorganic Chemistry.....	2
Chem 358-359 Physical Chemistry.....	6
Chem 360 Physical Measurements.....	2
Chem 365 Analytical Chemistry.....	4
Chem 460 Synthesis Techniques .....	3
Chem 464 Advanced Inorganic Chemistry.....	3
Chem 465 Instrumental Analytical Chemistry.....	4
Chem 496-497 Seminar .....	2
ACS Certification Requirements*.....	2
Total.....	49
Auxiliary Requirements from Other Departments:	
Mathematics through Math 222 (General Studies, Group B) .....	14
Phys 162-262-263 (132-232-233), 211 .....	10
CS 120 or 150.....	3
Total.....	27
Electives.....	18
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

\*Additional requirements for ACS certification include advanced level chemistry courses (300 or 400 level) which provide at least 84 additional laboratory hours and at least 2 additional credits in advanced coursework at the 400 level. Courses which may satisfy these requirements include:

- Chem 305 Natural Products from Plants
- Chem 311-312 Biochemistry
- Chem 411 Advanced Biochemistry
- Chem 431 Advanced Organic Chemistry
- Chem 454 Advanced Topics
- Chem 499 Independent Study

Students should consult with the chemistry faculty to decide which of these courses would best serve their interests.

Students planning to earn an advanced degree in chemistry, engineering, medicine or other science-based post-graduate program for the purpose of teaching or research are strongly encouraged to extend the basic chemistry major by taking the ACS-certified curriculum or by taking the chemistry major and including three or four additional courses in biology, chemistry, mathematics or physics. These courses should be selected in consultation with the chemistry faculty.

Chemistry majors are also strongly encouraged to complete a year of German or French. Graduate schools frequently require language proficiency and much of the chemical literature is written in those languages.

## CHEMISTRY MAJOR FOR CAREERS IN THE HEALTH PROFESSIONS

Chemistry majors are well-prepared to seek admission to professional programs in medicine, veterinary medicine, dentistry, medical technology, and pharmacy. For assistance in planning their curricula, students interested in these programs should consult with members of the chemistry faculty who are members of the Pre-Professional Advisory Committee. See Pre-Health Careers on page 76.

## SECONDARY TEACHING IN CHEMISTRY

Students majoring in chemistry may be certified to teach science at the secondary level. To obtain requirements for teacher certification, please contact the Department of Teacher Education and the chairman of the Chemistry Department.

## REQUIREMENTS FOR A MINOR IN CHEMISTRY:

1. A minimum of 18 credits of chemistry with at least six credits in upper-division courses approved by the department. Students should consult with the Chemistry Department Chairperson for the proper choice of chemistry courses with respect to the student's major.
2. Chem 365 (Analytical Chemistry) is required with Chem 358 (Physical Chemistry) or Chem 311 (Biochemistry) strongly recommended.

## Courses

### Chem 150 FUNDAMENTALS OF CHEMISTRY (4-3) 5 1/2

A conceptual approach to fundamental principles of chemistry including electronic structure of atoms and molecules, stoichiometry, solutions and states of matter, metallic and nonmetallic properties, chemical thermodynamics and equilibrium, reaction kinetics, nuclear chemistry and electrochemistry. It is the recommended beginning course for science majors. Fall and winter terms.

*Prerequisite:* either two years of high school mathematics, satisfactory performance on ACT/SAT examination, or concurrent enrollment in Math 110, 111 or 221.

### Chem 151 FUNDAMENTALS OF CHEMISTRY (4-3) 5 1/2

A continuation of Chemistry 150. Fall and winter terms.

*Prerequisite:* Chem 150 or consent of instructor.

### Chem 231 ORGANIC CHEMISTRY (4-3) 5

Nomenclature, structure, stereochemistry and reactions of aliphatic and aromatic hydrocarbons. Unifying principles of reaction mechanisms are introduced and applied to free-radical substitution, nucleophilic substitution, elimination, electrophilic addition and electrophilic aromatic substitution reactions. The laboratory work is designed to acquaint the student with isolation, separation and synthesis techniques. Fall term.

*Prerequisite:* Chem 151 or consent of instructor.

### Chem 232 ORGANIC CHEMISTRY (4-3) 5

Nomenclature, structure, spectroscopy and reactions of the major functional group classes. The chemistry of biological compounds is introduced with studies of carbohydrates and amino acids. Laboratory emphasis is on synthesis and identification of organic compounds. Winter term.

*Prerequisite:* Chem 231.

**Chem 264 INORGANIC CHEMISTRY (2-0) 2**

Occurrence, metallurgy, properties, uses of selected elements, compounds, and alloys. Also included are aspects of inorganic environmental chemistry, crystal structure, stereochemistry of nontransition elements, coordination compounds, acidity and basicity, energy and chemical change, solution chemistry, solid-liquid phase equilibria, periodic relationships, and organometallic compounds. Fall term.

*Prerequisite:* Chem 151.

**Chem 301 SCIENTIFIC GLASSBLOWING (0-3) 1**

This course is designed to provide the student with the basic skills of glassblowing manipulation. The properties and uses of different types of glass will be considered. Simple laboratory apparatus will be designed and built.

**Chem 305 NATURAL PRODUCTS FROM PLANTS (1-6) 3**

A comprehensive study of the biologically active constituents of plants of the Southwest and elsewhere. Medicinal compounds and poisons are emphasized. Chemical structures, physiological activity, plant sources, and biosynthetic pathways are discussed. Lab work includes field gathering, isolation and identification of compounds. First summer session.

*Prerequisite:* Chem 231.

**Chem 311 GENERAL BIOCHEMISTRY (4-0) 4**

The basic principles of biochemistry. The structure and function of proteins, carbohydrates, lipids, and nucleic acids; the metabolic processes occurring within living organisms.

*Prerequisite:* Chem 232.

**Chem 312 GENERAL BIOCHEMISTRY LAB (0-3) 1**

The laboratory is designed to acquaint the student with basic biochemical techniques.

**Chem 351 PHARMACOLOGY (3-0) 3**

Studies of the effects produced by drugs, and of their administration, absorption, distribution and excretion. Special emphasis is placed on the theories of the mechanism of action of drugs. First summer session.

*Prerequisite:* Chem 231.

**Chem 358 PHYSICAL CHEMISTRY (3-0) 3**

An introduction to thermodynamics and its application to chemical processes. The course explores why chemical reactions occur, the nature of chemical equilibrium, the factors determining the speed of reactions, and the role of temperature in reactions and equilibria. Includes elementary kinetic gas theory and the Boltzman distribution, energy, entropy, free energy and equilibrium, ideal solutions, colligative properties, and reactions rate theory. Fall term.

*Prerequisites:* Chem 151, Phys 162 (or 132), and concurrent enrollment in Math 222.

**Chem 359 PHYSICAL CHEMISTRY (3-0) 3**

A study of the quantum theory of atoms and molecules. Includes fundamentals of quantum mechanics, electronic structure of atoms and molecules, molecular symmetry, molecular vibration and rotation, and the interaction of matter with light. Winter term.

*Prerequisite:* Chem 358.

**Chem 360 PHYSICAL MEASUREMENTS (0-6) 2**

Instruction in design of experiments to measure physical properties and the analysis of data. These general techniques are applied in studies of kinetics, thermochemistry, electrochemistry, spectroscopy, and molecular structure. Winter term.

*Prerequisite:* Phys 211 and concurrent enrollment in Chem 359 or consent of instructor.

**Chem 365 ANALYTICAL CHEMISTRY (3-3) 4**

Introduction to quantitative analytical chemistry. Accurate and precise laboratory work is emphasized. A rigorous development of the theory of chemical equilibria is presented to guide the development of necessary laboratory skills and the rational design of experimental procedures. Major topics include solubility, acid-base and redox chemistry, as well as spectroscopy and chemical separations.

*Prerequisite:* Chem 151.

**Chem 411 ADVANCED BIOCHEMISTRY (3-0) 3**

More advanced studies of basic biochemical concepts. Emphasis is placed on protein and carbohydrate structure, enzyme kinetics, membrane properties, biochemical reaction mechanisms, thermodynamic relationships in biochemical systems and nucleic acid chemistry. A problem-solving approach is taken to these topics. On demand.

*Prerequisites:* Chem 311 and 358 or consent of instructor.

**Chem 431 ADVANCED ORGANIC CHEMISTRY (3-0) 3**

Studies of Huckel and MNDO molecular orbital methods as applied to organic structures. Advanced studies of aromaticity, pericyclic reactions, stereochemistry, reaction mechanisms, linear free energy relationships, and applications of spectroscopic techniques. Fall term.

*Prerequisite:* Chem 232.

**Chem 454 ADVANCED TOPICS IN CHEMISTRY 1-4**

Advanced material in various areas of chemistry. During the course, material from one specific area will be treated. Class schedule will indicate the area. Examples of offerings include polymer chemistry and advanced topics in analytical, physical and organometallic chemistry. The time spent in the classroom and in the laboratory will vary with the topic. On demand.

*Prerequisites:* The 200 or 300 level course(s) in the specific subject area.

**Chem 460 SYNTHESIS TECHNIQUES (1-6) 3**

Laboratory instruction in standard advanced synthesis techniques including high and low temperatures, high pressures, photochemical syntheses, Schlenk-line manipulations and chromatographic methods. Organic, inorganic and organometallic compounds will be synthesized. The synthesis literature and spectroscopic methods of structure determination will also be studied. Winter term.

*Prerequisites:* Chem 232 and 358 or consent of instructor.

**Chem 464 ADVANCED INORGANIC CHEMISTRY (3-0) 3**

Atomic structure and periodic table, magnetic properties, modern bonding theories, chemistry of selected transition and nontransition elements, reaction mechanism, solid state, organometallic and bioinorganic chemistry. Winter term.

*Prerequisite:* Chem 264, 358, or consent of instructor.



- Chem 465 INSTRUMENTAL ANALYTICAL CHEMISTRY (3-3) 4  
 Modern instrumental methods of analysis, including spectroscopic theory and methods, electrochemical theory and methods, and separation theory and methods. All major areas are amply illustrated by laboratory work.  
*Prerequisites:* Chem 365 and 360 or consent of instructor.
- Chem 496 SEMINAR (1-0) 1  
 Advanced study and research in selected topics. Fall term.  
*Prerequisite:* junior or senior standing.
- Chem 497 SEMINAR (1-0) 1  
 Advanced study and research in selected topics. Winter term.  
*Prerequisite:* Chem 496 or consent of instructor.
- Chem 499 INDEPENDENT STUDY 1-3  
 Laboratory work on a current research problem under the direction of a faculty member. Students present oral and written papers based on this research. On demand.  
*Prerequisites:* junior and senior standing and consent of instructor.

## Communications

Associate Professor Larry Hartsfield, Coordinator

Some students may wish to supplement their majors with additional course work in Communications. This sort of study lends itself to an interdisciplinary approach; students interested in this approach have a wide variety of courses from a number of departments to choose from at Fort Lewis College. Students interested in constructing their own additional component of study that emphasizes Communication should choose from the following courses.

### English

English 116 Introduction to Mass Communications .....	3
English 216 Newswriting .....	3
English 316 Journalism .....	3
English 204 Radio Broadcasting.....	3
English 225 Semantics .....	3
English 416 Media Theory and Criticism .....	3
English 250, 450 Practicum Newspaper .....	1-6
English 251, 451 Practicum Radio .....	1-6

### Theatre

Theatre 121 Speech .....	3
Theatre 304 Television Production.....	3
Theatre 253, 453 Practicum Television.....	1-3

### Philosophy

Philosophy 271 Logic .....	3
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### Business Education

Business Education 221 Business Communications.....	3
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**Business Administration**

Business Administration 340 Principles of Marketing.....	3
Business Administration 344 Advertising.....	3

**Art**

Art 109 Basic Design .....	3
Art 209 Basic Commercial Art.....	3
Art 243 Photography.....	3

**Community Services**

(see page 39)

**Engineering**

Professor Tom D. Norton;  
Assistant Professors Omnia I. El-Hakim, Don R. May  
and Carla S. Williams

The engineering program at Fort Lewis College is designed primarily to meet the needs of those students who are interested in obtaining an engineering degree, but prefer to complete their first two years of study at a small college with a liberal arts emphasis. The engineering faculty regularly teaches those courses that students would normally take during their freshman and sophomore years at any four-year institution which grants a degree in engineering. After completing a requisite block of courses which includes, in addition to engineering, courses in mathematics and the humanities, students are eligible for full junior standing at one of the institutions with which Fort Lewis maintains a transfer agreement.

Fort Lewis College participates in formal engineering program agreements with Colorado State University (CSU) at Fort Collins, Colorado; the Colorado School of Mines (CSM) at Golden, Colorado; the University of New Mexico (UNM) at Albuquerque, New Mexico; and the University of Colorado (CU) at Boulder, Colorado. Under the block transfer agreement with Colorado State University, the student completes a prescribed sequence of courses in residence at Fort Lewis. Successful completion of this sequence with a cumulative grade point average of 2.5 in the courses listed is sufficient for the collective transfer of these courses to the cooperating institution with full junior standing. The block transfer sequence may be completed in two years of residence at Fort Lewis College.

Under the block transfer plan agreement with the Colorado School of Mines, the student completes a prescribed sequence of courses, listed below, in residence at Fort Lewis College. If the student successfully completes this sequence of courses with a grade point average of 2.5 or above, admission to the Colorado School of Mines is guaranteed, with full junior standing.

The block transfer agreement with the University of New Mexico operates in a similar manner. The student must complete a prescribed sequence of courses, listed below, in residence at Fort Lewis College. Successful comple-

tion of this sequence, with an overall grade point average of 2.25 (additional 2.5 GPA required in 18 technical hours) assures admission to the University of New Mexico's College of Engineering with full junior standing.

The transfer agreement with the University of Colorado, as of October 12, 1986, is in chemical engineering only. Under this agreement, a student completing the courses listed on the following page with a grade point average over all these courses of 3.0 or greater is assured admittance into the chemical engineering program at the University of Colorado with full junior standing.

Students who are interested in obtaining a mathematics degree in addition to an engineering degree may wish to pursue a 3-2 program. The student attends Fort Lewis College for six terms (equivalent to three academic years), and the cooperating institution for two academic years. During residence at Fort Lewis, the student completes the requirements for the basic engineering core, and most of the requirements for a mathematics major. At the cooperating institution the student completes the remaining requirements for a Bachelor of Arts degree in Mathematics, awarded by Fort Lewis College, and the requirements for an engineering degree from the cooperating institution.

Although the above plans pertain specifically to the agreements with Colorado State University, Colorado School of Mines, the University of New Mexico, and the University of Colorado, the courses offered are ordinarily accepted for credit in comparable courses at other degree-granting engineering institutions. In addition, the engineering courses are often used by students in planning student-constructed majors at Fort Lewis College. Student-constructed majors utilizing the engineering courses are available in conjunction with physics, geology, mathematics and other disciplines. The student should consult with his or her advisor if interested in a student-constructed major in one of these areas.

A minor in engineering is available for students majoring in other disciplines. Requirements for a minor in engineering are described on page 91.

*Credits*

#### CSU BLOCK TRANSFER PLAN

Engr 104 Computer Programming for Scientists & Engineers .....	3
Engr 105 Engineering Principles .....	3
Engr 201, 202 Electric Networks I, II .....	8
Engr 217 Statics .....	3
Engr 221 Dynamics .....	3
FCS Freshman Composition Seminar .....	4
Math 221, 222, 223 Calculus I, II, III .....	13
Math 327 Differential Equations .....	3
Phys 162, 262, 263 Physics for Scientists & Engineers I, II, III .....	9
Phys 211, 212 Physics Laboratory I, II .....	2
Phys 370 Heat & Thermodynamics .....	3
Chem 150-151 Fundamentals of Chemistry .....	11
Humanities and Social Sciences Electives .....	6
PE Act Physical Activities .....	2
Total .....	73

**CSM BLOCK TRANSFER PLAN**

Specific courses required of all students:

FCS, SCS Freshman, Sophomore Composition Seminars .....	8
Math 221, 222, 223 Calculus I, II, III .....	13
Math 327 Differential Equations .....	3
Engr 102 Technical Drafting	
<i>or</i>	
Engr 103 Computer Aided Drafting .....	3
Engr 104 Computer Programming for Scientists & Engineers .....	3
Engr 217 Statics .....	3
Chem 150, 151 Fundamentals of Chemistry .....	11
Geol 113 Physical Geology & Laboratory .....	4
Phys 162, 262, 263 Physics for Scientists & Engineers I, II, III* .....	9
Phys 211, 212 Physics Laboratory I, II .....	2
Econ 262 Principles of Economics - Micro .....	3
PE Act Physical Activities .....	4

Total.....66

\*Must get a grade of B or better for automatic transfer.

Additional course(s), depending on the intended major, selected from:

Econ 272 Principles of Economics - Macro .....	3
Engr 221 Dynamics .....	3
Engr 317 Mechanics of Materials .....	3
Engr 321 Fluid Mechanics .....	3
Geol 114 Historical Geology & Laboratory .....	4
Geol 207 Mineralogy .....	3
Math 311 Matrices & Linear Algebra .....	3
Math 320 Numerical Analysis .....	3
Chem 358 Physical Chemistry .....	3

**UNM BLOCK TRANSFER PLAN**

Common courses required of all students:

FCS, SCS Freshman, Sophomore Composition Seminars .....	8
Math 221, 222, 223 Calculus I, II, III .....	13
Chem 150, 151 Fundamentals of Chemistry .....	11
Engr 104 Computer Programming for Scientists & Engineers .....	3
Engr 105 Engineering Principles .....	3
Phys 162, 262, 263 Physics for Scientists & Engineers I, II, III .....	9
Phys 211, 212 Physics Laboratory I, II .....	2
Engr 201 Electric Networks I .....	4
Math 327 Differential Equations .....	3
PE Act Physical Activities .....	2

Total.....58

A minimum of 15 additional credits, depending on the intended major, selected from the following:

Engr 202 Electric Networks II .....	4
Engr 205, 305 Surveying I, II .....	8
Engr 217 Statics .....	3

Engr 221 Dynamics .....	3
Engr 317 Mechanics of Materials .....	3
Engr 321 Fluid Mechanics .....	3
Phys 320 Modern Physics .....	3
Phys 370 Heat & Thermodynamics .....	3
Chem 231, 232 Organic Chemistry I, II .....	10
Econ 272 Principles of Economics - Macro .....	3
Bio 100, 101 Introduction to Biology .....	4
Bio 103 General Zoology .....	4
Humanities and Social Sciences Electives .....	11
<b>Total</b> .....	<b>73</b>

### CU BLOCK TRANSFER PLAN FOR CHEMICAL ENGINEERING

Humanistic—Social Science Electives .....	6
Math 221, 222, 223 Calculus I, II, III .....	13
Math 327 Differential Equations .....	3
Chem 150, 151 Fundamentals of Chemistry .....	11
Engr 104 Computer Programming for Scientists & Engineers .....	3
Phys 162, 262, 263 Physics for Scientists & Engineers I, II, III .....	9
Phys 211 Physics Laboratory I .....	1
Chem 231, 232 Organic Chemistry I & II .....	10
Engr 217 Statics .....	3
Engr 221 Dynamics .....	3
Engr 321 Fluid Mechanics .....	3
<b>Total</b> .....	<b>65</b>

### REQUIREMENTS FOR A MINOR IN ENGINEERING:

Engr 104 Computer Programming for Scientists & Engineers	
<i>or</i>	
CS 150 Introduction to Programming (FORTRAN) .....	3
Engr 217 Statics .....	3
Engr 221 Dynamics .....	3
Engr 317 Mechanics of Materials .....	3
Engr 321 Fluid Mechanics .....	3
Two additional courses from the following group: Engr 105, 205, 305, 201, 202, 238 .....	6-7
<b>Total</b> .....	<b>21-22</b>

### Courses

- Engr 102 TECHNICAL DRAFTING (2-2) 3  
A basic course in engineering graphics, including geometric constructions, orthographic projection, sectional views, dimensioning, layout, working drawings, and elementary descriptive geometry.
- Engr 103 COMPUTER AIDED DRAFTING (3-0) 3  
A basic course in engineering graphics, including geometric constructions, orthographic projection, sectional views, dimensioning, layout, working drawings, and elementary descriptive geometry. The primary drafting tool for this course will be the computer.

- Engr 104 COMPUTER PROGRAMMING FOR SCIENTISTS & ENGINEERS (3-0) 3  
Introduction to programming using the FORTRAN language, problem-solving methods, algorithm development, program design, debugging, documentation, and computer solution to several mathematical/engineering problems. Same as CS 150.  
*Prerequisite:* Math 111 or equivalent.
- Engr 105 ENGINEERING PRINCIPLES (3-0) 3  
Solution of fundamental engineering and design problems utilizing digital computation and graphical techniques. Topics include graphical and numerical mathematics, engineering statistics, and computer graphics.  
*Prerequisites:* Math 221 and Engr 104.
- Engr 201 ELECTRIC NETWORKS I (4-0) 4  
An introduction to engineering circuit analysis. Topics include the study of linear circuit elements (resistors, capacitors, inductors, operational amplifiers), linear circuits, Kirchoff's laws, methods of analysis, RL, RC, and RLC circuits, phasors, sinusoidal steady state response, average value RMS values, and power in AC circuits.  
*Prerequisite:* Math 222.
- Engr 202 ELECTRIC NETWORKS II (3-2) 4  
Topics include polyphase circuits, complex frequency and frequency response of linear networks, magnetically coupled circuits, two-port networks, Fourier analysis, Laplace transform techniques, state variable analysis, operational amplifiers.  
*Prerequisite:* Engr 201.
- Engr 205 SURVEYING I (2-4) 4  
Plane surveying methods in engineering: taping, leveling, traversing, topographic mapping, associate computation. Use and care of instruments. Sources and evaluation of errors.  
*Prerequisite:* Math 111 or equivalent.
- Engr 217 STATICS (3-0) 3  
Vectors, forces and moments. Static equilibrium of particles and rigid bodies. Trusses, frames and machines. Internal forces, shear and bending moment diagrams. Centroids, moment of inertia, friction and virtual work.  
*Prerequisite:* Math 221.
- Engr 221 DYNAMICS (3-0) 3  
Kinematics and kinetics of particles and rigid bodies. Includes the applications of Newton's laws, work-energy, and impulse-momentum, and their applications to determine the motion of rigid bodies in two and three dimensions.  
*Prerequisite:* Engr 217.
- Engr 238 COMPUTER LOGIC DESIGN (3-3) 4  
Introduction to the building blocks of digital computer design. Application of Boolean algebra to the synthesis of logic circuits from logic elements. The design and implementation of combinational and sequential circuits. Understanding of hardware operations in a simple computer in terms of register transfer language (RTL). Winter term.  
*Prerequisite:* Engr 104/CS 150 or equivalent math and programming experience.

- Engr 305 SURVEYING II (2-4) 4  
 Topics include the Public Land Survey system, coordinate systems and control surveys, photogrammetry, astronomic observations, and route surveys.  
*Prerequisites:* Engr 205 and Math 221.
- Engr 317 MECHANICS OF MATERIALS (3-0) 3  
 Stresses and deformations in structural members and machine elements, combined stresses, and stress transformations. Deflection by integration, superpositions and moment area method. Strain energy concept, impact loading and column design.  
*Prerequisite:* Engr 217.
- Engr 321 FLUID MECHANICS (3-0) 3  
 Fluid properties, statics, kinematics, and kinetics of fluids including gravitational and viscous effects. Differential analysis of fluid motion. Incompressible inviscid flow, dimensional analysis and similitude. Flow measurements, boundary layers, flow about immersed bodies and flow in open channels.  
*Prerequisite:* Engr 221.
- Engr 499 INDEPENDENT STUDY 1-3  
 Individual research is conducted under the supervision of a faculty member. Offered on demand.

## English & Theatre

### English

Professors G. Leonard Bird, Larry W. Gasser, Paul N. Pavich,  
 Carroll V. Peterson,  
 and Shaila Van Sickle;  
 Professor Emeritus Kenneth I. Periman;  
 Associate Professors Gordon Paul Cheesewright,  
 Larry K. Hartsfield, Roland Jones,  
 Lillian B. Lang, and Mary Jean Moseley

The work offered in English deals with several aspects of liberal education: the linguistic, literary, and artistic history of Western culture; selected studies in non-Western literature in translation; human values; the relationships between cultures in the Southwest; and written and oral communication, both utilitarian and creative.

Students with other majors find the courses in English valuable for their general educational development. In addition, the English Department offers supporting courses for the Southwest Studies major, the Humanities major, and the Division of Intercultural Studies.

Because many students wonder what one can do with an English major after graduation, English advisors can help students plan courses of study preparing them for graduate or professional school; careers in business, industry, or government; careers in communications, theatre, or teaching.

The English major has four options which indicate the career possibilities:

*The General Option:* A traditional English major; or preparation for graduate or professional school; or preparation for a career by combining an English major with courses in other fields.

*The Communications Option:* An English major with a communications emphasis.

*The English Education Option:* Preparation for secondary school teaching.

*The Theatre Option:* An English major with a theatre emphasis.

Students are allowed a maximum of 24 credits toward graduation for practicum in any combination of the following: Engl 250, 251, 450, 451, and Thea 253 and 453.

Minors in English, theatre and communications are available for students majoring in other disciplines. Requirements for these minors are described on page 97.

#### REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN ENGLISH:

##### The General Option:

Credits

General Studies.....44

##### Specific Departmental Requirements:

A minimum of 34 credits from English courses designated in the catalog as "applicable to the major." These courses must be distributed as follows:

One course in World Literature (161, 162, 163, 221, or 222)..... 3

One course in American Literature (243, 244, or 342)..... 3

One course in Composition (363 or 364)..... 4

One course in Language (225, 362, or 461)..... 3

Two courses in English Literature  
(any two from 331- 335, 431)..... 6

Engl 432 Shakespeare..... 3

Engl 496 or 499 (2-3 credits of independent study, or senior seminar; seminar preferred)..... 2-3

Other English courses (9 to 10 credits)..... 9-10

Total.....34

Electives.....50

(English advisors can help students choose electives which will further their individual career goals.)

TOTAL REQUIRED FOR GRADUATION..... 128

##### The Communications Option:

General Studies.....44

##### Specific Departmental Requirements:

One course in World Literature (161, 162, 163, 221, or 222)..... 3

One course in American Literature (243, 244, or 342)..... 3

One course in Composition (316 or 363)..... 3-4

One course in Language (225, 362, or 461; 225 preferred)..... 3

Two courses in English Literature  
(any two from 331-335, 431)..... 6

Thea 121 Speech Communications..... 3



Engl 116 Introduction to Mass Communications .....	3
Engl 204 or Thea 304 .....	3
Engl 216 News Writing .....	3
At least 6 credits from Engl 250, 251, 450, 451, Thea 253, 453 ..	6
Engl 496 or 499, at least 2 credits .....	2-3
Two 400-level English courses, one in literature .....	6
Total .....	44-46
Electives .....	38-40
(English advisors can help students elect courses which will further strengthen their Communications Option.)	
TOTAL REQUIRED FOR GRADUATION .....	128

### The English Education Option:

The English Education Option gives high-quality preparation to students who wish to become secondary school English teachers. This option recognizes that secondary education teachers must be able to teach in all standard areas of literature, language, and composition and frequently must also direct plays; therefore, it is an extremely demanding major which requires careful planning and advising. Students choosing this option should consult Professor Lillian Lang as early in their college careers as possible.

General Studies .....

### Specific Departmental Requirements for the English Education Option:

Engl 221 Classical Literature	
or	
Engl 222 Bible as Literature .....	3
Engl 225 Semantics .....	3
Engl 243 American Literature, 1865-1945 .....	3
Engl 244 Contemporary American Literature	
or	
Engl 412 English and American Fiction, 1900-1945 .....	3
Engl 328 Literature for the Adolescent .....	3
Engl 331-335 British Literature	
(Select 3 of 5 courses) .....	9
Engl 342 American Literature to 1865 .....	3
Engl 362 Introduction to Linguistics .....	3
Engl 363 Advanced Composition .....	4
Engl 364 Creative Writing .....	4
Engl 432 Shakespeare .....	3
Engl 461 History of the English Language .....	3
Engl 481 Materials of Instruction for Teaching English* .....	1
Engl 496 Seminar	
or	
Engl 499 Independent Study .....	2-3
Total Departmental Requirements .....	47

\*To be taken prior to student teaching, in conjunction with Ed 480 Methods of Teaching English (Secondary).

### Auxiliary Requirements in Theatre and Communications for the English Education Option:

Two 3-credit courses in Theatre and two 3-credit courses in Communications, consisting of one theory and one practicum in each area. Specific courses are to be determined in conference with the English Education advisor, Professor Lang.....12

### Auxiliary Requirement in Education:

Ed 334 Methods of Teaching English as a Second Language.... 3

Total Auxiliary Requirements .....15

Refer to Education Section of the catalog for Secondary Certification Requirements; must take at least 22 credits.....22

TOTAL REQUIRED FOR GRADUATION..... 128

### SECONDARY ENGLISH EDUCATION AS A SECOND TEACHING EMPHASIS:

The following program will qualify a secondary teacher candidate for a second teaching area. The program may be undertaken only with consent of the English Education advisor, and only in conjunction with a teaching major in another area.

*Note:* This program alone will not qualify a person for a teaching certificate.

#### Required Courses:

Engl 243 American Literature, 1865-1945 ..... 3

Engl 328 Literature for the Adolescent ..... 3

British Literature — Any 2 courses:

Engl 331 Renaissance Literature

Engl 332 Neoclassical Literature

Engl 333 Romantic Literature

Engl 334 Victorian Literature

Engl 335 English Novel

*or*

Engl 432 Shakespeare ..... 6

Engl 362 Introduction to Linguistics..... 3

Engl 363 Advanced Composition..... 4

Engl 461 History of the English Language ..... 3

Ed 480 Methods of Teaching English (Secondary) ..... 2

Engl 481 Materials of Instruction for Teaching English\* ..... 1

Thea 121 Speech Communication..... 3

Total.....28

\*To be taken trimester prior to student teaching, in conjunction with Ed 480 Methods of Teaching English (Secondary).

### The Theatre Option:

General Studies.....44

#### Specific English-Theatre Departmental Requirements:

Engl 150 or Thea 150 Introduction to Dramatic Literature..... 3

Engl 225 Semantics

*or*

Thea 280 Studies in Interdisciplinary Thought (offered on demand) .....	3
Engl 363 Advanced Composition .....	4
Two courses from Engl 331-335, 411, 412, 431, or Engl/Thea 381 .....	6
Engl 432 Shakespeare .....	3
Thea 125 Theories of Acting .....	3
Thea 126 Introduction to Theatrical Dance .....	3
Thea 132 Crafts and Design Studio .....	3
Thea 365 Advanced Acting .....	3
9 credits from Theatre Advanced Studies (Thea 401-404) of which 3 must be in Thea 404 Advanced Studies: American Theatre 1800-1956 .....	9
Engl 496, 499 or Thea 499 .....	2-3
Total .....	42-43
Performance Requirements:	
9 credits in Theatre performance, chosen from Thea 100, 175, 176, 200, 223, 300, 375, 376, 400 .....	9
Electives .....	32-33
TOTAL REQUIRED FOR GRADUATION .....	128

#### REQUIREMENTS FOR MINORS IN ENGLISH, THEATRE AND COMMUNICATIONS:

*The Minor in English:* The minor in English requires 18 credits of English courses, at least nine credits of which must be upper division. Courses below English 130 do not apply.

*The Minor in Theatre:* The minor in Theatre requires 18 credits of Theatre courses, at least six credits of which must be upper division; no more than six credits may be in performance courses.

*The Minor in Communications:* The minor in Communications requires a total of 18 credits, of which six credits must be upper division. These courses are required:

Engl 216 News Writing .....	3
and	
Two courses from the following:	
Engl 116 Introduction to Mass Communications .....	3
Engl 225 Semantics .....	3
Thea 121 Speech Communication .....	3
Engl 316 Journalism .....	3
or	
Engl 363 Advanced Composition .....	4
Five credits from the following:	
Engl 250/450 Practicum-Newspaper .....	1-6
Thea 253/453 Practicum-TV .....	1-4
Engl 251/451 Practicum-Radio .....	1-6
Thea 304 Television Production .....	3

## **Courses**

### **Preparatory English**

- Engl 101 **BASIC COMPOSITION** (3-0) 3  
 Designed to develop basic writing and speaking skills. Emphasis on grammar, mechanics, vocabulary, spelling, and punctuation, with some attention to writing of short papers. Sections will be provided for bilingual students. Admission by referral or with approval of instructor. Offered on demand.

### **General English Electives**

Courses fulfilling distribution requirements, requirements for majors other than English, or serving as electives. Open to non-English and English majors, but not applicable to the English major. (Engl 150 applies to the English major-Theatre Option.)

- Engl 130 **MASTERS OF ENGLISH LITERATURE** (3-0) 3  
 The English literary and cultural heritage presented in its historical context. Winter term.

- Engl 140 **THE AMERICAN TRADITION IN LITERATURE** (3-0) 3  
 The American literary and cultural heritage presented in its historical context. Fall term.

- Engl 150 **INTRODUCTION TO DRAMATIC LITERATURE** (3-0) 3  
 An introduction to plays as literature. Same as Thea 150. Offered on demand.

- Engl 327 **CHILDREN'S LITERATURE** (3-0) 3  
 A study of all types of literature for children, development of criteria for evaluating books, and methods of creating in children a love of good books through a sound literature program in the elementary school. Fall and winter terms.

### **Literature Courses**

Courses applicable to the English major but also appropriate for distribution requirements, electives, or other special needs.

- Engl 161 **WORLD LITERATURE TO 1914** (3-0) 3  
 A study of selected masterpieces of world literature to 1914. Winter term.

- Engl 162 **WORLD LITERATURE SINCE 1914** (3-0) 3  
 A study of selected masterpieces of world literature, primarily the novel, since 1914. Fall term.

- Engl 163 **20TH CENTURY ASIAN AND AFRICAN NOVEL** (3-0) 3  
 A study of selected 20th century novels in translation from Asia and Africa. Designed to give an appreciation and awareness of cultures other than Euro-American. Winter term.

- Engl 212 **FANTASY AND SCIENCE FICTION** (3-0) 3  
 A study of fantasy and science fiction from the beginnings to the present day. Winter term.

- Engl 221 **CLASSICAL LITERATURE** (3-0) 3  
 A study of ancient Greek and Roman literature. Winter term.

- Engl 222 BIBLE AS LITERATURE (3-0) 3  
A study of the Bible as literature and its influence on art, music, and literature of the Western world. Fall term.
- Engl 243 AMERICAN LITERATURE, 1865-1945 (3-0) 3  
A study of American literature from the Civil War to World War II, with emphasis on the development of realism and naturalism. Winter term.
- Engl 244 CONTEMPORARY AMERICAN LITERATURE (3-0) 3  
A study of American literature from World War II to the present, with emphasis on the novel. Fall term.
- Engl 280 LITERATURE OF THE SOUTHWEST (3-0) 3  
The American Southwest seen through fiction, poetry, biography, and other works by Anglos, Indians, and Spanish Americans. Fall term.
- Engl 328 LITERATURE FOR THE ADOLESCENT (3-0) 3  
Beginning with a review of children's literature, this course is a study of all types of literature for adolescents and young adults. Evaluative criteria for book selection will be considered. Emphasis on minority and ethnic literature. Winter term.
- Engl 331 ENGLISH LITERATURE THROUGH THE RENAISSANCE (3-0) 3  
A study of the literature of England from about 1500 to 1660. Fall term, alternate years.
- Engl 332 NEOCLASSICAL LITERATURE (3-0) 3  
A study of the literature of England from about 1660 to 1798, with emphasis on satire and social and literary commentary. Winter term, alternate years.
- Engl 333 ENGLISH ROMANTIC LITERATURE (3-0) 3  
A study of the literature of England from about 1798 to 1830. Emphasis on poetry and nonfictional prose. Winter term.
- Engl 334 VICTORIAN LITERATURE (3-0) 3  
A study of the literature of England from about 1830 to 1914. Emphasis on poetry and nonfictional prose. Fall term.
- Engl 335 THE ENGLISH NOVEL (3-0) 3  
A study of the development of the English novel from its beginning to 1900. Fall term, alternate years.
- Engl 342 AMERICAN LITERATURE TO 1865 (3-0) 3  
A study of American literature before the Civil War, with emphasis on the American Renaissance. Fall term, alternate years.
- Engl 370 HISTORY OF THE FILM (2-2) 3  
A study of the film as an art form, with emphasis on American and European films. Students view at least one major film each week. Fall and winter terms.
- Engl 376 FOLKLORE OF THE SOUTHWEST (3-0) 3  
A study of Anglo-American, Hispanic, and Native American cultures as reflected in their folklore, with attention paid to published and unpublished materials and collecting techniques, leading to a fuller understanding and appreciation of folk traditions of the Southwest. Fall term.
- Engl 380 AMERICAN INDIAN LITERATURE (3-0) 3  
A study of traditional and contemporary American Indian expression of thought as seen through oration, tales and legends, chants and songs, poetry, drama and the novel. Offered on demand.

Engl 381 PLAYS: (THEME OR TOPIC) (3-0) 3  
 A study of plays chosen from the entire canon of dramatic literature which relate to a specific theme or topic. The theme or topic is changed regularly, e.g., war, women, marriage, the family, work. Same as Thea 381. Offered on demand.

Engl 411 20TH CENTURY ENGLISH AND AMERICAN POETRY (3-0) 3  
 A study of 20th century poetry from 1914 to the present. Fall term, alternate years.

Engl 412 ENGLISH AND AMERICAN FICTION, 1900-1945 (3-0) 3  
 A study of selected English and American fiction writers from 1900 to the end of World War II, concentrating on the novel. Winter term.

Engl 431 CHAUCER (3-0) 3  
 A study of the writings of Geoffrey Chaucer. Winter term, alternate years.

Engl 432 SHAKESPEARE (3-0) 3  
 A study of Shakespearean drama. Fall term.  
*Recommended prerequisite:* two courses in the Engl 331-334 series.

#### English Language, Communications, and Composition Courses

Courses applicable to the English major, but also appropriate for electives or other special needs. Engl 225, 362, 363, 364, and 461 may be used to satisfy distribution requirements.

Engl 116 INTRODUCTION TO MASS COMMUNICATIONS (3-0) 3  
 An examination of the development, organization and functions of the print and electronic media.

Engl 204 RADIO BROADCASTING (3-0) 3  
 An introduction to various aspects of radio broadcasting. Fall and winter terms.

Engl 216 NEWS WRITING (3-0) 3  
 A course in news writing, with emphasis on news gathering, interviewing and writing news stories. Fall term.  
*Prerequisite:* Freshman Composition Seminar.

Engl 225 SEMANTICS (3-0) 3  
 A study of the meanings of language, emphasizing its social and psychological uses and abuses. Fall and winter terms.

Engl 316 JOURNALISM (3-0) 3  
 Advanced news writing, editorial and feature writing, preparation of copy for newspapers, headline writing and newspaper makeup. Winter term.  
*Prerequisite:* Sophomore Composition Seminar.

Engl 362 INTRODUCTION TO LINGUISTICS (3-0) 3  
 A study emphasizing the structure of language: how sounds are joined into words and words into sentences. Other topics explored include dialects, the debate over proper usage, how children acquire language, applications of sentence analysis for reading and writing improvement. Fall and winter terms.

Engl 363 ADVANCED COMPOSITION (4-0) 4  
 An advanced writing course with emphasis on the common forms of writing used by educated adults. Fall and winter terms.  
*Prerequisites:* Freshman and Sophomore Composition Seminars.

- Engl 364 CREATIVE WRITING (4-0) 4  
An advanced writing course with concentration in such writing areas as poetry and short fiction. Fall and winter terms.  
*Prerequisite:* approval of instructor.
- Engl 365 LINGUISTIC ANALYSIS (1-0) 1  
A course in structural and transformational sentence analysis. Must be taken in conjunction with English 362, Introduction to Linguistics.
- Engl 416 MEDIA THEORY AND CRITICISM (3-0) 3  
This course is designed to acquaint students with the major contemporary theories of mass communication; students will also gain acquaintance with critical theory and texts including semiotics, genre criticism, and ideological criticism. Fall term, alternate years.
- Engl 461 HISTORY OF THE ENGLISH LANGUAGE (3-0) 3  
A study of the development of English from Indo-European sources to the present. Winter term.

#### Practicum Courses

Courses applicable to the English major but also appropriate for electives or other special needs. A maximum of 24 credits can count toward graduation.

- Engl 250 PRACTICUM-NEWSPAPER 1-6  
Directed experience for lower-division students in newspaper work on the *Independent* or other newspapers. Credit is based on the ratio of 30 hours of work for each credit earned. Students will be directed by a professor who will assign, monitor and evaluate their work. Repeatable for a maximum of 12 credits. Consent of instructor required. Fall and winter terms.
- Engl 251 PRACTICUM-RADIO 1-6  
Directed experience for lower-division students in radio broadcasting on KDUR or other radio stations. Credit is based on the ratio of 30 hours of work for each credit earned. Students will be directed by a professor who will assign, monitor and evaluate their work. Repeatable for a maximum of 12 credits. Consent of instructor required. Fall and winter terms.
- Thea 253 PRACTICUM-TV 1-4  
Directed experience for lower-division students in working at a TV station. Credit is based on the ratio of 30 hours of work for each credit earned. Students will be directed by a professor who will assign, monitor and evaluate their work. Repeatable for a maximum of 12 credits. Consent of instructor required. Fall and winter terms.
- Engl 450 PRACTICUM-NEWSPAPER 1-6  
Directed experience for upper-division students in newspaper work on the *Independent* or other newspapers. Credit is based on the ratio of 30 hours of work for each credit earned. Students will be directed by a professor who will assign, monitor and evaluate their work. Repeatable for a maximum of 12 credits. Consent of instructor required. Fall and winter terms.
- Engl 451 PRACTICUM-RADIO 1-6  
Directed experience for upper-division students in radio broadcasting on KDUR or other radio stations. Credit is based on the ratio of 30 hours of work for each credit earned. Students will be directed by a professor who will assign, monitor and evaluate their work. Repeatable for a maximum of 12 credits. Consent of instructor required. Fall and winter terms.

Thea 453 PRACTICUM-TV 1-4  
 Directed experience for upper-division students in working at a TV station. Credit is based on the ratio of 30 hours of work for each credit earned. Students will be directed by a professor who will assign, monitor and evaluate their work. Repeatable for a maximum of 12 credits. Consent of instructor required. Fall and winter terms.

### Capstone Courses

Courses applicable to the major but open to all qualified students.

Engl 496 SEMINAR (2-0) 2; OR (3-0) 3  
 Advanced study and research in selected topics.  
*Prerequisite:* senior standing or consent of instructor.

Engl 499 INDEPENDENT STUDY 1-3  
 Individual research is conducted under the supervision of a faculty member. Fall and winter terms.  
*Prerequisite:* consent of instructor.

### English Education Course

Course applicable to the English Education Option of the English major.

Engl 481 MATERIALS OF INSTRUCTION FOR  
 TEACHING ENGLISH (1-0) 1  
 An introduction to materials for teaching literature, language, and composition in the secondary schools. Includes principles for the selection of literature for high school pupils and the relationship of language and composition to the total secondary program. Teaching techniques are a point of emphasis. To be taken concurrently with Ed 480 during the term prior to student teaching. Fall term.

**NOTE:** Engl 190, 191, 390, and 391 Special Topics, and Engl 496 Seminar, provide greater depth in English offerings. Special Topics courses ordinarily apply to the major.

## Theatre

### Stage and Television

Professors Kenneth E. Bordner and  
 Dinah L. Leavitt;  
 Assistant Professor Anthony R. Haigh

Theatre includes all those activities by which human beings embody in themselves — either directly or through some medium like film or television — ideas and visions of themselves and their common humanity.

The theatrical arts at Fort Lewis College are taught in the attempt to further two liberal arts goals: to increase self-awareness and understanding and to heighten social awareness and responsibility.

The thrust of our program is to help our students realize that whenever we do anything as human beings we are using one or more of the principles, methods, techniques or devices of the theatrical arts; we are doing theatre in the process. Work and training in the theatrical arts, therefore, are useful and applicable no matter what one's specific career goals are.



Persons wishing to major in theatre may elect the English major - Theatre Option, described above in the English section of the catalog, or they may design student-constructed majors. The minor in Theatre is described above.

### Courses

Thea 100 DRAMATIC THEATRE (0-9) 1-3

A continuing practicum in public theatrical communication. Each term a major production requiring five to six weeks (about 140 hours) of rehearsal and public performance time is offered as a keynote to the work of the Theatre Company at Fort Lewis College. Open to freshman and sophomore students and may be repeated for 6 credits. Enrollment by audition. Fall term.

Thea 101 INTRODUCTION TO THEATRE (3-0) 3

A general introduction to theatre arts. Work includes viewing and discussing live theatre performances, both on campus and in the community. Interpretive techniques include an understanding of both physical methods and the function of theatre in its society and in its cultural and artistic context. Fall and winter terms.

Thea 103 PRINCIPLES OF HUMAN ATTIRE  
AND APPEARANCE (3-0) 3

An historical, social, political and psychological look at the effects of clothing. Offered on demand.

Thea 121 SPEECH COMMUNICATION (3-0) 3

Through closely supervised activities in various speech forms, the student develops skills necessary to deal successfully with various speaking situations. Fall and winter terms.

Thea 125 THEORIES OF ACTING (3-0) 3

The emphasis in the course will be on reading about and discussing the various theories of the craft and art of acting. Theories such as those of Diderot, Stanislavski, Brecht, Grotowski, Schechner, and others will be studied. Fall term.

Thea 126 INTRODUCTION TO THEATRICAL DANCE (3-0) 3

A course in the basics of dance — tap, modern, folk, jazz and ballroom — which emphasizes the performance aspects of dance. Students will find outlets for creative expression in choreography and performance. Fall term.

Thea 132 CRAFTS AND DESIGN STUDIO (3-0) 3

A studio course introducing all the design and crafts of the theatre and of the theatrical elements in television. Scenery, props, costumes, light, makeup, sound and various skills and techniques are introduced through studio project work. Offered on demand.

Thea 150 INTRODUCTION TO DRAMATIC LITERATURE (3-0) 3

An introduction to plays as literature. Same as Engl 150. Offered on demand.

Thea 170 DRAMATIC VISION AND SOCIAL CONTEXT:  
(TITLE OF WORK OF ART) (1-0) 1

A close discussion of the vision of human life in a single work of dramatic art as the work expresses and emerges from its particular environment. This course and Thea 370 may be repeated for a total of 8 credits. Open to freshman and sophomore students. Offered on demand.

Thea 175 THEATRE ENSEMBLE PERFORMANCE (0-6) 3  
Rehearsal and performance of a dramatic work for the public. Enrollment by audition. Repeatable for 6 credits. Fall and winter terms.

Thea 176 DANCE PERFORMANCE (0-6) 3  
A dance class whose final production will be a dance concert. Freshmen and sophomores enrolled will develop, rehearse and perform for the public a new work choreographed by faculty or visiting guest artist. Enrollment by audition. Repeatable for 6 credits total. Winter term.

Thea 200 MUSIC THEATRE (0-9) 1-3  
A continuing practicum in public theatrical communication. Each term a major production requiring five to six weeks (about 140 hours) of rehearsal and public performance time is offered as a keynote to the work of The Theatre Company of Fort Lewis College. Open to freshman and sophomore students and may be repeated for 6 credits. Enrollment by audition. Winter term.

Thea 222 CREATIVE DRAMATICS (3-0) 3  
Endeavors to develop creativity and imagination through theatre. While especially useful to those working with youngsters, these techniques which foster self-awareness and expression can be used by anyone. Students will conduct workshops with school children in Durango. Offered on demand.

Thea 223 CHILDREN'S THEATRE (0-9) 3  
A course whose purpose is to produce a children's play. All aspects of the production will be handled by the class, who will also perform the play for child audiences in the Durango area. Offered on demand.

Thea 232 THEATRICAL COSTUMING (3-0) 3  
Principles of costume design and construction, and theory and application of theatrical makeup. Offered on demand.

Thea 253 PRACTICUM-TV 1-4  
Directed experience for lower-division students in working at a TV station. Credit is based on the ratio of 30 hours of work for each credit earned. Students will be directed by a professor who will assign, monitor and evaluate their work. Repeatable for a maximum of 12 credits. Consent of instructor required. Fall and winter terms.

Thea 280 STUDIES IN INTERDISCIPLINARY THOUGHT (3-0) 3  
A group of plays which relate directly to another discipline, e.g., philosophy, political science, sociology, or theology, are studied for their theatrical and dramatic qualities and also for their insights into the other discipline. Offered on demand.

Thea 300 DRAMATIC THEATRE (0-9) 1-3  
A continuing practicum in public theatrical communication. Each term a major production requiring five to six weeks (about 140 hours) of rehearsal and public performance time is offered as a keynote to the work of The Theatre Company of Fort Lewis College. Open to junior and senior students and may be repeated for 6 credits. Enrollment by audition. Fall term.

Thea 304 TELEVISION PRODUCTION (3-0) 3  
Introductory work in the arts and techniques of actual television production. Winter term.

- Thea 365 ADVANCED ACTING (3-0) 3  
 An advanced acting course designed to acquaint the more experienced student actor or actress with in-depth work in one or more acting methods. Required for theatre majors. Winter term.  
*Prerequisite:* Thea 125.
- Thea 366 DANCE TECHNIQUE (3-0) 3  
 An advanced dance class in a particular dance form and technique, e.g., Modern Dance; Graham Technique; Jazz; Luigi Technique. Winter term.  
*Prerequisite:* Thea 126.
- Thea 370 DRAMATIC VISION AND SOCIAL CONTEXT:  
 (TITLE OF WORK OF ART) (1-0) 1  
 A close discussion of the vision of human life in a single work of dramatic art as the work expresses and emerges from its particular environment. This course and Thea 170 may be repeated for a total of 8 credits. Open to juniors and seniors. Offered on demand.
- Thea 375 THEATRE ENSEMBLE PERFORMANCE (0-6) 3  
 Rehearsal and performance of a dramatic work for the public. Open to juniors and seniors. Enrollment by audition. Repeatable for 6 credits. Fall and winter terms.
- Thea 376 DANCE PERFORMANCE (0-6) 3  
 A dance class whose final production will be a dance concert. Juniors and seniors enrolled will develop, rehearse and perform for the public a new work choreographed by faculty or visiting guest artist. Enrollment by audition. Repeatable for a total of 6 credits. Winter term.
- Thea 381 PLAYS: (THEME OR TOPIC) (3-0) 3  
 A study of plays chosen from the entire canon of dramatic literature which relate to a specific theme or topic. The theme or topic is changed regularly, e.g., war, women, marriage, the family, work. Same as Engl 381. Offered on demand.
- Thea 400 MUSIC THEATRE (0-9) 1-3  
 A continuing practicum in public theatrical communication. Each term a major production requiring five to six weeks (about 140 hours) of rehearsal and public performance time is offered as a keynote to the work of The Theatre Company of Fort Lewis College. Open to junior and senior students and may be repeated for 6 credits. Enrollment by audition. Winter term.
- Thea 401 ADVANCED STUDIES (2-3) 3  
 Advanced study in analytical scene work, design, scripting, history and theory, acting, opera, cabaret and nightclub performance, readers' theatre and oral interpretation, style, dramatic literature, management, dance, directing and choreography. Offered on demand.
- Thea 402 ADVANCED STUDIES: THEATRE HISTORY (3-0) 3  
 An overview of the history of the theatre from ancient times to the present. The course will focus on the social and cultural role played by the theatre throughout history and the kinds of spaces and theatrical practices developed to meet those needs. Alternate winter terms.

Thea 403 ADVANCED STUDIES: MODERN DRAMA, 1875-1956 (3-0) 3  
 A look at the major trends of modern drama from 1875 to 1956. The course will look at, among other things, the "ism's" of Realism, Naturalism, Symbolism, Expressionism, Surrealism, and Absurdism. Also studied will be the trends in modern theatre toward DocuDrama, Epic Theatre and Political Theatre. This course is suitable for Theatre Option majors, English majors and other students interested in how the major movements of the 20th century were explored in dramatic and theatrical form. Alternate fall terms.

Thea 404 ADVANCED STUDIES: AMERICAN THEATRE 1800-1956 (3-0) 3  
 This course will explore the major trends in American Theatre from 1800 to 1956. Special attention will be paid to the dramatic literature of the period and how that literature helped develop one of the most vital and creative theatres in the world. This course is required of all Theatre Option majors and is highly recommended to English majors and others who want to explore a dynamic area of study. Alternate winter terms.

The Advanced Studies Program is intended primarily for juniors and seniors of demonstrated talent, creative discipline and artistic ability, regardless of the major field of work. Thea 401 - Advanced Studies may be taken four times for a total of 12 credits if the content area of each Thea 401 is different. However, only six credits of Thea 401 can count towards the Theatre Option major.

Thea 453 PRACTICUM-IV 1-4  
 Directed experience for upper-division students in working at a TV station. Credit is based on the ratio of 30 hours of work for each credit earned. Students will be directed by a professor who will assign, monitor and evaluate their work. Repeatable for a maximum of 12 credits. Consent of instructor required. Fall and winter terms.

Thea 499 INDEPENDENT STUDY 1-3  
 Individual research is conducted under the supervision of a faculty member. Offered on demand.

*Prerequisite:* approval of theatre department coordinator.

## Forestry

Fort Lewis College has formal transfer agreements with Colorado State University and Northern Arizona University whereby students can complete the first two years of study at Fort Lewis College and then transfer to the other institution for the last two years of professional training. Students then receive a B.S. degree in forestry or a related natural resources field from Colorado State University or from Northern Arizona University.

Students who transfer to Colorado State University can complete a degree in any of the following areas: watershed sciences, fishery biology, wildlife biology, range and forest management, forest management and fire science, forest management with business concentration, forest biology, wood science and technology, natural resources management, range ecology, range ecology with concentration in land rehabilitation, landscape architecture, and recreation resources management with concentration in either environmental interpretation, commercial recreation and tourism, or park and recreation administration.

Northern Arizona University offers a single degree program in forestry. It is an integrated, team-taught curriculum emphasizing multiresource management. Students learn to address the impacts of land management decisions on all resources including timber, wildlife, range, water, recreation, and scenic beauty.

To transfer to Colorado State University, a student must:

1. be enrolled in the forestry program at Fort Lewis College for two years;
2. have an overall grade point average of at least 2.00 (2.50 for international students);
3. complete at least 60 credits in the forestry program at Fort Lewis College;
4. qualify otherwise for admission to the College of Forestry and Natural Resources.

To transfer to Northern Arizona University, a student must:

1. be enrolled in the forestry program at Fort Lewis College for at least one semester;
2. have an overall grade point average of at least 2.5 (for early and automatic acceptance by NAU) or 2.0 (for possible acceptance);
3. complete at least 61.5 credits in the forestry program at Fort Lewis College.

Students interested in transferring to either Colorado State University or Northern Arizona University should consult with a member of the biology faculty early in their careers at Fort Lewis College to obtain specific course requirements and other information.

### Course

For 218 FUNDAMENTALS OF ECOLOGY (3-0) 3

A study of the fundamental relationships among organisms and their environments. One all-day Saturday field trip is required. Same as Bio 218. Fall term.

*Prerequisites:* Bio 100, 101 and Math 111.

### French (see Modern Languages)

### Geography

Geog 271 WORLD GEOGRAPHY (3-0) 3

An introduction to world geography including physical and cultural regions and development of natural resources. Offered on demand.

## Geology

Professors Robert W. Blair, Jr.,  
Douglas C. Brew, John A. Campbell and  
Jack A. Ellingson;  
Associate Professor Thomas N. Westervelt;  
Assistant Professor James D. Collier

The department offers a Bachelor of Science degree with a major in Geology. Laboratory and field equipment and geology holdings in the college library facilitate the necessary research and reading. The study of geology at Fort Lewis College is enhanced by the College's remarkable location amidst the unsurpassed geological phenomena in the southern Rocky Mountains and the adjacent areas of the Southwest. The Grand Canyon, the Goose Necks of the San Juan River, Monument Valley, and Shiprock are representative of the classical geological localities nearby. The numerous outcrops and mine workings in the vicinity are sources of excellent geological specimens for the student. Also, the essentially continuous sequence of rocks in the Animas River Valley represents literally hundreds of millions of years of Earth history.

Students majoring in geology may be certified to teach science at the secondary level. To obtain requirements for teacher certification, please contact the Department of Teacher Education.

A minor in geology is available for students majoring in other disciplines. Requirements for a minor in geology are described on page 109.

### REQUIREMENTS FOR A BACHELOR OF SCIENCE DEGREE WITH A MAJOR IN GEOLOGY:

	<i>Credits</i>
General Studies (not satisfied below) .....	34
Specific Departmental Requirements:	
Geol 113 Physical Geology .....	4
Geol 114 Historical Geology .....	4
Geol 207 Mineralogy .....	3
Geol 208 Optical Mineralogy .....	4
Geol 210 Petrology .....	3
Geol 323 or 333 Geomorphology or Paleontology .....	4
Geol 335 and 336 Structural Geology .....	6
Geol 361 Stratigraphy and Sedimentation .....	3
Geol 441 Field Geology .....	6
Geol 496 Seminar	
or	
Geol 499 Independent Study .....	2
Total .....	39
Auxiliary Requirements from Other Departments:	
Chem 150-151 (ten of these credits complete Group B requirements of General Studies) .....	11
Physics 162-262-263 (or 132-232-233), 211 or 212 .....	10
Mathematics 221 and 222 or Math 201 or Engr 104 .....	8-9
Total .....	29-30
Electives .....	25-26
TOTAL REQUIRED FOR GRADUATION .....	128

### PREPARATION FOR GRADUATE SCHOOL

The following additional courses are recommended for geology majors who plan to go to graduate school.

- Math 222 Calculus (most graduate schools require a minimum of one year of calculus)
- Geol 323 Geomorphology
- Geol 333 Introductory Paleontology
- Geol 355 Igneous Petrology and Petrography
- Geol 363 Sedimentary Petrology
- Geol 415 Regional Geology of the U.S.
- Additional work in the Physical Sciences and Mathematics
- French or German
- Engr 205 Surveying I
- Engr 102 Technical Drafting

### REQUIREMENTS FOR A MINOR IN GEOLOGY:

Specific Departmental Requirements:

Geol 113 Physical Geology .....	4
Geol 114 Historical Geology .....	4
Geol 207 Mineralogy .....	3
Geol 210 Petrology .....	3
Total.....	14
Upper-Division Geology Electives .....	10
Total.....	24

### Courses

- Geol 105 ROCKS AND MINERALS (2-2) 3  
Hand specimen study of the common rock-forming minerals, gem and ore minerals, and igneous, metamorphic, and sedimentary rocks. On demand.
- Geol 110 EARTH SCIENCE (3-0) 3  
A review of the earth sciences, including geology, oceanography, meteorology and astronomy. Course intended for nonscience majors.
- Geol 113 PHYSICAL GEOLOGY (3-3) 4  
The study of geologic processes and materials within the Earth's interior and on the Earth's surface. Laboratory work on minerals, rocks and maps. Field trips. Fall and winter terms.
- Geol 114 HISTORICAL GEOLOGY (3-3) 4  
The geologic history and development of life on Earth. Laboratory work on rocks, fossils and maps. Field trips. Winter term.  
*Prerequisite:* Geol 113.
- Geol 150 GEOLOGY OF THE SOUTHWEST (3-0) 3  
A survey of the historical and structural geology and geomorphology of the Southern Rockies, Colorado Plateau, and Cordilleran provinces. Emphasis is on classic geologic areas and the significant geologic concepts that have been derived from them. This course will not count toward the Physical Science major. Offered on demand.

- Geol 207 MINERALOGY (2-3) 3  
The elements of crystallography and the classification and identification of minerals. Fall term.  
*Prerequisites:* Geol 113 and completion of, or concurrent enrollment in, Chem 150.
- Geol 208 OPTICAL MINERALOGY (2-6) 4  
Procedures for identification of minerals in thin section, with emphasis on the optical determination of rock-forming minerals. Winter term.  
*Prerequisite:* Geol 207.
- Geol 210 PETROLOGY (2-3) 3  
The megascopic study of igneous, sedimentary and metamorphic rocks with emphasis on the physical and chemical conditions governing the origins, occurrences and associations of various rock types. Winter term.  
*Prerequisite:* Geol 207.
- Geol 220 PHYSIOGRAPHIC REGIONS OF THE UNITED STATES (3-0) 3  
A survey of the general geology and development of the present landscape across the United States. Winter term.  
*Prerequisite:* Geol 113.
- Geol 323 GEOMORPHOLOGY (3-3) 4  
The study of the classification, description, nature, origin and development of present landforms and their relationships to underlying structures. Field trips. Fall term.  
*Prerequisite:* Geol 207.
- Geol 325 INTRODUCTION TO REMOTE SENSING (2-3) 3  
Introduction to the principles of remote sensing. Includes the study of the electromagnetic spectrum and the geologic interpretation of visible, infrared and microwave imagery from airborne as well as spaceborne platforms. Winter term, alternate years.  
*Prerequisite:* Geol 113.
- Geol 332 PLATE TECTONICS (3-0) 3  
An introduction to crustal plates, their boundaries, and their interactions given in terms of classic geological settings throughout the world.  
*Prerequisites:* Geol 113, Math 111.
- Geol 333 INTRODUCTORY PALEONTOLOGY (3-3) 4  
The systematic study of fossils, primarily invertebrate fossils used often in the identification and correlation of geologic formations. Fall term.  
*Prerequisite:* Geol 114 or consent of instructor.
- Geol 335 STRUCTURAL GEOLOGY (2-3) 3  
The geometric, kinematic, and dynamic analysis of structural features in the Earth's crust; basic operation and applications of the Brunton compass and stereonet and techniques in field mapping and note taking will be emphasized throughout the course. Fall term.  
*Prerequisites:* Math 111, Geol 113.
- Geol 336 STRUCTURAL GEOLOGY (2-3) 3  
A continuation of Geology 335. Winter term.  
*Prerequisite:* Geol 335.
- Geol 355 IGNEOUS PETROLOGY AND PETROGRAPHY (3-3) 4  
The origin, occurrence, classification and description of igneous rocks. Fall term.  
*Prerequisites:* Geol 208, 210.



- Geol 356 METAMORPHIC PETROLOGY AND PETROGRAPHY (3-3) 4  
 The origin, occurrence, and classification of metamorphic rocks. Winter term.  
*Prerequisites:* Geol 208, 210.
- Geol 361 STRATIGRAPHY AND SEDIMENTATION (2-3) 3  
 Sediments and sedimentary rocks — their characteristics and classification; sedimentary processes, tectonics and sedimentation. Stratigraphy — its history, stratigraphic nomenclature, facies relationships and correlation. Fall term.  
*Prerequisites:* Geol 207, 210.
- Geol 363 SEDIMENTARY PETROLOGY (3-2) 4  
 The origin, occurrence, and classification of sedimentary rocks. Winter term.  
*Prerequisites:* Geol 208, 210 and 361.
- Geol 371 INTRODUCTION TO GEOPHYSICAL PROSPECTING (3-3) 4  
 The fundamentals of exploration geophysics — particularly gravitational, magnetic and seismic methods. Fall term.  
*Prerequisites:* Geol 113, Math 221 and either junior standing or instructor's consent.
- Geol 401 NATURAL RESOURCES AND THE ENVIRONMENT (3-0) 3  
 A critical study of the need for development of fossil fuel and industrial mineral deposits and the need to preserve regions in their natural state. Winter term.  
*Prerequisite:* Geol 113 or consent of the instructor.
- Geol 409 ECONOMIC MINERAL DEPOSITS (3-3) 4  
 Principles of ore genesis; geologic occurrence of uranium and metallic mineral deposits; mine tours.  
*Prerequisites:* Geol 336, 355, and 420 or consent of instructor.
- Geol 410 PETROLEUM GEOLOGY (2-3) 3  
 The origin, migration, and entrapment of petroleum, and the methods employed in exploration and development of petroleum occurrences.  
*Prerequisites:* Geol 336 and 363, or consent of instructor.
- Geol 415 REGIONAL GEOLOGY OF THE UNITED STATES (3-0) 3  
 An examination of the stratigraphy, tectonic setting and geologic evolution of the major physiographic units of the United States.  
*Prerequisites:* Geol 361 and 336.
- Geol 420 INTRODUCTION TO GEOCHEMISTRY (3-0) 3  
 Behavior of the common rock-forming oxides in endogenic and exogenic processes; isotope geochemistry; geochemical exploration.  
*Prerequisites:* Geol 207 and 210, or consent of instructor.
- Geol 425 PHOTOGEOLOGY (1-6) 3  
 Introduction to the principles of aerial photography. Involves interpreting and making geologic maps from aerial photographs. Winter term, alternate years.  
*Prerequisite:* Geol 323 or consent of instructor.
- Geol 432 PALEOECOLOGY (3-0) 3  
 The methods and logic employed in paleoecological analysis. An examination of the characteristics of organisms and environments that reveal information about ecology/paleoecology. Winter term, alternate years.  
*Prerequisite:* Geol 333 or consent of instructor.

- Geol 433 MICROPALAEONTOLOGY (3-3) 4  
The study of fossil microorganisms, their morphology, classification, paleoecology, and chronostratigraphy. Primary emphasis will be placed on the foraminifera, ostracodes and conodonts. Winter term, alternate years.  
*Prerequisite:* Geol 333 or consent of instructor.
- Geol 441 FIELD GEOLOGY 6  
The fundamental procedures and practices in geologic mapping. Summer term.  
*Prerequisite:* 24 credits of geology.
- Geol 442 FIELD STUDIES 5  
Intensive field work on various geological problems emphasizing interpretation of petrologic and structural relationships. Summer term.  
*Prerequisite:* senior standing in geology or consent of instructor.
- Geol 461 DEPOSITIONAL SYSTEMS (2-3) 3  
Modeling of sedimentary deposits with respect to time, and the development of stratigraphic sequences. Fall term, alternate years.  
*Prerequisite:* Geol 361.
- Geol 496 SEMINAR (2-0) 2  
Advanced study and research in selected topics. Fall and winter terms.
- Geol 499 INDEPENDENT STUDY 1-3  
Individual research under the supervision of a faculty member. Offered on demand.  
*Prerequisite:* consent of department chairman.

## German (see Modern Languages)

## Health Careers (see Biology)

## History

Professors Gilbert C. Din, Thomas R. Eckenrode,  
Richard N. Ellis, Doreen Hunter, Reece C. Kelly,  
Ira L. Plotkin and Duane A. Smith;  
Assistant Professors James K. Ash and Neil McHugh

The Department of History offers a variety of courses to enhance students' understanding and appreciation of the human past. The study of history promotes tolerance between peoples and helps make the world and our lives more intelligible. Courses in the history of Africa, Asia, Latin America and the Middle East introduce the creative achievements of other civilizations. Through the exploration of our own national experience and the history of western civilization, students gain not only deeper insights into the issues and problems facing citizens today but also a reservoir of knowledge from which to draw aesthetic pleasure and creative inspiration. The study of history encourages clear thinking, effective communication and the research skills necessary for success in any career.

Courses numbered 100 and 200 are introductory courses designed for first and second year students. The courses designated 300 explore more specialized topics in greater depth, while 400-level courses are designed for students who have had the appropriate introductory courses, or who receive the permission of the instructor.

The courses described here are those which are generally offered on a regular basis. Other courses may be offered. The department prides itself on offering new, timely courses as interests change and needs develop. We urge students to check the full list of courses published by the department at the time of registration.

History majors are required to take a minimum of 36 credits, but no more than 42 credits of history shall apply toward the major. Majors must concentrate in one of the areas listed below. A student also has the option to propose a student-constructed concentration with permission of the department chairman. Students majoring in history may be certified to teach social studies at the secondary level. To obtain requirements for teacher certification, please contact the Department of Teacher Education.

A minor in history is available for students majoring in other disciplines. Requirements for a minor in history are described on page 114.

**REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN HISTORY:**

	<i>Credits</i>
General Studies.....	44
Areas of Concentration:	
African History	
American History	
Asian History	
European History	
Latin American History	
Student-Constructed Concentration	
Requirements in History:	
Lower Division.....	12
The survey sequence in the area of concentration (6 credits). Two additional courses (6 credits) in other surveys (Survey of African History, Survey of Eastern Civilization, Survey of Latin American History, Survey of United States History, Survey of Western Civilization).	
Upper Division.....	24
Four courses on 300 or 400 level in the area of concentration (12 credits). Three additional 300- or 400-level courses taken outside the concentration in at least two areas (9 credits).	
Research Seminar (3 credits)	
Requirements Outside of History:	
Two courses in one modern language.....	6-9
Electives.....	39-42
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

## REQUIREMENTS FOR A MINOR IN HISTORY:

A total of 18 credits is required from at least two different instructors. Nine of the 18 credits should be in upper-division courses, and nine credits in lower-division courses. See the department chairperson for further information.

*Courses*

- Hist 123 AMERICAN INDIAN HISTORY (3-0) 3  
The history of Indians of the United States from contact to the present. Winter term.
- Hist 140 SURVEY OF AFRICAN HISTORY I (3-0) 3  
An overview of important historical trends in Africa from A.D. 1000 to the 19th century. Themes of technological innovation, social change, state and empire building, the spread of Islam, international commerce, and the slave trade receive emphasis.
- Hist 141 SURVEY OF AFRICAN HISTORY II (3-0) 3  
A treatment of 19th and 20th century Africa. Special attention is paid to the growing importance of Africa in world affairs and to links with the peoples of African descent in the Americas.
- Hist 160 SURVEY OF WESTERN CIVILIZATION I (3-0) 3  
Examines the origins of the institutions and beliefs of western civilization from the earliest civilizations in Mesopotamia and Egypt, tracing the development of these beliefs and institutions through Greece and Rome and their preservation and enhancement in the early medieval period of European history.
- Hist 161 SURVEY OF WESTERN CIVILIZATION II (3-0) 3  
Examines the transition of European society from medieval times through the Renaissance to the modern era, noting the profound economic, social, and political changes which are expressed in cultural and political revolutions, dominance of Europe and America in the world, and devastating war on a scale unknown before.
- Hist 170 SURVEY OF EASTERN CIVILIZATION: JAPAN (3-0) 3  
An examination of traditional and modern Japan from the perspective of language, geography, philosophy/religion, literature, social structure, and politics. Primary focus is on a general understanding of the nature of the culture and people and how the traditional period prepared Japan to become the chief competitor to the western industrial powers.
- Hist 171 SURVEY OF EASTERN CIVILIZATION: CHINA (3-0) 3  
An examination of traditional and modern China from the perspective of language, geography, philosophy/religion, literature, social structure, and politics. Primary focus is on a general understanding of the nature of the culture and people and how the traditional period prepared China for the 20th century and the radical changes under Communism.
- Hist 270 SURVEY OF COLONIAL LATIN AMERICA (3-0) 3  
Examines the time span of 1492 to 1825. Topics discussed include the Indian Hispanic backgrounds, conquest, colonial institutions and societies, 18th century reforms and independence.

Hist 271 SURVEY OF NATIONAL LATIN AMERICA (3-0) 3  
 Studies the development of Latin America since independence. While the larger nations are examined, attention is also given to smaller countries where problems exist. Topics include instability, modernization and dependency, and efforts at change.

Hist 280 SURVEY OF UNITED STATES HISTORY, 1600-1865 (3-0) 3  
 A survey of topics in American history from the founding of the first successful English colony at Jamestown to the end of the Civil War. The course will explore the settlement of the New World, the Revolution, the creation of the republic, the wonderful fads, reforms and cultural renaissance of the 1840s, and the conflicts that led to the Civil War.

Hist 281 SURVEY OF UNITED STATES HISTORY, 1865-PRESENT (3-0) 3  
 A survey of topics in American history from Reconstruction to the present. The course will study the economic developments that transformed the United States into a leading industrial nation, the shift from diplomatic isolation to a quest for global supremacy, the many efforts to modernize and reform American politics, and the everyday experiences of ordinary men and women at work and play.

Hist 340 STUDIES IN MIDDLE EASTERN  
 AND AFRICAN HISTORY (3-0) 3  
 A study of the history of the Mid East and Africa. The specific course will vary. Students may take courses in this area more than once, provided the subject is different on each occasion. Fall and winter terms. Some examples of courses taught in this area are: **Contemporary Africa, Modern Islamic World, and South Africa.**

*Prerequisite:* sophomore standing.

Hist 350 STUDIES IN ASIAN HISTORY (3-0) 3  
 A study of the history of Asia. The specific topic will vary. Students may take courses in this area more than once, provided the subject is different on each occasion. Fall and winter terms. Some examples of courses taught in this area are: **Emergence of Modern Japan: Origins to 1800; Modern Japan: 1700 to the Present; Japanese Diplomatic History: 19th and 20th Centuries; China: Imperialism, Nationalism, and Communism; and China in the 20th Century.**

*Prerequisite:* sophomore standing.

Hist 360 STUDIES IN EUROPEAN HISTORY (3-0) 3  
 A study of the history of Europe. The specific course will vary. Students may take courses in this area more than once, provided the subject is different on each occasion. Fall and winter terms. Some examples of courses taught in this area are: **The Fall of Rome and the Rise of the Middle Ages; The Era of the Crusades; Medieval England and Ireland; Germany, 1870 -1970; Russian Revolution and the Soviet Regime; and Soviet Union: Stalin to Brezhnev.**

*Prerequisite:* sophomore standing.

Hist 370 STUDIES IN LATIN AMERICAN HISTORY (3-0) 3  
 A study of the history of Latin America. The specific course will vary. Students may take courses in this area more than once, provided the subject is different on each occasion. Fall and winter terms. Some examples of courses taught in this area are: **History of Mexico, U.S. - Latin American Relations, and History of Central America.**

*Prerequisite:* sophomore standing.

- Hist 380 STUDIES IN AMERICAN HISTORY (3-0) 3  
 A study of the history of the United States. The specific course will vary. Students may take courses in this area more than once, provided the subject is different on each occasion. Fall and winter terms. Some examples of courses taught in this area are: *Colonial America*, *Civil War America*, *Colorado History*, *American Mining History*, *Women in American History*, *The Wilderness Experience*, *the United States and Vietnam*, *Southwest Indian History*, *Southwest History to 1868*, and *Southwest History 1868 to Present*.  
*Prerequisite:* sophomore standing.
- Hist 445 ADVANCED STUDIES IN AFRICAN AND MIDDLE EASTERN HISTORY (3-0) 3  
 An examination of selected historical topics and issues pertaining to the African continent. A senior-level paper will be expected of those enrolled. An example of a course taught in this area is *Women in the Middle East*.  
*Prerequisite:* junior standing.
- Hist 455 ADVANCED STUDIES IN ASIAN HISTORY (3-0) 3  
 An examination of selected historical topics and issues pertaining to the Asian world. A senior-level paper will be expected of those enrolled. Some examples of courses taught in this area are: *The Concept of Man in Oriental Society* and *Japan and China in Film and Fiction*.  
*Prerequisite:* junior standing.
- Hist 465 ADVANCED STUDIES IN EUROPEAN HISTORY (3-0) 3  
 An examination of selected historical topics and issues pertaining to the European world. A senior-level paper will be expected of those enrolled. An example of a course taught in this area is *War and Peace in Medieval Europe*.  
*Prerequisite:* junior standing.
- Hist 475 ADVANCED STUDIES IN LATIN AMERICAN HISTORY (3-0) 3  
 An examination of selected historical topics and issues pertaining to the Latin American world. A senior-level paper will be expected of those enrolled.  
*Prerequisite:* junior standing.
- Hist 485 ADVANCED STUDIES IN AMERICAN HISTORY (3-0) 3  
 An examination of selected historical topics and issues pertaining to the American world. A senior-level paper will be expected of those enrolled. An example of a course taught in this area is: *The United States and Vietnam*.  
*Prerequisite:* junior standing.
- Hist 496 RESEARCH SEMINAR (3-0) 3  
 Advanced study and research in selected topics.  
*Prerequisites:* senior standing and consent of instructor.
- Hist 499 INDEPENDENT STUDY 1-3  
 Reading program or research project conducted under the supervision of a faculty member. Offered on demand.  
*Prerequisites:* approval of department chairman and instructor.

## Humanities

Professor Carroll V. Peterson, Coordinator

The humanities major is a broad interdisciplinary major in the traditional fields of the humanities and social sciences. It affords a sound education for those seeking certification in elementary education, for those contemplating

careers in law or government service, for those preparing for graduate school, and for those who wish a broad cultural grounding for the bachelor's degree.

The humanities major has two options: the general option and the philosophy option. The general option consists of either a primary concentration of 20 credits in one discipline and two secondary concentrations of 12 credits each in two other disciplines, or a primary concentration of 32 credits and a secondary concentration of 12 credits in one other discipline. The philosophy option, which recognizes the special place of philosophy as a central and, indeed, most ancient humanistic discipline, requires 30 credits in philosophy and a secondary concentration of 12 credits in another discipline.

For the general option, the primary concentration of 20 or 32 credits shall be in one of these disciplines:

Anthropology	Music
Art	Philosophy
English	Political Science
History	Theatre
Modern Languages	

For either option, the secondary concentration(s) of 12 credits may be in any of the disciplines listed above. In addition, the following disciplines are also appropriate for a secondary concentration:

- Economics
- Psychology
- Sociology

#### REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN HUMANITIES:

##### The General Option:

	<i>Credits</i>
General Studies (not satisfied below) .....	41
Primary concentration to include 2 credits of 496 or 499.....	20-32
One or two secondary concentrations .....	12-24
Auxiliary Requirements:	
Two trimesters of one college-level modern language.....	6-8
Electives.....	38-40
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

##### The Philosophy Option:

	<i>Credits</i>
General Studies (not satisfied below) .....	41
Requirements for the Philosophy concentration:	
Two of the following:	
Phil 141 Problems of Philosophy, Phil 274 Philosophic Foundations: Early, or Phil 275 Philosophic Foundations: Modern.....	6
Phil 251 Ethics.....	3

Phil 261 Philosophy of Religion or Phil 371 Theories of Human Nature .....	3
Phil 271 Logic .....	3
Phil 351 Contemporary Philosophical Issues .....	3
Phil 451 Studies in Great Philosophers .....	3
Phil 496 Seminar or Phil 499 Independent Study .....	3
Two other Philosophy courses, at least one of which is numbered above 300 .....	6
Total .....	30
Secondary concentration (courses to be approved by philosophy advisor) .....	12
Auxiliary Requirements:	
Two trimesters of one college-level modern language .....	6-8
Electives .....	40-42
<b>TOTAL REQUIRED FOR GRADUATION .....</b>	<b>128</b>

## Intercultural Studies

Director Mary Jean Moseley;  
Associate Professor Ellen Cargile;  
Instructor Rick Wheelock

(see page 39)

## International Studies

Professor Edward L. Angus, Coordinator

### International Studies Program

The intent of this curricular offering is to provide the student an interdisciplinary introduction to the multi-faceted nature of international interdependence. The courses selected will allow the student to delve into contemporary cultures and societies from the viewpoints of language, history, political science, business, anthropology, and sociology. Successful completion of the courses selected will give the student a broader, more analytical understanding of the international community which affects the decisions of the individual and their government, complementing many academic majors.

Students who desire to pursue International Studies more intensively may wish to develop a Student Constructed Major in the area.

Students should select from the following recommended courses, in consultation with their advisors.

### Language-Literature

    Modern Language Intermediate/Advanced Language ..... 6-12

### History

    History 340 Studies in Middle East and African..... 6

    History 350 Studies in Asian ..... 6



History 360 Studies in European .....	6
History 370 Studies in Latin American .....	6

#### Political Science

Political Science 180 Intro. to Comparative Politics .....	4
Political Science 320 International Politics .....	3
Political Science 337 U.S. Foreign Policy .....	3

#### Business/Economics

Business Administration 370 Topics in International Business .....	3
Economics 367 Comparative Economic Systems .....	3

#### Anthropology

Anthropology 210 Introduction to Cultural and Social Anthropology .....	3
Anthropology 350 Ethnology of Mesoamerica .....	3
Anthropology 351 Ethnology of South America .....	3
Anthropology 391 Political Anthropology .....	3

#### Sociology

Sociology 376 Language and Social Behavior .....	3
Sociology 390 Comparative Social Structure .....	3

## Mathematics

### Computer Science & Statistics

Professors Richard A. Gibbs,  
Gary W. Grefsrud and William C. Ramaley;  
Associate Professors Gregory W. Bell,  
Harry C. Rosenberg, Laszlo Szuecs and Raymond E. Williams;  
Assistant Professors Clifford B. Capp, Annette J. Cooper,  
O.D. Perry, Robert P. Roe, Richard C. Walker  
and James A. Wixom;

Society as a whole is becoming increasingly dependent upon solving complex problems of a numerical, quantitative, and statistical nature which require logical thought. The Mathematics Department meets this demand by preparing its students for teaching careers, graduate school, or employment in such fields as computer science, statistics, engineering, business, biometrics, the actuarial sciences, and other areas involving mathematics.

Increasingly, mathematical applications depend on the use of a computer. To facilitate the training of students in these areas, Fort Lewis College has modern interactive computing systems with video and hard copy terminals.

### MATHEMATICS MAJOR AND OPTIONS

A flexible curriculum has been designed which consists of five different options within the mathematics major. These options are business, computer science, junior high school teaching, probability and statistics, and general.

They provide the student with an opportunity to develop creative mathematical talents within areas of personal interest. Specific requirements for each option follow.

Many mathematics majors begin their studies with Math 111 if their high school backgrounds include at least three years of mathematics, including two years of algebra and one of geometry. Students with stronger backgrounds may begin with Math 221, while Math 110 is offered for those students who are not prepared to begin with Math 111.

### TEACHER EDUCATION

The mathematics major who plans to teach in a senior high school must complete Math 223, 301, 325, 342, 385, and 386. The junior high teaching option is intended for those who plan to teach at the 7th, 8th, and 9th grade levels. A Bachelor of Arts degree in Mathematics, Junior High Teaching Option, is awarded only upon successful completion of all courses required for secondary school teaching certification. To obtain requirements for teacher certification, please contact the Department of Teacher Education.

### MATHEMATICS MINORS

Minors are available in mathematics, computer science, and probability and statistics for students majoring in other disciplines. Requirements for these minors are described on page 123.

### REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN MATHEMATICS:

#### The General Option:

	<i>Credits</i>
General Studies.....	44
Specific Departmental Requirements:	
Math 201 Elementary Statistics.....	3
Math 221, 222, 223 Calculus I, II, III.....	13
Math 301 Foundations for Advanced Mathematics.....	3
Math 385 Algebraic Structures I <i>and</i> Math 386 Algebraic Structures II <i>or</i> Math 422 Advanced Calculus I <i>and</i> Math 423 Advanced Calculus II.....	6
Total.....	25
Other Departmental Requirements:	
Additional courses numbered above Math 300 (except Math 315).....	12
Math 496 Seminar <i>or</i> Math 499 Independent Study.....	2
Total.....	14

**Auxiliary Requirements:**

CS 120 Introduction to Programming (BASIC).....	3
<i>or</i>	
CS 150 (Engr 104) Intro to Programming (FORTRAN) .....	3
<i>or</i>	
CS 220 Principles of Computer Science I .....	4
(should be taken first year at Fort Lewis)	

Electives.....	41-42
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

**The Business Option:**

*Credits*

General Studies.....	44
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**Mathematics Requirements:**

Math 201 Elementary Statistics.....	3
Math 221, 222, 223 Calculus I, II, III .....	13
Math 311 Matrices and Linear Algebra .....	3
Math 360 Introduction to Operations Research	
<i>or</i>	
BA 360 Introduction to Management Science .....	3
Math 340 Computer Assisted Statistical Modeling	
<i>or</i>	
Math 401 Probability and Statistics I .....	3
Math 496 Seminar	
<i>or</i>	
Math 499 Independent Study .....	2

Total Mathematics .....	27
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**Business Requirements:**

At least 18 credits (excluding Math 360/BA 360 and BA 253), at least 9 of which are numbered over 300, taken from the areas of Accounting, Economics, and/or Business Administration .....	18
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**Auxiliary Requirements:**

CS 120 (should be taken first year at Fort Lewis), and another CS course (except CS 100).....	6
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Electives.....	33
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

**The Computer Science Option:**

General Studies.....	44
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**Mathematics Requirements:**

Math 201 Elementary Statistics.....	3
Math 221, 222 Calculus I, II.....	9
Math 305 Discrete Mathematical Structures.....	3
Math 311 Matrices and Linear Algebra.....	3
Math 320 Numerical Analysis	
<i>or</i>	

Math 360 Introduction to Operations Research .....	3
Math 496 Seminar	
<i>or</i>	
Math 499 (or CS 499) Independent Study .....	2
Total.....	23

**Computer Science Requirements:**

A total of 18 credits of CS classes (excluding CS 100), at least 12 of which must be numbered over 300.

The 18 credits must include the following:

1. Knowledge of at least two high-level languages (BASIC, FORTRAN, COBOL, PASCAL, etc.)
2. CS 310 Data Structures
3. CS 320 Assembly Language Programming
4. CS 499 or Math 499 Independent Study or Math 496 Seminar

Total.....	18-20
Electives.....	41
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

**The Junior High Teaching Option:***Credits*

General Studies.....	44
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**Mathematics Requirements:**

Math 111 Pre-Calculus.....	5
Math 201 Elementary Statistics.....	3
Math 215 Math for The Elementary School Teacher I.....	3
Math 216 Math for The Elementary School Teacher II.....	3
Math 221 Calculus I	

*or*

Math 210 Calculus for Business.....	4 or 5
Math 301 Foundations for Advanced Mathematics	

*or*

Math 305 Discrete Mathematical Structures.....	3
Math 311 Matrices and Linear Algebra	

*or*

Math 385 Algebraic Structures I.....	3
Math 315 Real Numbers and Geometry.....	3
Math 316 Topics in Number Theory .....	3
Math 325 History of Mathematics.....	3
Math 496 Seminar	

*or*

Math 499 Independent Study .....	2
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Total.....	35-36
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**Auxiliary Requirements:**

CS 120 Introduction to Programming (BASIC) (should be taken first year at Fort Lewis)..... 3

Courses for Secondary School Teaching Certification.....	37
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Electives.....	8-11
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<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>
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**The Probability and Statistics Option:**

*Credits*

General Studies.....	44
<b>Specific Mathematics &amp; Statistics and Probability Requirements:</b>	
Math 201 Elementary Statistics.....	3
Math 221, 222, 223 Calculus I, II, III .....	13
Math 327 Differential Equations .....	3
Math 340 Computer Assisted Statistical Modeling.....	3
Math 350 Design and Analysis of Experiments.....	3
Math 360 Introduction to Operations Research.....	3
Math 401, 402 Probability & Statistics I & II .....	6
Math 496 Seminar	
<i>or</i>	
Math 499 Independent Study .....	2
Total.....	36
<b>Auxiliary Requirement:</b>	
CS 120 Introduction to Programming (BASIC).....	3
<i>or</i>	
CS 150 Introduction to Programming (FORTRAN).....	3
<i>or</i>	
CS 220 Principles of Computer Science I .....	4
(should be taken first year at Fort Lewis)	
Electives.....	44-45
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

**REQUIREMENTS FOR MINORS IN MATHEMATICS, COMPUTER SCIENCE, AND PROBABILITY AND STATISTICS:**

**Mathematics:**

Calculus (Math 221, 222).....	9
Three additional mathematics courses at upper-division level. One course must emphasize the concept of proof (e.g., Math 301, 305, or 342).....	9
Total.....	18

**Computer Science:**

CS 220 Principles of Computer Science I .....	4
CS 221 Principles of Computer Science II .....	4
CS 320 Assembly Language Programming.....	3
Three additional courses: two computer science courses numbered above 300	
<i>and</i>	
A course in which computers are used in a significant manner (e.g., Math 320, 360, CS 270, or BA 420) .....	9
Total.....	20

**Probability and Statistics:**

Math 201 Elementary Statistics.....	3
CS 120 Introduction to Programming (BASIC).....	3
A minimum of 12 credits in upper-division statistics courses such as Math 340, 350, 360 and 401-402 or BA 353, BA 253 or Psych 241 may be substituted	

for Math 201. CS 150 or CS 220 may be substituted for CS 120. Upper-division courses may be substituted for lower-division requirements.

Total.....18

### **Courses**

Students wanting to enroll in a mathematics course which is a prerequisite for a previously completed course must have the written consent of the chairman of the Mathematics Department. A prerequisite course in the Mathematics Department must be completed with a grade of C- or better, or the student must have the consent of the instructor to take the course.

Math 110 ALGEBRA (3-0) 3

This course emphasizes functions and relations, starting with linear and quadratic functions and continuing to general polynomials and rational functions. Included are the basic concepts of analytic geometry and graphing, solutions of systems of equations in 2 and 3 unknowns, inequalities, exponents, and radicals. Fall and winter terms.

*Prerequisites:* two years of algebra and/or geometry, and ACT math score of at least 16, or successful completion of the Mathematics Department placement examination.

Math 111 PRE-CALCULUS (5-0) 5

This course covers logarithmic, trigonometric, and exponential functions. Conic sections, polar coordinates, and further topics in analytic geometry are included. Fall and winter terms.

*Prerequisite:* three years of algebra and geometry, or Math 110.

Math 130 MATHEMATICS FOR LIBERAL ARTS (3-0) 3

This course contains an introductory survey of a variety of topics such as: theory and history of mathematics, logic, problem solving, number theory, consumer applications, and probability. Fall and summer terms.

Math 201 ELEMENTARY STATISTICS (3-0) 3

An introduction to basic ideas in statistics, exploratory data, analysis techniques, measures of association, statistical inference, confidence intervals, sampling and sample-size procedures. Credit will be given for only one of BA 253, Math 201, or Psych 241. Fall and winter terms.

*Prerequisite:* Math 110 or consent of instructor.

Math 210 CALCULUS FOR BUSINESS (4-0) 4

An introductory linear programming and calculus course for students intending a major in the School of Business Administration. It will include such topics as limits, differential and integral calculus, sequences and series. Emphasis is on applications. Fall and winter terms.

*Prerequisite:* Math 110 or equivalent.

Math 215 MATHEMATICS FOR THE  
ELEMENTARY SCHOOL TEACHER I (3-0) 3

This is the first of two courses required of elementary education majors. The course includes sets and set operations, construction of numeration systems, the arithmetic operations, and the development of the integers. Fall and summer terms.

*Prerequisite:* elementary education major.

- Math 216 MATHEMATICS FOR THE  
ELEMENTARY SCHOOL TEACHER II (3-0) 3  
This course includes elementary number theory, construction of the rational number system, rational number arithmetic, ratios and proportions, decimals, percents, the metric system, and an introduction to the real number system. Winter and summer terms.  
*Prerequisite:* Math 215.
- Math 221 CALCULUS I (5-0) 5  
Limits, continuity, derivatives and integrals of elementary functions including polynomial, rational, logarithmic and exponential functions. Fall and winter terms.  
*Prerequisites:* Math 111 or four years of algebra, geometry and trigonometry and consent of instructor.
- Math 222 CALCULUS II (4-0) 4  
A continuation of Math 221. Differentiation and integration of trigonometric functions, techniques and applications of integration, sequences and series. Fall and winter terms.  
*Prerequisite:* Math 221.
- Math 223 CALCULUS III (4-0) 4  
Vectors and multivariable calculus with applications. Fall and winter terms.  
*Prerequisite:* Math 222.
- Math 301 FOUNDATIONS FOR ADVANCED MATHEMATICS (3-0) 3  
A study of axiomatic systems and the application of logic and set theory to various mathematical structures. This course is often taken concurrently with Math 222 or 223. Winter term.  
*Prerequisite:* Math 221.
- Math 305 DISCRETE MATHEMATICAL STRUCTURES (3-0) 3  
Sets, graphs, trees, combinatorics, probability, recursion, algorithms, with application to computer science. Fall term.  
*Prerequisites:* Math 221 and one of CS 120, CS 150 or CS 220 (CS 220 recommended) or consent of instructor.
- Math 311 MATRICES AND LINEAR ALGEBRA (3-0) 3  
Topics include matrices, determinants, similarity, eigenvalues, eigenspaces, vector spaces, linear transformations and applications. Fall term.  
*Prerequisite:* Math 221.
- Math 315 REAL NUMBERS AND GEOMETRY (3-0) 3  
Topics to include real numbers, points, space, incommensurables, limits, Cartesian product, and geometry in the Cartesian plane. Fall term of odd-numbered years.  
*Prerequisite:* Math 216.
- Math 316 TOPICS IN NUMBER THEORY (3-0) 3  
Some of the topics to be presented in this course are: modular arithmetic, finite fields, basic prime number theorems, congruences, and combinations. Winter term of even-numbered years.  
*Prerequisite:* Math 315 or 221.

**Math 320 NUMERICAL ANALYSIS (3-0) 3**

An introductory course in developing and using numerical techniques for solving problems in mathematics, the physical sciences, engineering and in other quantitative fields. Topics include approximation of functions by computable functions, zeros of functions, linear algebra and matrix calculations, and difference equations. The use of the computer will be included. Fall term of odd-numbered years.

*Prerequisites:* Math 222 and one of CS 150 or CS 220.

**Math 325 HISTORY OF MATHEMATICS (3-0) 3**

The development of selected mathematical concepts will be traced from the Greek era. The course will focus on mathematical creation as a human endeavor done within a cultural context. Fall term of even-numbered years.

*Prerequisite:* Math 111.

**Math 327 DIFFERENTIAL EQUATIONS (3-0) 3**

An introduction to ordinary differential equations. Topics will include methods of solving first order nonlinear equations, basic theory and methods of solving n-th order linear equations, including infinite series methods. Further topics will include an introduction to systems of linear ordinary differential equations and the Laplace transform. Applications will be emphasized. Winter term.

*Prerequisite:* Math 223.

**Math 340 COMPUTER-ASSISTED STATISTICAL MODELING (3-0) 3**

Will include topics such as variable classification and the choice of analysis, simple and multivariate regression, extra sum of squares principle, dummy variable, analysis of covariance, residual analysis, transformations and weighted least squares, factor analysis, and discriminant analysis. Winter term of odd-numbered years.

*Prerequisites:* Math 201 and CS 120.

**Math 342 MODERN COLLEGE GEOMETRY (3-0) 3**

A course in college geometry which includes topics in Euclidean and non-Euclidean geometries. Winter term of odd-numbered years.

*Prerequisite:* Math 301.

**Math 350 DESIGN AND ANALYSIS OF EXPERIMENTS (3-0) 3**

This course will study statistical application and analysis of experiments common to a wide range of fields. Topics include latin squares, block designs, factorial designs, response surfaces, coding, method of steepest ascent, balanced incomplete block designs, etc. Fall term of even-numbered years.

*Prerequisite:* Math 201.

**Math 360 INTRODUCTION TO OPERATIONS RESEARCH (3-0) 3**

This course will include many of the areas of operations research such as linear programming, dynamic programming, network flow problems, transportation-like problems, game theory, queuing theory and others. Winter term of odd-numbered years. (This course is the same as BA 360.)

*Prerequisites:* Math 210 or 221 and competence in a programming language.

**Math 385 ALGEBRAIC STRUCTURES I (3-0) 3**

A first course in abstract algebra which includes topics from group theory and ring theory. Applications will be discussed. Fall term of even-numbered years.

*Prerequisite:* Math 301.



Math 386 ALGEBRAIC STRUCTURES II (3-0) 3

A continuation of Math 385. Topics include ring theory and field theory. Applications will be discussed. Winter term of odd-numbered years.

*Prerequisite:* Math 385.

Math 401 PROBABILITY AND STATISTICS I (3-0) 3

This course covers topics in distribution theory, conditional probability, independence, moment generating functions, limiting distributions, estimation procedures, and hypothesis testing. Fall term of odd-numbered years.

*Prerequisites:* Math 201 and 223.

Math 402 PROBABILITY AND STATISTICS II (3-0) 3

A continuation of Math 401. Topics will include order statistics, multivariate distribution, nonparametric statistics, sufficient statistics, methods of multiple comparison, maximum likelihood procedures, and Bayesian procedures. Winter term of even-numbered years.

*Prerequisite:* Math 401.

Math 422 ADVANCED CALCULUS I (3-0) 3

Topics include structure of the real number system, elementary topology of the real numbers and of Euclidean spaces, general theory of functions emphasizing limits and continuity and resulting properties, general theory of the Riemann integral and resulting integration properties. Fall term of odd-numbered years.

*Prerequisite:* Math 301.

Math 423 ADVANCED CALCULUS II (3-0) 3

A continuation of Math 422. Topics will include the general theory of convergence, the general theory of differentiation of functions in Euclidean space, and the investigation of special integrals including the theorems of Green, Gauss, and Stokes. Winter term of even-numbered years.

*Prerequisite:* Math 422.

Math 430 COMPLEX VARIABLES (3-0) 3

This course will cover topics in complex numbers, analytic functions, elementary functions and associated mappings, integrals, series, residues and poles, and conformal mappings. Fall term of even-numbered years.

*Prerequisite:* Math 223.

Math 461 ELEMENTARY TOPOLOGY (3-0) 3

Topology of metric spaces with emphasis on the structure of the real numbers, topological spaces, separation axioms, continuous functions, homeomorphisms and topological invariants, product spaces and quotient spaces. Winter term of even-numbered years.

*Prerequisite:* Math 301 or consent of instructor.

Math 496 SEMINAR (2-0) 2

Advanced study and research in selected topics. Offered on demand.

*Prerequisites:* senior standing and consent of instructor.

Math 499 INDEPENDENT STUDY 1-3

Individual research conducted under the supervision of a faculty member. On demand.

*Prerequisite:* approval of department chairman.

## **Computer Science Courses**

**Introductory Programming Course:** Students with previous programming experience or a strong mathematical aptitude should enroll in CS 220. Other students should select one of the following: CS 120 (general programming), CS 150 (scientific programming), or CS 160 (business-oriented programming). For further information on placement, consult the department.

**CS 100 INTRODUCTION TO COMPUTERS AND THEIR APPLICATIONS (3-0) 3**

An introductory course covering basic concepts and practices in modern computing, including a survey of computers, languages, systems, applications and social impacts. Hands-on experience using word processing, spread sheet, and file management software on contemporary microcomputers is provided. Fall and winter terms.

**CS 120 INTRODUCTION TO PROGRAMMING (BASIC) (3-0) 3**

Introduction to programming using the BASIC language, problem-solving methods, algorithm development, program design, debugging, documentation, and computer solution to several problems from various disciplines. Fall and winter terms.

*Prerequisite:* Math 110 or equivalent.

**CS 150 INTRODUCTION TO PROGRAMMING (FORTRAN) (3-0) 3**

Introduction to programming using the FORTRAN language, problem-solving methods, algorithm development, program design, debugging, documentation, and computer solution to several mathematical/scientific problems. (Same as Engr 104; credit will not be given for both CS 150 and Engr 104). Fall and winter terms.

*Prerequisite:* Math 111 or equivalent.

**CS 160 INTRODUCTION TO PROGRAMMING (COBOL) (3-0) 3**

Introduction to programming using the COBOL language, problem solving methods, algorithm development, program design, debugging, documentation, and computer solution to several business-oriented problems.

*Prerequisite:* Math 110 or equivalent.

**CS 220 PRINCIPLES OF COMPUTER SCIENCE I (4-0) 4**

Introduction to programming in PASCAL, problem-solving methods, algorithm development, program design, debugging, documentation. This course is required for students who wish to pursue further study in computer science. Students who previously completed CS 240 cannot receive credit for CS 220. Fall and winter terms.

*Prerequisite:* Math 110 or equivalent.

**CS 221 PRINCIPLES OF COMPUTER SCIENCE II (4-0) 4**

Continuation of topics from CS 220. File processing and file organization. Introduction to the organization of computer systems. Team programming of projects. Students who previously completed CS 360 cannot receive credit for CS 221. Fall and winter terms.

*Prerequisite:* CS 220.

**CS 270 COMPUTER GRAPHICS (3-0) 3**

Fundamental concepts of graphical display of data. Hardware and software of graphics systems will be discussed with hands-on experience using available equipment. Techniques in two-and three-dimensional display.

*Prerequisite:* CS 220.

**CS 310 DATA STRUCTURES (3-0) 3**

Stacks, queues, lists, trees, graphs, memory management and algorithms for implementation. Algorithm design and analysis, simple data-base management systems. Students who previously completed CS 450 (which has been changed to CS 310) cannot receive credit for CS 310. Winter term.

*Prerequisite:* CS 221.

**CS 320 ASSEMBLY LANGUAGE PROGRAMMING (3-0) 3**

Computer structure, machine language, assemblers and assembly language, addressing techniques, program segmentation and linkage. Students who previously completed CS 420 (which has been changed to CS 320) cannot receive credit for CS 320. Fall term.

*Prerequisite:* CS 221.

**CS 321 COMPUTER ARCHITECTURE AND ORGANIZATION (3-0) 3**

Organization of computer systems, including characteristics of and relationships between I/O devices, processors, control units, main and auxiliary memory. Studies and comparisons among popular computing systems, including large, mini-, and micro-systems. Winter term of even-numbered years.

*Prerequisite:* CS 320 (previously numbered 420).

**CS 340 COMPARATIVE PROGRAMMING LANGUAGE (3-0) 3**

Basic notions of syntax (BNF grammars, derivation trees) and semantics (data types, control structures, parameter passing mechanisms, scope and life of variables) of programming languages. Extensive programming will be done in the languages C and LISP. Examples taken from PASCAL, FORTRAN, ALGOL, SNOBOL, AND PL1. Winter term of odd-numbered years.

*Prerequisite:* CS 221.

**CS 421 OPERATING SYSTEMS (3-0) 3**

A study of basic concepts of operating systems design, process communication and synchronization, memory management, scheduling, file management, and deadlocks. Programming assignments leading to the construction of a simple operating system. Fall term of even-numbered years.

*Prerequisites:* CS 310 and 320.

**CS 430 DATA COMMUNICATIONS (3-0) 3**

Analysis and design of distributed computing systems. Network topology, routing, flow of control, transmission, media and methods, network protocols, switching types.

*Prerequisites:* CS 310 and 320.

**CS 460 DATA BASE MANAGEMENT SYSTEMS (3-0) 3**

A composite analysis of data base concepts to include evaluation and objectives of data base management systems (DBMS): a comparison of state-of-the-art DBMS, data base implementation and the administration and control of data. Fall term of even-numbered years.

*Prerequisite:* CS 221.

**CS 499 INDEPENDENT STUDY 1-3**

Individual research conducted under the supervision of a faculty member. On demand.

*Prerequisite:* approval of department chairman.

## Modern Languages

Professor M. Federico Cano-Montenegro;  
Associate Professors Lourdes Carrasco, Deborah A. MacKeefe and Ingrid  
Ryan;  
Assistant Professor Reinaldo M. Alcazar

The Department of Modern Languages offers work in French, German, Japanese, Latin, and Spanish as an important element of a well-rounded liberal arts education. Occasionally other modern languages are taught under Special Topics. A Bachelor of Arts degree with a major in Spanish is offered (see statement under SPANISH below).

### GUIDELINES FOR GRANTING CREDIT FOR FOREIGN LANGUAGE COMPETENCE

Fort Lewis College has two methods of granting credit for foreign language competence. One method is based upon the student's satisfactory transfer of college credits from a fully accredited college or university. The second method is by appropriate examinations. A student may pass subject examinations of the College Level Examination Program (CLEP) or Advanced Placement (AP). Also, a student may challenge a foreign language course for credit through the Credit by Examination procedure, provided the challenged course is not more than one step below the student's present level. Except for transfer credits, credit will be granted for competence in a foreign language only for courses taught at Fort Lewis College.

Certain restrictions apply to the granting of credit for foreign language competence. A student enrolled in a foreign language course considerably below the student's level of competence will be denied credit for that course. For the purpose of earning a major or minor in a foreign language, a native speaker of that language will be treated the same as students with English as their first language. Speakers of a foreign language may not use that competence, acquired prior to coming to Fort Lewis College, to satisfy a general studies requirement for graduation. If the Department of Modern Languages waives a student's foreign language requirement, the student must still complete the equivalent number of credit hours.

Further information concerning foreign language competence is available through the Modern Language Department or the Records Office.

Minors are available in Spanish, French, and German for students majoring in other disciplines. A minor in Spanish, French, or German requires at least 20 credits or equivalent knowledge in the appropriate language, six credits of which must be in 300 level or above courses.

### REQUIREMENTS FOR A MINOR IN SPANISH, FRENCH, AND GERMAN:

#### Spanish:

ML 215 Intermediate Spanish I .....	3
ML 216 Intermediate Spanish II .....	3
ML 319 Advanced Spanish Conversation.....	3
ML 320 Advanced Spanish Stylistics and Composition .....	3

ML 311, 312 Survey of Spanish Literature I & II.....	6
<i>or</i>	
ML 321, 322 Survey of Hispanic American Literature I & II.....	6
Total.....	18
<b>French:</b>	
ML 147 Elementary French I.....	4
ML 148 Elementary French II.....	4
ML 247 Intermediate French I.....	3
ML 248 Intermediate French II.....	3
Courses in 300 level or above.....	6
Total.....	20
<b>German:</b>	
ML 123 Elementary German I.....	4
ML 124 Elementary German II.....	4
ML 223 Intermediate German I.....	3
ML 224 Intermediate German II.....	3
Courses in 300 level or above.....	6
Total.....	20

When planning a minor in Spanish, French, or German, students should consult with an appropriate faculty member in the Department of Modern Languages.

## **Courses**

### **FRENCH**

ML 147 ELEMENTARY FRENCH I	(4-0) 4
A course in grammar, prose composition, reading and conversation. Fall term.	
ML 147C CONVERSATION I - FRENCH	(1-0) 1
Instruction in everyday conversation. Optional.	
<i>Prerequisite:</i> students must be enrolled in ML 147 Elementary French I, or obtain consent of instructor.	
ML 148 ELEMENTARY FRENCH II	(4-0) 4
Further study of French with emphasis on reading, composition and conversation. Winter term.	
<i>Prerequisite:</i> ML 147 or consent of instructor.	
ML 148C CONVERSATION II - FRENCH	(1-0) 1
Continuation of ML 147C. Optional.	
<i>Prerequisite:</i> students must be enrolled in ML 148 Elementary French II, or obtain consent of instructor.	
ML 247 INTERMEDIATE FRENCH I	(3-0) 3
A course in second-year French with emphasis on reading and conversation. Fall term.	
<i>Prerequisite:</i> ML 148 or consent of instructor.	
ML 248 INTERMEDIATE FRENCH II	(3-0) 3
Continuation of ML 247. Winter term.	
<i>Prerequisite:</i> ML 247 or consent of instructor.	

- ML 301 ADVANCED FRENCH COMPOSITION AND CONVERSATION (3-0) 3  
Emphasis on advanced reading and conversation as well as grammar and composition.  
*Prerequisite:* ML 248 or consent of instructor.
- ML 308 TOPICS IN FRENCH LITERATURE (3-0) 3  
Topics will vary; the course may be repeated for a different topic. Offered on demand.  
*Prerequisite:* ML 248 or consent of instructor.
- ML 315 SEMINAR IN FRENCH (3-0) 3  
Advanced reading and research in selected areas of French Studies. Offered on demand.  
*Prerequisite:* ML 248 or consent of instructor.

## GERMAN

- ML 123 ELEMENTARY GERMAN I (4-0) 4  
A course in grammar, pronunciation, reading and conversation. Fall term.
- ML 123C CONVERSATION I - GERMAN (1-0) 1  
Instruction in everyday conversation. Optional.  
*Prerequisite:* students must be enrolled in ML 123 Elementary German I, or obtain consent of instructor.
- ML 124 ELEMENTARY GERMAN II (4-0) 4  
A continuation of ML 123. Winter term.  
*Prerequisite:* ML 123 or consent of instructor.
- ML 124C CONVERSATION II - GERMAN (1-0) 1  
Continuation of ML 123C. Optional.  
*Prerequisite:* students must be enrolled in ML 124 Elementary German II, or obtain consent of instructor.
- ML 223 INTERMEDIATE GERMAN I (3-0) 3  
Second-year German with emphasis on reading, composition and conversation. Fall term.  
*Prerequisite:* ML 124 or consent of instructor.
- ML 224 INTERMEDIATE GERMAN II (3-0) 3  
Continuation of ML 223. Winter term.  
*Prerequisite:* ML 223 or consent of instructor.
- ML 333 ADVANCED GERMAN COMPOSITION AND CONVERSATION (3-0) 3  
Emphasis on advanced reading and conversation as well as on grammar and composition. Fall term.  
*Prerequisite:* ML 224 or consent of instructor.
- ML 334 TOPICS IN GERMAN LITERATURE (3-0) 3  
Topics will vary; may be repeated for a different topic. Offered on demand.  
*Prerequisite:* ML 333 or consent of instructor.
- ML 335 SEMINAR IN GERMAN (3-0) 3  
Advanced reading and research in selected areas of German Studies.  
*Prerequisite:* ML 224 or consent of instructor.

### JAPANESE

- ML 135 INTRODUCTORY JAPANESE I (4-0) 4  
 An introduction to the Japanese language. Fall term.
- ML 136 INTRODUCTORY JAPANESE II (4-0) 4  
 A continuation of ML 135. Winter term.  
*Prerequisite:* ML 135 or consent of instructor.

### LATIN

- ML 109 INTRODUCTORY LATIN I (4-0) 4  
 An introduction to the Latin language. Fall term.
- ML 110 INTRODUCTORY LATIN II (4-0) 4  
 A continuation of ML 109. Winter term.  
*Prerequisite:* ML 109 or equivalent.

### SPANISH

To earn a major in Spanish, a student is required to complete the equivalent of 30 credits of coursework in the language. 100-level courses do not count toward the major. A student with previous study may be placed on the appropriate level, but will still have to complete 30 credits to earn a major in Spanish.

A student electing Spanish as a major will devise a plan of study in consultation with a member of the Spanish faculty. Students intending to acquire a teaching credential at the elementary or secondary level should consult with the appropriate chairperson in the School of Education. At the elementary level, a bilingual/bicultural concentration is offered.

Students desiring to pursue a major in Southwest Studies requiring courses in Spanish should consult with the Director, Center of Southwest Studies, and the Chairperson, Department of Modern Languages.

#### REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN SPANISH:

	<i>Credits</i>
General Studies .....	44
Specific Departmental Requirements:	
ML 215 and 216 Intermediate Spanish I and II .....	6
ML 311 and 312 Survey of Spanish Literature I and II	
or	
ML 321 and 322 Survey of Hispanic-American Literature I and II .....	6
ML 319 Advanced Spanish Conversation .....	3
ML 320 Spanish Stylistics and Advanced Composition .....	3
ML 496 Seminar in Spanish	
or	
ML 499 Independent Study in Spanish .....	3



Departmental Electives:	
9 credits to be taken from any 300- or 400-level Spanish courses.....	9
Total.....	30
Electives.....	54
TOTAL REQUIRED FOR GRADUATION.....	128

### **Courses**

ML 115 ELEMENTARY SPANISH I	(4-0) 4
A course in grammar, prose composition, reading and conversation. Fall and winter terms.	
ML 115C CONVERSATION I - SPANISH	(1-0) 1
Instruction in everyday conversation. Optional.	
<i>Prerequisite:</i> students must be enrolled in ML 115 or consent of instructor.	
ML 116 ELEMENTARY SPANISH II	(4-0) 4
A continuation of ML 115. Fall and winter terms.	
<i>Prerequisite:</i> ML 115 or consent of instructor.	
ML 116C CONVERSATION II - SPANISH	(1-0) 1
Continuation of ML 115C. Optional.	
<i>Prerequisite:</i> ML 116 or consent of instructor.	
ML 215 INTERMEDIATE SPANISH I	(3-0) 3
A course in second-year Spanish with emphasis on grammar review, reading and conversation. Fall and winter terms.	
<i>Prerequisite:</i> ML 116 or consent of instructor.	
ML 216 INTERMEDIATE SPANISH II	(3-0) 3
A continuation of ML 215. Fall and winter terms.	
<i>Prerequisite:</i> ML 215 or consent of instructor.	
ML 311 SURVEY OF SPANISH LITERATURE I	(3-0) 3
A survey of the literature of Spain from the 10th to 18th centuries. Fall term.	
<i>Prerequisite:</i> ML 216 or consent of instructor.	
ML 312 SURVEY OF SPANISH LITERATURE II	(3-0) 3
A survey of the literature of Spain from 1824 to the present. Winter term.	
<i>Prerequisite:</i> ML 311 or consent of instructor.	
ML 319 ADVANCED SPANISH CONVERSATION	(3-0) 3
Conversation based on current events and literary material. Fall term.	
<i>Prerequisite:</i> ML 216 or equivalent, or consent of instructor.	
ML 320 SPANISH STYLISTICS & ADVANCED COMPOSITION	(3-0) 3
Intensive study of the elements of style and extensive application through written and spoken exercises.	
<i>Prerequisite:</i> ML 216.	
ML 321 SURVEY OF HISPANIC AMERICAN LITERATURE I	(3-0) 3
A course in the literature of Colonial Spanish America from 1492-1824, with an emphasis on pre-Columbian literature, chronicles of discovery, travel and conquest, the 17th century poetry, roots of national literature and folklore, and literature of the Wars of Independence. Fall term.	
<i>Prerequisite:</i> ML 216.	



ML 322 SURVEY OF HISPANIC AMERICAN LITERATURE II (3-0) 3  
A course dealing with the Romanticists, Realists, Modernists, and Naturalists of the 19th century Spanish American republics. Also, the literature of the 20th century emphasizing the Mexican Revolution and contemporary Spanish American writers will be included. Winter term.

*Prerequisite:* ML 321 or consent of instructor.

ML 425 LITERATURE OF THE GOLDEN AGE IN SPAIN (3-0) 3  
Reading the masterworks of Spain's Golden Century, with emphasis on Miguel de Cervantes, writings of the Spanish mystics, and the picaresque novel. Alternate years.

*Prerequisite:* ML 312, 320 or 322, or consent of instructor.

ML 426 20TH CENTURY SPANISH LITERATURE (3-0) 3  
A course on the novels, plays, essays and poetry of 20th century Spanish authors. Emphasis on Unamuno, Baroja, Garcia Lorca, Gironella, literature of the Spanish Civil War and contemporary authors of Spain. Alternate years.

*Prerequisite:* ML 312, 320 or 322, or consent of instructor.

ML 427 HISPANIC AMERICAN NOVEL AND POETRY (3-0) 3  
A course on the novels of the Pampa, the Llanos, the Jungle, the Sierra, and the City, as well as the poetic masterworks of Spanish America. Also included are the contemporary psychological novel, the novels of social and political reform, and contemporary poetry. Alternate years.

*Prerequisite:* ML 312, 320 or 322, or consent of instructor.

ML 429 MEXICAN LITERATURE (3-0) 3  
A survey of Mexican literature with emphasis on the works of the Revolution of 1910 and contemporary Mexican authors. Alternate years.

*Prerequisite:* ML 312, 320 or 322, or consent of instructor.

ML 496 SEMINAR IN SPANISH (3-0) 3  
Advanced study and research in selected topics. Offered on demand.

*Prerequisites:* senior standing and consent of instructor.

ML 499 INDEPENDENT STUDY IN SPANISH,  
FRENCH OR GERMAN 1-3  
Individual research conducted under the supervision of a faculty member. Offered on demand.

*Prerequisites:* approval of department chairman and senior standing.

## Music

Professors Ralph A. Downey,  
Richard G. Strawn and Patricia E. Weaver;  
Associate Professors Linda S. Mack and Jan C. Roshong  
Assistant Professor Rochelle Mann

Music permeates our society and has been an integral part of all civilizations. The Fort Lewis College Music Department offers courses which allow students to explore this rich cultural heritage and to develop a deeper appreciation of the significant contribution music has made in all human endeavors. Adding to this cultural enrichment, the department also offers all students who sing or play an instrument the opportunity to perform in any of its musical ensembles.

For the student interested in majoring in music, the department offers a comprehensive curriculum with three different programs of study.

### General Music Studies Option

Designed for students interested in a liberal arts education with an emphasis in music or for those who plan to pursue graduate work in music theory or musicology.

### Music Performance Option

Designed to prepare students for a career in studio teaching or for graduate work leading to a career in music performance, studio teaching, or college teaching. The areas of specialization are Piano (A), Voice (B), Brass (C), Woodwinds (D), Percussion (E), Strings (F) and Guitar (G); within the brass, woodwind, and string areas, a specific instrument must be chosen.

### Music Education Option

Designed for students planning to teach music in the public schools or to pursue graduate work leading to a teaching position at the college level.

The Department of Music is an accredited Associate Member of the National Association of Schools of Music (NASM).

A minor in music is available for students majoring in other disciplines. Requirements for a minor in music are described on page 139.

## REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN MUSIC:

### General Music Studies Option:

	<i>All Prerequisites</i>	<i>5</i>
General Studies.....		Credits
		44
Departmental Requirements:		
Mu 103A Class Piano .....		1
Mu 126 Keyboard Harmony I .....		1
Mu 128 Harmony & Sight Singing I.....		5
Mu 129 Harmony & Sight Singing II.....		5
Mu 226 Keyboard Harmony II .....		1
Mu 228 Harmony & Sight Singing III.....		5
Mu 229 Harmony & Sight Singing IV.....		5
Mu 230 Keyboard Harmony III .....		1
Mu 250 Conducting I .....		3
Mu 331 History of Music I .....		3
Mu 332 History of Music II .....		3
Mu 350 Conducting II .....		3
Mu 420 Form & Analysis .....		3
Mu 423 Orchestration.....		3
Mu 496 Seminar		
<i>or</i>		
Mu 499 Independent Study.....		2
Total.....		44

**Major Ensemble Requirements:**

At least 6 credits from the following: Mu 105, 110, 117, 121, 305, 310, 317, 321, with a maximum of 12 credits allowable toward graduation in any combination of these courses. Students will be assigned to the appropriate major ensemble by the applied music instructor/s. At least one of the above required each trimester of residency.

Total.....6-8

**Applied Music Requirements:**

One applied course required each trimester of residency. A student may study in a variety of applied areas. A maximum of 16 credits in a single applied area is allowable toward graduation.

Total.....8

Electives.....26

TOTAL REQUIRED FOR GRADUATION.....128

Two trimesters of foreign language, either German or French, are strongly recommended.

**Music Performance Option:**

*see Piano Prof*

Credits

General Studies.....44

**Departmental Requirements:**

Mu 103A Class Piano.....1

Mu 126 Keyboard Harmony I.....1

Mu 128 Harmony & Sight Singing I.....5

Mu 129 Harmony & Sight Singing II.....5

Mu 226 Keyboard Harmony II.....1

Mu 228 Harmony & Sight Singing III.....5

Mu 229 Harmony & Sight Singing IV.....5

Mu 230 Keyboard Harmony III.....1

Mu 250 Conducting I.....3

Mu 331 History of Music I.....3

Mu 332 History of Music II.....3

Mu 350 Conducting II.....3

Mu 420 Form & Analysis.....3

Mu 423 Orchestration.....3

Mu 496 Seminar

*or*

Mu 499 Independent Study.....2

Total.....44

**Major Ensemble Requirement:**

At least 6 credits from the following: Mu 105, 110, 117, 121, 305, 310, 317, 321, with a maximum of 12 credits allowable toward graduation in any combination of these courses. Students will be assigned to the appropriate major ensemble by the applied music instructor/s. At least one of the above required each trimester of residency.

Total.....6-8

## Applied Music Requirements:

Mu 109/209 .....	4
Mu 409 .....	8

One applied course required each trimester of residency. After declaring the Music Performance Option, students must obtain music faculty approval and register for 2 credits of applied music on their major instrument each trimester of residency. A maximum of 16 credits in a single applied music area is allowable toward graduation.

Total.....12

## Additional Requirements:

The piano specialization requires Piano Symposium, Mu 121/321, each trimester of residency.

The voice specialization requires three trimesters of German or French, including at least one trimester of each language. For other areas of specialization, two trimesters of foreign language, either German or French, are strongly recommended.

Students must present a half recital of at least 30 minutes duration during the junior year and a full recital of at least one hour duration during the senior year.

Electives.....22

TOTAL REQUIRED FOR GRADUATION.....128

## Music Education Option:

The required classes are in compliance with the Teacher Certification Act of 1975, which outlines three areas of specialization: General Music, Instrumental Music, and Choral Music. Those who elect piano as their primary applied area and who do not have a secondary instrumental area should select the choral music specialization.

General Studies.....44

## Departmental Requirements:

Mu 103A Class Piano .....	1
Mu 103B Voice in Class .....	1
Mu 103C Brass in Class .....	1
Mu 103D Woodwinds in Class.....	1
Mu 103E Percussion in Class .....	1
Mu 103F Strings in Class .....	1
Mu 126 Keyboard Harmony I.....	1
Mu 128 Harmony & Sight Singing I.....	5
Mu 129 Harmony & Sight Singing II.....	5
Mu 226 Keyboard Harmony II .....	1
Mu 228 Harmony & Sight Singing III.....	5
Mu 229 Harmony & Sight Singing IV.....	5
Mu 230 Keyboard Harmony III .....	1
Mu 250 Conducting I .....	3
Mu 314 Methods and Principles of Teaching Vocal Music .....	8
Mu 315 Methods & Principles of Teaching Instrumental Music .....	3
Mu 331 History of Music I .....	3

Mu 332 History of Music II .....	3
Mu 350 Conducting II .....	3
Mu 420 Form & Analysis .....	3
Mu 423 Orchestration.....	3
Mu 496 Seminar	
<i>or</i>	
Mu 499 Independent Study.....	2
Total.....	55

## Major Ensemble Requirement:

At least 6 credits from the following: Mu 105, 110, 117, 121, 305, 310, 317, 321, with a maximum of 12 credits allowable toward graduation in any combination of these courses. Students will be assigned to the appropriate major ensemble by the applied music instructor/s. At least one of the above required each trimester of residency except during the trimester of student teaching. Mu 110, 117, 310, or 317 is recommended for the instrumental specialization, and Mu 105 or 305 for the choral specialization.

Total.....6-8

## Applied Music Requirement:

One applied course is required each trimester of residency except during the trimester of student teaching. A maximum of 16 credits in a single applied music area is allowable toward graduation.

Total.....7

## Additional Requirements:

Students must complete all courses required for teacher certification. Consult the Teacher Education Department for specific requirements.

MINIMUM REQUIRED FOR GRADUATION..... 128

## Piano Proficiency Requirement

*all* All music majors must satisfy a piano proficiency requirement prior to graduation. The requirement includes sight-reading, harmonization at sight of a simple melody, two-octave major and all minor scale forms, and the performance of a memorized composition of at least two pages in length from the traditional piano repertoire. Students may petition for a special Piano Proficiency examination and receive credit for the appropriate piano and keyboard classes. (See Credit For Prior Work - Credit by Examination, page 16). Registration for the appropriate keyboard instruction (MU 103A, MU 109A, MU 126, MU 226, MU 230) is mandatory until the Piano Proficiency examination is passed. Successful completion, with a grade of C or higher, of MU 126, MU 226 and MU 230 (Keyboard Harmony I, II and III) also satisfies the Piano Proficiency Requirement.

## REQUIREMENTS FOR A MINOR IN MUSIC:

1. A minimum of 18 credits of music with at least six credits in upper-division courses.

2. A core curriculum which includes:
 

Mu 101 The Musical Experience.....	3
Mu 120 Fundamentals of Music.....	3
Mu 331 or 332 Music History I or II.....	3
3. All other courses in the music curriculum could be applied toward the minor except Mu 314, 315 and 316. All applied music and large and small ensemble credit can be included in the music minor.
4. In most instances students are allowed to self-construct a minor in music after satisfying the above core curriculum.

Interested students should consult the department chairperson.

### Courses

#### Mu 101 THE MUSICAL EXPERIENCE (3-0) 3

A course in music appreciation designed for the general student. The intent of the course is to prepare students for informed and active listening experiences. Fall and winter terms.

#### Mu 103 INSTRUMENTAL, VOCAL AND PIANO CLASS INSTRUCTION (A,B,C,D,E,F) (0-2) 1

These classes are all designed to provide the student with the basic elements and techniques of performance in each of the media. Piano Class (Mu 103A), Section 1, is specifically designed for the music major lacking piano proficiency. Section 2 is specifically designed for the general student. A and B are offered fall and winter terms; C, D, E, & F are offered alternate years.

*Prerequisite:* consent of instructor.

#### Mu 105 CONCERT CHOIR (0-3) 1

Thorough study and performance each trimester of larger choral compositions. Open to all students. Course is repeatable. Fall and winter terms.

#### Mu 106 CHAMBER SINGERS (0-2) 1

An ensemble specializing in the performance of small scale choral works. By audition only. A maximum of 2 credits in Mu 106/306 is allowable toward graduation. Fall and winter terms.

#### Mu 107 SPECIAL CHOIRS (0-2)

Requests for developing special choirs will be considered, upon written request to the Department of Music, as adjuncts to any on-campus organization. Under competent, organized supervision these choirs may function and receive 1 credit during any one term. Open to all students. Course is repeatable. Fall and winter terms.

#### Mu 109 APPLIED MUSIC (A,B,C,D,E,F,G) (0-5) 1

Individual instruction scheduled, at the discretion of the instructor, either privately or in a small class. Piano students must complete Piano Class II (Mu 203A) or possess equivalent proficiency before registering for applied lessons. Voice students with no prior training must complete Voice Class (Mu 103B). No student may register for more than two different applied lessons during any one trimester. Course is open to all students. Course is repeatable for a maximum of 4 credits.

- Mu 110 BAND** (0-3) 1  
 Designed to provide every student who plays a musical instrument the opportunity to pursue his or her musical interests. A variety of musical literature will be provided as well as the opportunity to perform in concert both on campus and on tour. Open to all students. Course is repeatable. Fall and winter terms.
- Mu 111 BRASS ENSEMBLE** (0-2) 1  
 A survey, through performance, of the literature written for this medium. Literature from the baroque period through the contemporary period will be studied and performed. A maximum of 2 credits in Mu 111/311 is allowable toward graduation. Fall and winter terms.  
*Prerequisite:* consent of instructor.
- Mu 112 WOODWIND ENSEMBLE** (0-2) 1  
 A survey, through performance, of the literature composed for woodwind instruments from the Renaissance through avant-garde schools of composition and including the use of ancient instruments where applicable. A maximum of 2 credits in Mu 112/312 is allowable toward graduation. Fall and winter terms.  
*Prerequisite:* consent of instructor.
- Mu 113 STRING ENSEMBLE** (0-2) 1  
 A survey, through performance, of the literature written for this medium. Literature from the baroque period through the contemporary period will be studied and performed. A maximum of 2 credits in Mu 113/313 is allowable toward graduation. Fall and winter terms.  
*Prerequisite:* consent of instructor.
- Mu 116 ACCOMPANYING** (0-2) 1  
 A course designed to provide ensemble and accompanying experience for piano students.  
*Prerequisite:* consent of piano instructor.
- Mu 117 SYMPHONY ORCHESTRA** (0-3) 1  
 Offered in conjunction with the San Juan Symphony Orchestra at no extra fee. This course provides an opportunity for the study and performance of major orchestral works. Two hours of rehearsal are held on Tuesday evenings and the third is arranged at the convenience of the instructor and students. Open to all string students; wind and percussion students by audition only. Course is repeatable. Fall and winter terms.
- Mu 118 PERCUSSION ENSEMBLE** (0-2) 1  
 A survey, through performance, of the literature written for this medium. A maximum of 2 credits in Mu 118/318 is allowable toward graduation. Fall and winter terms.  
*Prerequisite:* consent of instructor.
- Mu 119 JAZZ ENSEMBLE** (0-2) 1  
 A survey, through performance, of the literature written for this medium. A maximum of 2 credits in Mu 119/319 is allowable toward graduation. Fall and winter terms.  
*Prerequisite:* consent of instructor.
- Mu 120 FUNDAMENTALS OF MUSIC** (3-0) 3  
 Open to all students. A course in musical literacy intended to help laymen acquire the basic skills necessary to participate fully in musical activities. No prior musical background is assumed. Fall and winter terms.

Mu 121 PIANO SYMPOSIUM (0-2) 1  
A performing lab designed to accompany Applied Piano, and mandatory concurrently for any student registered in that course (Mu 109 and 209). Piano Symposium is open to all students. The course is repeatable. Fall and winter terms.

Mu 122 VOCAL SYMPOSIUM (0-2) 1  
A performing lab designed to accompany Applied Voice. Students will have the opportunity to perform on a weekly basis for their peers and the instructor. Mandatory for all registered applied voice students. Open to all students. The course is repeatable. Fall and winter terms.

Mu 126 KEYBOARD HARMONY I (0-2) 1  
Piano lab concurrent with Harmony and Sight-Singing II and mandatory for students enrolled in that course. Emphases include all major and harmonic minor scales, triads and triadic progressions, and sight-reading. Successful completion, with a grade of C or higher, satisfies Part I of the Piano Proficiency Requirement. Winter term.

*Prerequisite:* Mu 103A or consent of instructor.

Mu 128 HARMONY AND SIGHT-SINGING I (5-0) 5  
The study of basic four-part vocal writing in the 18th and 19th centuries. Emphases include major and minor modes, triads constructed within these modes, voice leading techniques, and the realization of figures basses. Related practices in sight-singing, rhythmic dictation and melodic dictation will supplement written exercises. Fall term.

Mu 129 HARMONY AND SIGHT-SINGING II (5-0) 5  
Continuation of Harmony and Sight-Singing I. Four-part writing expanded to include nonharmonic tones, dominant sevenths, secondary dominants, and diatonic modulations. Winter term.

*Prerequisite:* Mu 128.

Mu 203A INTERMEDIATE PIANO CLASS INSTRUCTION (0-2) 1  
Continuation of Mu 103A, Section 2. Emphasis is on developing basic techniques and performance skills. Prepares students for Applied Piano (Mu 109).

*Prerequisite:* Mu 103A or consent of instructor.

Mu 207 PRACTICUM - ELEMENTARY COMPOSITION (0-2) 1  
Individual instruction in composition scheduled, at the discretion of the instructor, either privately or in a small class. Students will work independently on assigned projects intended to explore a wide variety of compositional mediums and techniques. Course is repeatable for a maximum of 4 credits.

*Prerequisite:* consent of instructor.

Mu 209 CONCENTRATED APPLIED MUSIC (A,B,C,D,E,F) (0-1) 2  
Like Mu 109, except students will receive longer lessons in proportion to the amount of time spent in preparation. Students must audition for and receive music faculty approval before registering for this course. Principally for music performance majors and others preparing recitals. Course is repeatable for a maximum of 8 credits.

*Prerequisites:* audition and consent of instructor.



Mu 226 KEYBOARD HARMONY II (0-2) 1  
Piano Lab concurrent with Harmony and Sight-Singing III and mandatory for students enrolled in that course. Chord progressions utilizing secondary dominants and modulations, sight-reading, harmonic analysis. Successful completion, with a grade of C or higher, satisfies Part II of the Piano Proficiency Requirement. Fall term.

*Prerequisite:* Mu 126.

Mu 228 HARMONY AND SIGHT-SINGING III (5-0) 5  
Continuation of Harmony and Sight-Singing II. Harmonic analysis, diminished seventh chords, dominant ninths in all forms, and nondominant seventh chords. Fall term.

*Prerequisites:* Mu 126 and 129.

Mu 229 HARMONY AND SIGHT-SINGING IV (5-0) 5  
Continuation of Harmony and Sight-Singing III. Modulating and nonmodulating sequences, chromatically altered chords, and the expanded tonal language of the late 19th century. Winter term.

*Prerequisites:* Mu 226 and 228.

Mu 230 KEYBOARD HARMONY III (0-2) 1  
Piano Lab concurrent with Harmony and Sight-Singing IV and mandatory for students enrolled in that course. Compositional techniques for keyboard, free composition, memorization, sight-reading. Successful completion, with a grade of C or higher, satisfies Part III of the Piano Proficiency Requirement. Winter Term.

*Prerequisite:* Mu 226.

Mu 250 CONDUCTING I (3-0) 3  
A course in basic instrumental and choral conducting including baton technique, score reading, and various cuing and rhythmic aspects concerned with ensemble control. Fall term of alternate years.

Mu 300 VOCAL ENSEMBLE (0-2) 1  
A survey, through performance, of the literature for vocal ensemble. A maximum of 2 credits allowable toward graduation. Fall and winter terms.

*Prerequisite:* consent of instructor.

Mu 305 CONCERT CHOIR (0-3) 1  
Thorough study and performance of larger choral compositions. Students are expected to take responsible roles in the ensemble such as: soloists, section leaders, conductors/managers, or accompanists. Course is repeatable. Open to all students. Fall and winter terms.

Mu 306 CHAMBER SINGERS (0-2) 1  
An ensemble specializing in the performance of small scale choral works. Students are expected to take responsible roles in the ensemble such as: soloists, section leaders, conductors/managers, or accompanists. A maximum of 2 credits in Mu 106/306 is allowable toward graduation. By audition only. Fall and winter terms.

Mu 308 INTERMEDIATE APPLIED MUSIC (A,B,C,D,E,F) (0-.5) 1

Like Mu 109, except students must demonstrate the ability to perform technique and literature of intermediate difficulty. Course is repeatable for a maximum of 4 credits.

*Prerequisite:* consent of instructor.

Mu 309 ADVANCED APPLIED MUSIC (A,B,C,D,E,F) (0-5) 1  
Like Mu 308, except students must demonstrate advanced proficiency. Students must audition for and receive music faculty approval before registering for this course. Course is repeatable for a maximum of 4 credits.

*Prerequisites:* audition and consent of instructor.

Mu 310 BAND (0-3) 1  
Designed to provide every student who plays a musical instrument the opportunity to pursue his/her musical interests. A variety of musical literature will be provided as well as the opportunity to perform in concert both on campus and on tour. Students are expected to take responsible roles in the ensemble such as: soloists, section leaders, or conductors/managers. Course is repeatable. Fall and winter terms.

Mu 311 BRASS ENSEMBLE (0-2) 1  
A survey, through performance, of the literature written for this medium. Literature from the baroque period through the contemporary period will be studied and performed. Students are expected to take responsible roles in the ensemble such as: soloists, section leaders, or conductors/managers. A maximum of 2 credits in Mu 111/311 is allowable toward graduation. Fall and winter terms.

*Prerequisite:* consent of instructor.

Mu 312 WOODWIND ENSEMBLE (0-2) 1  
A survey, through performance, of the literature composed for woodwind instruments from the Renaissance through avant-garde schools of composition and including the use of ancient instruments where applicable. Students are expected to take responsible roles in the ensemble such as: soloists, section leaders, or conductors/managers. A maximum of 2 credits in Mu 112/312 is allowable toward graduation. Fall and winter terms.

*Prerequisite:* consent of instructor.

Mu 313 STRING ENSEMBLE (0-2) 1  
A survey, through performance, of the literature written for this medium. Literature from the baroque period through the contemporary period will be studied and performed. Students are expected to take responsible roles in the ensemble such as: soloists, section leaders, or conductors/managers. A maximum of 2 credits in Mu 113/313 is allowable toward graduation. Fall and winter terms.

*Prerequisite:* consent of instructor.

Mu 314 METHODS AND PRINCIPLES  
OF TEACHING VOCAL MUSIC (3-0) 3  
A course designed to provide music majors with contemporary teaching skills and techniques in teaching vocal music in the public schools in grades K-12. The Kodaly and Orff methods coupled with a pragmatic approach will be used. Fall term of alternate years.

Mu 315 METHODS AND PRINCIPLES  
OF TEACHING INSTRUMENTAL MUSIC (3-0) 3  
A course designed to provide music majors with contemporary teaching skills and techniques in the teaching of instrumental music in the public schools. Fall term of alternate years.

Mu 316 MUSIC IN THE ELEMENTARY SCHOOL (3-0) 3  
A music class for training elementary classroom teachers. A study of basic music and basic music teaching. A correlation is made with the music indigenous to the cultures of the Southwest. Winter term and one summer session.

- Mu 317 SYMPHONY ORCHESTRA (0-3) 1  
Offered in conjunction with the San Juan Symphony Orchestra at no extra fee. This course provides an opportunity for the study and performance of major orchestral works. Two hours of rehearsal are held on Tuesday evenings and the third is arranged at the convenience of the instructor and students. All string students are invited; wind and percussion students by audition only. Students are expected to take responsible roles in the ensemble such as: soloists, section leaders, or conductors/managers. Course is repeatable. Fall and winter terms.
- 318 PERCUSSION ENSEMBLE (0-2) 1  
A survey, through performance, of the literature written for this medium. Students are expected to take responsible roles in the ensemble such as: soloists, section leaders, or conductors/managers. A maximum of 2 credits in Mu 118/318 is allowable toward graduation. Fall and winter terms.  
*Prerequisite:* consent of instructor.
- Mu 319 JAZZ ENSEMBLE (0-2) 1  
A survey, through performance, of the literature written for this medium. Students are expected to take responsible roles in the ensemble such as: soloists, section leaders, or conductors/managers. A maximum of 2 credits in Mu 119/319 is allowable toward graduation. Fall and winter terms.  
*Prerequisite:* consent of instructor.
- Mu 321 PIANO SYMPOSIUM (0-2) 1  
A performing lab designed to accompany Applied Piano and mandatory concurrently for any student registered in that course (Mu 308, 390A, and 409). Students will be expected to present solo recitals from the advanced literature. Open to all students. The course is repeatable. Fall and winter terms.
- Mu 322 VOCAL SYMPOSIUM (0-2) 1  
A performance lab designed to complement Applied Voice. Students will have the opportunity to perform on a weekly basis for their peers and the instructor. Mandatory for all registered applied vocal students. On this level students will be expected to perform more advanced vocal literature. Open to all students. The course is repeatable. Fall and winter terms.
- Mu 328 16TH CENTURY COUNTERPOINT (2-0) 2  
A course designed to familiarize students with contrapuntal techniques used by Renaissance composers through written exercises and analysis of representative works.  
*Prerequisite:* Mu 229 or consent of instructor.
- Mu 331 MUSIC HISTORY I (3-0) 3  
Study of the history of music from classical antiquity to 1750. Fall term of alternate years.
- Mu 332 MUSIC HISTORY II (3-0) 3  
Study of the history of music from 1750 through 1900. Winter term of alternate years.
- Mu 333 20TH CENTURY MUSIC (2-0) 2  
A survey of styles and techniques of contemporary composers, including analysis of representative works.  
*Prerequisite:* Mu 229 or consent of instructor.

Mu 337 SURVEY OF NON-WESTERN MUSIC (3-0) 3  
 This course is designed to acquaint students with the vast amount of music from non-western cultures. Topics include the music of Africa, India, China, Japan, Southeast Asia, South America, and the American Indians.

Mu 350 CONDUCTING II (3-0) 3  
 Continuation of Conducting I. Conducting techniques in addition to directing larger musical scores and advanced techniques. Winter term of alternate years.  
*Prerequisite:* Mu 250.

Mu 407 PRACTICUM - ADVANCED COMPOSITION (0-4) 2  
 Like Mu 207, except students must demonstrate advanced proficiency. Students must receive faculty approval before registering for this course. Course is repeatable for a maximum of 8 credits.  
*Prerequisites:* music faculty approval and consent of instructor.

Mu 409 ADVANCED CONCENTRATED APPLIED MUSIC (A,B,C,D,E,F) (0-1) 2  
 Like Mu 209, except students must demonstrate advanced proficiency. Students must audition for and receive music faculty approval before registering for this course. Course is repeatable for a maximum of 8 credits.  
*Prerequisites:* audition and consent of instructor.

Mu 420 FORM AND ANALYSIS (3-0) 3  
 A course designed to introduce students to basic formal structures and to develop analytical skills. Topics will include motives, phrases, binary and ternary design, theme and variations, rondo form, and sonata form. Winter term of alternate years.  
*Prerequisite:* Mu 229 or consent of instructor.

Mu 423 ORCHESTRATION (3-0) 3  
 A course designed to equip music majors with the skills and techniques of arranging for instrumental ensembles. Fall term of alternate years.  
*Prerequisite:* Mu 229 or consent of instructor.

Mu 424 COMPOSITION (2-0) 2  
 This seminar will explore ideas, problems and possible solutions encountered by students working individually in a creative medium.  
*Prerequisite:* Mu 229 or consent of instructor.

Mu 429 18TH CENTURY COUNTERPOINT (2-0) 2  
 Examination of contrapuntal techniques used by baroque composers, concentrating especially on the inventions and fugues of J.S. Bach.  
*Prerequisite:* Mu 229 or consent of instructor.

Mu 496 SEMINAR (2-0) 2  
 Advanced study and research in selected topics. The student will prepare and submit a senior project approved by the area instructor and the department chairman.  
*Prerequisites:* senior standing and consent of instructor.

Mu 499 INDEPENDENT STUDY 1-3  
 Individual research conducted under the supervision of a faculty member. Offered on demand.  
*Prerequisites:* approval of instructor and department chairman.

The following courses are offered periodically under the title *Special Topics 190 or 390: Care and Repair of Wind and Percussion Instruments, Chamber Music Literature, Symphonic Literature, Introduction to Opera, Vocal Literature, Choral Literature, Psychology of Music, Electronic Music, History and Performance of Jazz, and Marching Techniques.*

## Philosophy

Professor William Coe;  
Professor Emeritus Paul W. Pixler;  
Assistant Professor Reyes García

The study of philosophy at Fort Lewis College has as its purpose the study of traditional and contemporary philosophical issues and positions for their intrinsic interest, and also the demonstration that man's age-old but continuing attempts to understand himself and his relation to the world are important to all of us. It is the mark of the liberally educated person to understand the conclusions of the various specialized sciences in terms of their basic assumptions, to have thought seriously about the nature of such assumptions, and to be aware of the way in which our views of reality are influenced by the very structures of our language. Perhaps the most important function of philosophy as a part of liberal education is the destruction — or at least the recognition — of the provincialism and complacency of much of our thinking. Philosophy is a necessary part of self-knowledge.

Those students desiring a concentration in philosophy should either choose the philosophy option of the humanities major or construct their own majors. For these students, as well as for those minoring in philosophy or taking several courses as electives, the program is designed to provide a systematic acquaintance with man's attempts to know himself and a concomitant basis from which the student can formulate his or her own view of man and the world. For details about the philosophy option of the humanities major or the student-constructed major, see the relevant sections of this catalog or consult any member of the philosophy faculty.

A minor in philosophy is available for students majoring in other disciplines. Requirements for a minor in philosophy are described below.

Two of the following three courses:

- Phil 141 Problems of Philosophy
- Phil 274 Philosophical Foundations:Early
- Phil 275 Philosophical Foundations:Modern

Total.....	6
Phil 251 Ethics.....	3
Phil 271 Logic.....	3
At least two other philosophy courses numbered 300 or above.....	6
Total.....	18

### Courses

Phil 141 PROBLEMS OF PHILOSOPHY (3-0) 3  
A broad selection of philosophical problems is presented through representative readings from the history of philosophy. Problems included are: free will vs. determinism, the nature and relationship of mind and body; the possibility of proving that God exists, the nature of morality, and the nature of knowledge and its relation to experience. Fall and winter terms.

Phil 171 CONTEMPORARY MORAL ISSUES (3-0) 3  
An examination of the relation between different ethical points of view and the handling of the personal, social, political, ecological, and global problems of today. On demand.

Phil 251 ETHICS (3-0) 3  
This course reviews broadly the history, from Plato to modern theory, of man's systematic attempts to identify morality and to establish standards for making and assessing moral judgments. Winter term.

Phil 261 PHILOSOPHY OF RELIGION (3-0) 3  
A detailed survey of philosophical approaches to problems raised by religion. Readings are selected from sources representing widely differing points of view. Fall term.

Phil 271 LOGIC (3-0) 3  
A broad treatment of different methods of assessing the validity of deductive and inductive arguments. The course covers syllogistic logic, elementary truth-functional logic, quantification, and a brief discussion of inductive logic. Fall and winter terms.

Phil 274 PHILOSOPHIC FOUNDATIONS: EARLY (3-0) 3  
An examination of the history of philosophy from the origins of scientific thinking in Asia Minor through the synthesis of Christianity and Greek philosophy in the thought of St. Augustine and the medieval scholastics. A major emphasis of the course will be the systems of Plato and Aristotle, which contain many of the roots of modern thought. This course is a suitable beginning course in philosophy. Fall term.

Phil 275 PHILOSOPHIC FOUNDATIONS: MODERN (3-0) 3  
An examination of the history of philosophy from the Renaissance through the 20th century. Schools of thought like Continental Rationalism and British Empiricism are studied not only on their own terms but in terms of their relationship to the Kantian synthesis. The Kantian philosophy, in turn and together with much 19th century thought, is shown to be a necessary background for understanding the major philosophical issues of the 20th century. Winter term.

Phil 321 WORLD RELIGIONS (3-0) 3  
A study of the nature and history of the major contemporary religions of the East and the West. Winter term.

Phil 328 PHILOSOPHY OF SCIENCE (3-0) 3  
An examination of the field, structure, methodology, and spirit of science covering such topics as measurement, probability, theory, verification, and relations to other fields. Fall term.

Phil 351 CONTEMPORARY PHILOSOPHICAL ISSUES (3-0) 3  
An examination of trends and issues in 20th century philosophy. Topics may vary, but will be selected from pragmatism, process philosophy, logical positivism, ordinary language analysis, phenomenology, existentialism, Marxism, structuralism, and deconstructionism. Winter term.

*Prerequisite:* 3 credits of philosophy other than Phil 271 or consent of instructor.

- Phil 371 THEORIES OF HUMAN NATURE (3-0) 3  
An examination not only of various theories of the nature of human beings and the meaning of human existence, but also of how presuppositions about human nature underlie theories in other fields. Winter term.
- Phil 381 THEORIES OF REALITY (3-0) 3  
An examination of traditional and contemporary attempts to understand the nature of reality. Alternate fall terms.
- Phil 451 STUDIES IN GREAT PHILOSOPHERS (3-0) 3  
An examination in depth of the writings of a major philosopher such as Plato, Aristotle, Kant, Marx, Heidegger, or Sartre. Alternate fall terms.  
*Prerequisite:* 3 credits in philosophy other than Phil 271 or consent of instructor.
- Phil 496 SEMINAR (3-0) 3  
Advanced study and research in selected topics. Offered on demand.  
*Prerequisite:* senior standing or consent of instructor.
- Phil 499 INDEPENDENT STUDY 1-3  
Individual research is conducted under the supervision of a faculty member. Offered on demand.  
*Prerequisite:* approval of instructor.

## Physical Science

Professors Robert N. Likes, and Tom D. Norton;  
Associate Professor James Costello

The physical science major provides excellent training in the physical sciences within the broad context of a liberal arts curriculum. The program offers a concentration of courses in which the student takes at least 20 credits in one of the three physical sciences (chemistry, geology, physics), three courses in a second physical science, and two courses in the third science.

The program is designed for students who intend to teach more than one science at the secondary school level or to do advanced work in physical science, earth science, or possibly one of the major fields of physical science. Others may wish to use the program as a means of preparing for work as a science technician, or as a basis for continued training toward a career in medicine or dentistry. Any student planning a career in secondary education should consult the School of Education section of this catalog for specific certification requirements.

### REQUIREMENTS FOR A BACHELOR OF SCIENCE DEGREE WITH A MAJOR IN PHYSICAL SCIENCE:

	<i>Credits</i>
General Studies (not satisfied below) .....	34
General Requirements:	
Chem 150-151 Fundamentals of Chemistry .....	11
Geol 113 Physical Geology and	
Geol 114 Historical Geology .....	8
Mathematics through Math 223 (General Studies, Group B) ...	13

Physics (3 courses, preferably Phys 162, 262, and 263 Physics for Science and Engineering).....	9
Physics 211, 212 Introductory Physics Laboratories .....	2
Senior Seminar	
<i>or</i>	
Independent Study in area of concentration.....	2
Total.....	45
Additional Requirements depending on concentration selected: (Choose the courses in <i>one</i> of the sciences listed below; with the courses listed above as General Requirements these courses will complete the required 20 credits concentration.)	
Chem 231 Organic Chemistry; Chem 358 Physical Chemistry; and one other course numbered above 231 .....	12-14
<i>or</i>	
Geol 207 Mineralogy; Geol 210 Petrology; and two upper-division geology electives .....	12-13
<i>or</i>	
Physics — three courses numbered above 263 (excluding Physics 299, 499).....	10-14
Choose one additional course in either science not selected as the major concentration above. This will serve as the necessary third course in a second physical science .....	3-5
Total.....	13-19
Electives.....	30-36
TOTAL REQUIRED FOR GRADUATION.....	128

### Courses

- Phy Sc 100 PHYSICAL SCIENCE LABORATORY (0-2) 1  
Work covers experiments in the fields of physics, chemistry, meteorology, geology, and astronomy. Laboratory techniques and scientific processes are emphasized. Fall and winter terms.
- Phy Sc 105 THE PHYSICAL SCIENCES (3-0) 3  
History, processes, and methods of science. Study is made of the development of some of the most important concepts of science, modern developments, problems in science, and problems from science. Fall and winter terms.
- Phy Sc 200 INTRODUCTORY ASTRONOMY LABORATORY (0-2) 1  
Work is aimed toward a greater appreciation of the universe through selected observational laboratory experiments in astronomy. Fall and winter terms.  
*Prerequisite:* Psy Sc 205 taken concurrently.
- Phy Sc 205 INTRODUCTORY ASTRONOMY FOR THE LIBERAL ARTS (3-0) 3  
A course designed for students interested in elementary astronomy. A survey of modern observations of astronomy including the moon, planets, stars and their formations. A short history of astronomy is also included. Fall and winter terms.



## Physics

Professors Robert N. Likes, and Tom D. Norton;  
Associate Professor James Costello

The Bachelor of Science degree in Physics is designed to allow students to attain their professional goal of entering graduate work in physics or astrophysics; to obtain technical positions in industry in such areas as energy science, engineering, and electronics; or to obtain preparation for secondary certification in teaching physics in public schools. The geologist, engineer, chemist, and biologist all deal with matter and energy in their various forms. Since physicists probe the physical laws underlying all physical processes, the study of physics becomes the cornerstone for all the natural sciences.

The physics curriculum is predicated upon the role physicists play in a modern, technological world society that is currently experiencing shortages of trained personnel in various scientific areas and in science education. Coursework in physics will provide the student pursuing entrance to graduate school in physics or astronomy with a strong grounding in mathematics and physics, while being immersed in an atmosphere of a broad, liberal education in the humanities and social sciences. This curriculum will also enable a student to enter applied technical fields in industry such as electronics, optics and aerospace, where there is currently a high demand. Students seeking a degree in physics should consult early in their college career with staff members of the Physics Department.

A minor in physics is available for students majoring in other disciplines. Requirements for a minor in physics are described on page 152.

### REQUIREMENTS FOR A BACHELOR OF SCIENCE DEGREE IN PHYSICS:

	<i>Credits</i>
General Studies (not satisfied below).....	34
Specific Departmental Requirements:	
Phys 162, 262, 263 Physics for Science & Engineering.....	9
Phys 211, 212 Physics Lab.....	2
Phys 320 Modern Physics .....	3
Phys 354 Theoretical Mechanics.....	3
Phys 361 Principles of Electricity & Magnetism.....	4
Phys 380 Advanced Lab I.....	1
Phys 381 Advanced Lab II.....	1
Phys 400 Science and Human Values.....	2
Phys 420 Introductory Quantum Mechanics I.....	3
Phys 496 Seminar	
<i>or</i>	
Phys 499 Independent Study.....	2
Total.....	30
Additional Departmental Requirements:	
Additional physics courses numbered above 300 to be chosen from:	
Phys 301 Introduction to Electronics.....	3
Phys 340 Optics.....	4

Phys 370 Heat and Thermodynamics .....	3
Phys 421 Quantum Mechanics II.....	3
Phys 454 Advanced Topics in Physics.....	1-4
Total Required .....	6
Auxiliary Requirements from Other Departments:	
Chem 150, 151 General Chemistry.....	11
Math 221, 222, 223 Calculus I, II, III .....	13
Math 327 Differential Equations .....	3
Engr 104 Computer Programming for Scientists & Engineers...	3
Engr 201 Electric Networks .....	4
Engr 202 Electric Networks II* .....	3
Math 311 Matrices and Linear Algebra	
<i>or</i>	
Math 320 Numerical Analysis	
<i>or</i>	
Math 401 Probability and Statistics .....	3
Total.....	40-41
Electives.....	17-18
TOTAL REQUIRED FOR GRADUATION.....	128

\*Can substitute Phys 301.

#### REQUIREMENTS FOR A MINOR IN PHYSICS:

Phys 162, 262, 263 (with departmental approval Phys 132, 232, 233).....	9
Phys 211L, 212L .....	2
Phys 320 .....	3
Phys 380L or 381L .....	1
Two additional Physics courses from the following: Phys 301, 340, 354, 361, 370, 420, 421).....	6-7
Total.....	21-22

### Courses

#### Phys 132 PHYSICS (3-0) 3

An introductory course in physics covering the basic concepts of mechanics, including motion, energy, fluids, and materials. Calculus is not used. The course is intended to meet college physics requirements and also satisfy the curiosity of all students whose major interest is not in engineering, physical science or mathematics. Students who take Phys 162 will not receive credit toward graduation for Phys 132. Fall and winter terms.

*Prerequisites:* high school algebra and trigonometry.

#### Phys 162 PHYSICS FOR SCIENCE AND ENGINEERING (3-0) 3

An introductory course in physics covering the basic concepts of classical mechanics including motion, energy, fluids, and materials. Differential and integral calculus is used throughout the course. Physics 162 is required of engineering students and strongly recommended to all physical science majors. Fall and winter terms.

*Prerequisite:* Math 221, 222 should be taken concurrently.

- Phys 211 INTRODUCTION PHYSICS LABORATORY (0-2) 1  
 An introductory physics laboratory including experiments in mechanics, heat and sound. Physics 211 is required of engineering students and strongly recommended to all physical science majors. Fall term.  
*Prerequisite:* Physics 132 or 162.
- Phys 212 INTRODUCTION PHYSICS LABORATORY (0-2) 1  
 An introductory physics laboratory including experiments in optics, electricity, electronics, and magnetism. Physics 212 is required of engineering students and strongly recommended to all physical science majors. Winter term.  
*Prerequisites:* Physics 132 or 162 and 211.
- Phys 232 PHYSICS (3-0) 3  
 An introductory course in physics covering the basic concepts of heat and thermodynamics, wave motion, optics and sound. Calculus is not used. Students who take Physics 262 will not receive credit toward graduation for Physics 232. Fall term.  
*Prerequisite:* Physics 132.
- Phys 233 PHYSICS (3-0) 3  
 An introductory course in physics covering the basic concepts of electricity and magnetism and selected topics in relativity and atomic and nuclear physics. Calculus is not used. Students who take Physics 263 will not receive credit toward graduation for Physics 233. Winter term.  
*Prerequisite:* Physics 132.
- Phys 262 PHYSICS FOR SCIENCE AND ENGINEERING (3-0) 3  
 An introductory course in physics covering the basic concepts of heat and thermodynamics, wave motion, optics and sound. Physics 262 is required of engineering students and strongly recommended to all physical science majors. Fall term.  
*Prerequisites:* Physics 162 and Math 222.
- Phys 263 PHYSICS FOR SCIENCE AND ENGINEERING (3-0) 3  
 An introductory course in physics covering the basic concepts of electricity and magnetism and selected topics in relativity, atomic and nuclear physics. Physics 263 is required of engineering students and strongly recommended to all physical science majors. Winter term.  
*Prerequisites:* Physics 162 and Math 222.
- Phys 301 INTRODUCTION TO ELECTRONICS (3-0) 3  
 A survey course of the theory and design of various electronic circuits and devices used in scientific instrumentation. Students receiving credit in Engineering 203 may not receive credit for Physics 301. Winter term, alternate years.  
*Prerequisite:* Physics 263.
- Phys 320 MODERN PHYSICS (3-0) 3  
 A study in the modern theories of atomic and nuclear physics that have developed since 1900. An introduction to special relativity and elementary quantum mechanics is included. Fall term, alternate years.  
*Prerequisites:* Physics 233 or 263 and Math 222.
- Phys 340 OPTICS (3-3) 4  
 A study of classical and modern theories of geometrical and physical optics including matrix methods for optical systems, diffraction theory, and an introduction to Fourier optics. Fall term, alternate years.  
*Prerequisites:* Physics 233 or 263 and Math 222.

- Phys 354 THEORETICAL MECHANICS (3-0) 3  
The theoretical formulation of the kinematics and dynamics of particles and rigid bodies with an introduction to Lagrangian and Hamiltonian mechanics. An introduction to vector and tensor analysis is also included. Winter term, alternate years.  
*Prerequisites:* Physics 233 or 263 and Math 223.
- Phys 361 PRINCIPLES OF ELECTRICITY AND MAGNETISM (4-0) 4  
The mathematical theory of static electric and magnetic fields, time-dependent fields, and electromagnetic radiation. Offered on demand.  
*Prerequisites:* Physics 233 or 263; Math 327 taken concurrently.
- Phys 370 HEAT AND THERMODYNAMICS (3-0) 3  
A study of classical thermodynamics which includes the first and second laws of thermodynamics and their applications in energy conversion. On demand.  
*Prerequisites:* Physics 232 or 262 and Math 223.
- Phys 380 ADVANCED PHYSICS LABORATORY I (0-3) 1  
Work will stress experiments in modern physics with emphasis on electronic instrumentation and subsequent data analysis. Offered on demand.  
*Prerequisite:* Physics 320 taken concurrently or equivalent.
- Phys 381 ADVANCED PHYSICS LABORATORY II (0-3) 1  
Work will stress experiments in electricity and magnetism with emphasis on data collection and analysis. Offered on demand.  
*Prerequisite:* Physics 361 or concurrent enrollment.
- Phys 400 SCIENCE AND HUMAN VALUES (2-0) 2  
A course designed to investigate the interaction between science and the world community. The course will be conducted on a seminar basis with interdisciplinary instructors and/or invited instructors from other areas of the College. Scientific, social, and human values will be discussed. Offered on demand.  
*Prerequisite:* at least 6 credits in the natural sciences.
- Phys 420 QUANTUM MECHANICS I (3-0) 3  
An introduction to Schrodinger's formulation of wave mechanics including potential wells, harmonic oscillators, and energy and momentum operators. Offered on demand.  
*Prerequisites:* Physics 233 or 263 and Math 223.
- Phys 421 QUANTUM MECHANICS II (3-0) 3  
A continuation of the study of quantum systems via approximation techniques, theory of many electron atoms, identical particles and spin. Offered on demand.  
*Prerequisite:* Physics 420.
- Phys 454 ADVANCED TOPICS IN PHYSICS 1-4  
Advanced material in various areas of physics at the senior level. The course will treat one area of physics, such as nuclear physics, thermal physics, statistical physics, or solid state physics. Class schedules will indicate the area. Offered on demand. This course may be repeated for credit if topics are different.  
*Prerequisite:* advanced standing in physics.

Phys 496 SEMINAR (2-0) 2  
 Advanced study and research in selected topics. Offered on demand.  
*Prerequisites:* senior standing and consent of instructor.

Phys 499 INDEPENDENT STUDY 1-3  
 Individual research is conducted under the supervision of a faculty member.  
 Offered on demand.  
*Prerequisite:* consent of instructor.

## Political Science

Professors Edward L. Angus  
 and James C. Decker  
 Associate Professor Byron Dare

The study of political science is concerned with the relationship between the governed and the government, the nature of the political process and the role of the citizen in a democratic society.

The political science major provides excellent training for the person who: (1) plans a career in law, journalism, or government; (2) hopes to work abroad; (3) plans to enter graduate school and later teach or serve as an administrator at the college level; or (4) expects to enter politics, either as a candidate or as an administrative aide to a public official.

Political science course offerings are available also to the student who is majoring in another area but who wants to learn something about politics and government.

Students majoring in political science may be certified to teach in the broad area of social studies at the secondary level. To obtain requirements for teacher certification, please contact the Department of Teacher Education.

A minor in political science is available for students majoring in other disciplines. Requirements for a minor in political science are described on page 156.

### REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN POLITICAL SCIENCE:

	<i>Credits</i>
General Studies (not satisfied below) .....	32-38
Specific Departmental Requirements:	
PS 101 Introduction to Political Science .....	3
PS 110 U.S. National Government: Power and Freedom in the 20th Century .....	3
PS 386 Early Political Thought .....	3
PS 487 Modern Political Thought .....	3
PS 496 Seminar	
<i>or</i>	
PS 499 Independent Study .....	2-3
Other Departmental Requirements:	
24 additional hours in Political Science with not more than 16 credits in internships .....	24
Total .....	38-39

## Auxiliary Requirements from Other Departments:

Hist 280 Survey of United States History, 1600-1865; and Hist 281 Survey of United States History, 1865-Present (General Studies, Group C)..... 6

## Two courses in any one of the following areas:

Anthropology, Economics, Mathematics, Modern Language, Philosophy, Psychology, or Sociology (General Studies, Group A, B, C or D)..... 6-10

Total.....12-16

Electives.....35-46

TOTAL REQUIRED FOR GRADUATION..... 128

## REQUIREMENTS FOR A MINOR IN POLITICAL SCIENCE:

1. At least 18 credits in political science, exclusive of internship hours.
2. At least six of those credits must be in upper division courses.

*Courses*

PS 101 INTRODUCTION TO POLITICAL SCIENCE (3-0) 3

An introduction to the study of politics; an examination of the relationship of man and government; and a study of the nature of the state, of the forms of rule evolved from the past, and of contemporary political systems. Fall and winter terms.

PS 110 U.S. NATIONAL GOVERNMENT:  
POWER AND FREEDOM IN THE 20TH CENTURY (3-0) 3

A study of the policies, procedures, politics, and problems of the U.S. national government. Fall and winter terms.

PS 120 STATE AND LOCAL GOVERNMENT (3-0) 3

A study of the history, nature, organization, and operation of state and local government in the United States. Fall and winter terms.

PS 180 INTRODUCTION TO COMPARATIVE POLITICS (4-0) 4

A comparative study of the political systems of selected modern states, including examples of democratic, communist and developing societies. An emphasis is placed on the historical, social and economic environments as well as on political structures, participation, policymaking and evaluating the effectiveness of political action.

PS 220 U.S. PARTY AND INTEREST POLITICS (3-0) 3

An inquiry into the dynamics of political activity in the U.S. Special emphasis is given to the electorate, candidates, nominations, campaigns, election results, the declining roles of major parties, the history of third parties, campaign financing, and the roles of the news media, political action committees, political consultants, news media experts, pollsters, pressure groups, and lobbyists.

PS 241 INTRODUCTION TO CRIMINAL JUSTICE SYSTEMS (4-0) 4

The nature of crime, the role of police, attorneys, courts and corrections in our criminal justice system.

## PS 301 LOCAL GOVERNMENT INTERNSHIP 8-16

Practical half-time or full-time work at the regional, county, or municipal government level. Requires the keeping of a detailed journal and completion of a research paper on a local government topic. May be repeated once for a total of 16 credits provided that the internship is taken with different agencies. Fall, winter and summer terms, on demand.

*Prerequisites:* three courses selected from PS 101, 110, 120, 220, 241, 330 and consent of instructor.

## PS 320 INTERNATIONAL POLITICS (3-0) 3

An examination of the international struggle for power, with special emphasis on nationalism, economic objectives, armaments, multinational corporations, and the Third World. Winter term.

*Prerequisite:* PS 101.

## PS 330 PUBLIC ADMINISTRATION (3-0) 3

Role of administration in government policymaking and implementation. Course uses case study method from a variety of policy areas.

## PS 337 U.S. FOREIGN POLICY (3-0) 3

A study of the United States' foreign policy from the American Revolution to the present day, with emphasis on current policy and how it is made. Fall term.

## PS 340 CONSTITUTIONAL LAW: BILL OF RIGHTS (3-0) 3

Rights of citizens as elaborated through the Bill of Rights and Fourteenth Amendment to include freedom of speech and press, freedom of religion, privacy, discrimination and criminal rights. Recommended for political science majors and advanced general students.

PS 341 CONSTITUTIONAL LAW:  
FEDERALISM AND THE SEPARATION OF POWERS (3-0) 3

Powers and limitations of the national judiciary, congress, the presidency, war powers, and the federal relationship of national government and state governments.

## PS 350 STATE LEGISLATIVE INTERNSHIP 16

Practical, full-time work in the Colorado General Assembly as a legislative intern. Each student works for a lawmaker in either the State Senate or the State House of Representatives. Requires the keeping of a detailed journal and the completion of a research paper. Winter term.

*Prerequisites:* PS 101, 110, 120, 220 and consent of instructor.

## PS 380 SOVIET AND CHINESE POLITICAL SYSTEMS (3-0) 3

A comparative study of the development of Soviet and Chinese ideologies from the perspective of their distinct cultural histories; their specific revolutionary conditions and their different levels of economic development. A comparison of their bureaucratic and party structures and the problem of leadership succession is also considered. Winter term.

## PS 386 EARLY POLITICAL THOUGHT (3-0) 3

A study of political philosophy from the earliest times to the 17th century. Readings in the works of philosophers including Plato, Aristotle, Machiavelli, and others. Fall term.

*Prerequisite:* PS 101.

- PS 450 NATIONAL GOVERNMENT INTERNSHIP 16  
 Practical, full-time, intern work in Washington, D.C., in the national government. Requires the keeping of a detailed journal and the completion of a research paper. Winter term, on demand.  
*Prerequisites:* PS 101, 110 (120 if appropriate), 220 (330 if appropriate), and consent of instructor.
- PS 487 MODERN POLITICAL THOUGHT (3-0) 3  
 An examination of the main currents of political philosophy from the 17th century to the present. Readings in the works of philosophers including Hobbes, Locke, Rousseau, Marx, Tocqueville, and others. Winter term.  
*Prerequisite:* PS 386.
- PS 496 SEMINAR (3-0) 3  
 Advanced study and research in selected topics.  
*Prerequisites:* senior standing and consent of instructor.
- PS 499 INDEPENDENT STUDY 1-3  
 Individual research is conducted under the supervision of a faculty member. Offered on demand.  
*Prerequisite:* approval of the instructor and the department chairman.

## Sociology and Human Services

Professor Norman K. Linton;  
 Associate Professors Samuel A. Burns,  
 and Betty J. Leyerle;  
 Assistant Professor Dennis W. Lum

Sociology seeks to explore how our individual and collective biographies intersect history within society. The relationships between social structure and individual consciousness, historical processes and everyday life, and collective interests and individual prerogatives, provide the sociological substance by which we become self-conscious. It is through the study of sociology that we become aware of the meaning of our everyday lives and recognize the extent to which we participate in the construction of social formations.

The sociological task of comprehending the relationships among individuals and groups is a significant part of any student's educational experience. Extensive work in sociology is recommended for students planning careers in human services. Health services administration, family case work, community planning and development, and criminal justice work are typical human service careers. Moreover, an emphasis in sociology provides foundational preparation for graduate work in sociology, social work, public administration, law, journalism, and other fields.

The sociology and human services curriculum is organized to reflect two central concerns: theory (reflection) and practice (action). Thus, field experience, sociology practicum and participation in the Cooperative Education Program form the nucleus for off-campus experiences in applied sociology. These experiences as conventional knowledge will be critically compared with sociological theory in terms of their human relevance, viability, and consequences for moral action.

A minor in sociology and human services is available for students majoring in other disciplines. Requirements for a minor in sociology and human services are described on page 159.



REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN SOCIOLOGY AND HUMAN SERVICES:

	<i>Credits</i>
General Studies (not satisfied below).....	41
Specific Departmental Requirements:	
Soc 100 Social Issues .....	3
Soc 110 Social Action and Human Services .....	3
Soc 209 Field Techniques .....	3
Soc 210 Sociological Inquiry and Research Methods .....	3
Soc 300 Theories of Social and Personal Life .....	3
Soc 317 Social Change and Human Services.....	3
Soc 320 Social Science Practicum .....	3
Soc 421 Contemporary Social Analysis.....	3
Soc 496 Senior Seminar.....	3
Total.....	27
Other Departmental Requirements:	
A minimum of 15 additional credits in Sociology and Human Services.....	15
Math 201 Elementary Statistics (General Studies, Group B).....	3
Total.....	18
Electives.....	42
TOTAL REQUIRED FOR GRADUATION.....	128

*3 out new - date in Soc 100 approved*

REQUIREMENTS FOR A MINOR IN SOCIOLOGY AND HUMAN SERVICES:

Completion of 18 credits in sociology and human services of which a minimum of twelve credits are in upper division courses.

**Courses**

- Soc 100 SOCIAL ISSUES\* (3-0) 3  
 This introductory course seeks to examine the extent to which the crisis of institutions creates personal problems in our everyday lives. Conversely, it will explore the degree to which our personal troubles foster institutional contradictions. Topics for study may include the workplace, the environment, inequality, sexism, racism, health care, criminal justice, education, alienation, and social services. Fall and winter terms, freshman year.
- Soc 110 SOCIAL ACTION, HUMAN SERVICES (3-0) 3  
 An introduction to the field of human services and a survey of programs, basic policies and professional roles. This course is concerned with the extent to which human services can fulfill individual and community needs. Fall and winter terms, freshman year.
- Soc 209 FIELD TECHNIQUES (3-0) 3  
 This course is an introduction to qualitative methods used in the social sciences. The emphases will be upon interviewing, participant-observation and ethnographic approaches to data collection and the development of descriptions and interpretations of social settings. A research project selected by the student will be completed in the sophomore year.  
*Prerequisite:* Soc 110 or concurrent registration.

Soc 210 SOCIOLOGICAL INQUIRY AND RESEARCH METHODS (3-0) 3

This course is an introduction to quantitative methods used in social science. The appropriateness and application of various methods will be emphasized. Data collection, reduction, analysis and interpretation will be covered. The course will include an introduction to computer applications and the use of descriptive and inferential statistics in research. To be taken in the sophomore year.

*Prerequisites:* Math 201 or concurrent registration, Soc 209.

Soc 275 FAMILIES, MARRIAGES AND OTHER SEX-ROLE SYSTEMS\* (3-0) 3

Analysis of changing patterns of family life and sex roles in contemporary society, of the social sources of these changes, and of their societal and individual consequences. Taught every other year.

Soc 279 ETHNICITY IN THE SOUTHWEST\* (3-0) 3

A descriptive analytic inquiry into the historical, social and economic position of the Hispanic and/or Indian of the Southwest. Taught every other year.

Soc 300 THEORIES OF SOCIAL AND PERSONAL LIFE\* (3-0) 3

This course will critically examine the classical and contemporary theories of self and society. The major paradigms of functionalism, Marxism, symbolic interactionism, structuralism, ethnomethodology, and critical theory will be evaluated.

*Prerequisite:* Soc 210.

Soc 317 SOCIAL CHANGE AND HUMAN SERVICES (3-0) 3

This course provides an examination of social organization and social change with a focus upon human services programs and the communities in which they exist. The relationship between man and the social environment will be used to explore the issue of change in the client versus change in the community. Human service settings, e.g., mental health, social services, corrections, etc., will be explored. Offered annually, junior year.

*Prerequisite:* Soc 300 or concurrent registration.

Soc 320 SOCIAL SCIENCE PRACTICUM 3-6

This course provides the student with experience in applied sociology. Students will be involved in human services, applied social research or other activities approved by the advisor and practicum coordinator. The emphasis is upon gaining experiential knowledge through active participation in sociological practice and sharing this in a classroom experience. Practicum may be taken for 3 or 6 credits per term and for a maximum of 12 credits. A maximum of 6 credits can be applied toward the major in sociology.

*Prerequisites:* Soc 317 and approval of the coordinator.

Soc 340 RELIGION AND SOCIAL LIFE\* (3-0) 3

An examination of, principally, contemporary religious phenomena from the viewpoint of social science. The course will also examine the significance of religious studies in the development of reasoning about society. Taught every other year.

Soc 345 ART AND SOCIETY\* (3-0) 3

An inquiry into the relationship between any historically specific art and the social setting in which it was created. The idea that art is a way of seeing, a world view, or a theoretic will be explored. The focus of the course may be literature, the visual arts, music, theatre, or film. Taught every other year.

- Soc 353 THE SOCIAL DIMENSIONS OF HEALTH\* (3-0) 3  
A study of the social practices and beliefs which define and constitute the phenomena of health and illness. The current health care delivery system, including professional roles, patient participation, administration, medical education and planning, will be critically reviewed, and alternatives will be explored. This course is recommended for prehealth majors as well as social science majors.
- Soc 361 DEVIANCE\* (3-0) 3  
An examination of the traditional versions of deviance followed by modern critiques which emphasize labeling" and the more phenomenological approaches to understanding human conduct.
- Soc 362 CRIMINOLOGY AND CRIMINAL JUSTICE\* (3-0) 3  
An examination of the major positivist" theories of crime and criminality (individual, familial, subcultural) followed by the modern critique of positivist criminology emphasizing the part played by the administration of criminal justice as an integral part of the characterizing and structuring of crime.
- Soc 363 JUVENILE DELINQUENCY\* (3-0) 3  
A review of contemporary thinking about the development of juvenile delinquency and the linkages between juvenile delinquency and the administration of juvenile justice. Taught every other year.
- Soc 375 SOCIOLOGY OF EDUCATION\* (3-0) 3  
Study of the organization and practices of educational institutions and of the transformation these institutions are now undergoing. Special attention to the nature of these changes and their impact on the learning process as well as their consequences for the larger society will be explored. Taught every other year.
- Soc 376 LANGUAGE AND SOCIAL BEHAVIOR\* (3-0) 3  
A concentrated look at the social function of language use in society. The extent to which languages create social reality will receive scrutiny. Particular topics may include language and social class, language and sex, linguistic politics, language and culture or language cognition and development. Taught every other year.
- Soc 380 WORK AND AUTHORITY IN SOCIETY\* (3-0) 3  
This course will explore the extent to which meaningful work is possible in any society. It will seek to account for the forms of authority in work and describe the impact that hierarchical structures have on the individual. Taught every other year.
- Soc 401 SOCIOLOGY OF KNOWLEDGE\* (3-0) 3  
The idea that beliefs, norms, values, attitudes, motives, or theories are historically and socially situated will be examined. Importance will be placed on the extent to which social existence influences the production of ideas. Taught every other year.
- Soc 410 MIND, SELF, SOCIETY\* (3-0) 3  
An examination into the ways in which society influences the self and the individual produces society. The relationship between consciousness and social structure will be discussed. Theoretical focus may include symbolic interactionism, ethnomethodology, and/or a Marxist perspective. Taught every other year.

Soc 421 CONTEMPORARY SOCIAL ANALYSIS  
IN THE SOUTHWEST (3-0) 3

A seminar in the application of theories of social change, social knowledge, and research into regional issues in the Southwest. Topics may vary but will critically address issues of water, energy, agriculture, urbanization, inequality, public morality, politics, education, and community. Taught annually, senior year.

*Prerequisite:* Soc 320.

Soc 496 SENIOR SEMINAR (3-0) 3

Advanced study and research in selected topics. The student will prepare and submit a senior seminar research paper to qualify for graduation.

*Prerequisite:* Soc 421 or concurrent registration.

Soc 499 INDEPENDENT STUDY 1-3

Tutorial or individual research conducted in consultation with a member of the sociology and human services faculty. Topic must be clearly defined in a written contract between student and faculty member.

\*These courses are particularly recommended to students seeking to fulfill the General Studies Requirements.

## Southwest Studies

with concentrations in:

ANTHROPOLOGY

HISTORY

SPANISH

Professors Richard N. Ellis, John C. Ives and Duane A. Smith;  
Assistant Professor Reinaldo M. Alcazar

Courses in history, anthropology, and Spanish, plus certain auxiliary courses, provide the central core of the major. While all three options are included in the major to some extent, three separate programs are listed below. A student should choose one of these for special emphasis. Whenever possible, the programs are tailored to each individual student's interests. A major in Southwest Studies prepares students for careers in state and local governments as well as admission to graduate school.

Students majoring in Southwest Studies may be certified to teach in the broad area of social studies at the secondary level. To obtain requirements for teacher certification, please contact the Department of Teacher Education.

A minor may be obtained in Southwest Studies. Contact the program director for information.

REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A  
MAJOR IN SOUTHWEST STUDIES:

**The History Option:**

	<i>Credits</i>
General Studies (not satisfied below).....	26
History Requirements:	
Hist 270 Survey of Colonial Latin America.....	3
Hist 280 Survey of U.S. History, 1600-1865.....	3
Hist 281 Survey of U.S. History, 1865-Present.....	3
Hist 370 Studies in Latin American History.....	3
Hist 380 Studies in American History/Southwest.....	3
Hist 380 Studies in American History/TransMississippi or	
Hist 380 Studies in American History/20th Cent. U.S. ....	3
Total History Requirements.....	18
SW 123 & 323/Hist 123 & 380 American Indian History and Southwest Indian History may be substituted for Hist 370 Studies in Latin American History and one or two approved courses in the Hist 380 series.)	
Modern Language Requirements:	
Competence in Spanish equal to 12 credits above Elementary Spanish I & II (General Studies, Group A).....	12
Anthropology Requirements:	
At least two courses dealing with anthropology of the Southwest as approved by the Director (General Studies, Group C) .....	6
Literature and Sociology Requirements:	
Two of the following required (for a total of 6 credits):	
Engl 280 Literature of the Southwest.....	3
Engl 376 Folklore of the Southwest.....	3
Soc 279 Ethnicity in the Southwest.....	3
Science Requirements:	
At least two courses selected from the biological and physical sciences which have to do with the Southwest (General Studies, Group B).....	6
Research Requirements:	
SW 498 Problems in the Southwest Studies I.....	3
SW 499 Problems in the Southwest Studies II.....	3
SW 498 and 499 fulfill the requirements of Seminar or Independent Study required of other majors.	
Total.....	36
Electives.....	48
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

**The Anthropology Option:***Credits*

General Studies (not satisfied below) .....	26
Anthropology Requirements:	
Anth 151 Introduction to Anthropology .....	3
Anth 231 Archaeology of the Southwest, Part I: The Anasazi Culture .....	4
Anth 259 Field Training in Archaeology .....	6
Anth 331 Archaeology of the Southwest, Part II: Hohokam and Mogollon Cultures .....	4
Anth 350 Ethnology of Mesoamerica or	
Anth 354 Pueblo Indians of the Southwest .....	3
Total Anthropology Requirements .....	20
History Requirements:	
At least two courses dealing with southwestern history, to be approved by the Director, and at least one of which must be Hist 380 Studies in American History.	
Total History Requirements .....	6
Modern Language, literature, social science, science and research requirements the same as in History Emphasis .....	30
Electives .....	46
TOTAL REQUIRED FOR GRADUATION .....	128

**The Spanish Option:***Credits*

General Studies (not satisfied below) .....	26
Spanish Requirements:	
Spanish competence equivalent to ML 216 Intermediate Spanish II .....	14
Three courses in advanced Spanish, with Mexican Literature and Hispanic American Civilization (in Spanish and English) being recommended .....	9
Total Spanish Requirements .....	23
History Requirements:	
Hist 270 Survey of Colonial Latin America .....	3
Hist 370 Studies in Latin American History .....	3
Hist 380 Studies in American History .....	3
(SW 123 & 323/Hist 123 & 380 American Indian History and Southwest Indian History, may be substituted for Hist 370 Studies in Latin American History.)	
Total History Requirements .....	9
Anthropology, literature, social science, science and research requirements the same as in History Option .....	24
Electives .....	46
TOTAL REQUIRED FOR GRADUATION .....	128

### Courses

- SW 100 FUNDAMENTALS OF NAVAJO LANGUAGE (3-0) 3  
A course in the basic fundamentals of the Navajo language on the oral-aural approach. A native speaker is the instructor and much use is made of tapes, etc.
- SW 101 NAVAJO LANGUAGE II (3-0) 3  
A continuation of Navajo I. Whereas Navajo I emphasized speaking, this course will center on reading and writing the Navajo language.  
*Prerequisite:* Navajo I or consent of instructor.
- SW 123 AMERICAN INDIAN HISTORY (3-0) 3  
The history of Indians of the United States from contact to the present. Fall Term. This course is the same as Hist 123.
- SW 154 INDIAN ARTS AND CRAFTS (0-6) 3  
This course is the same as Art 154. For description of course, see Art. Fall and winter terms.
- SW 155 INDIAN ARTS AND CRAFTS II (0-6) 3  
This course is the same as Art 155. For description of course, see Art. Fall and winter terms.
- SW 265 ART HISTORY OF THE SOUTHWEST (3-0) 3  
This course is the same as Art 265. For description of course, see Art.
- SW 280 NATIVE AMERICAN IN THE MODERN WORLD (3-0) 3  
An advanced study of contemporary affairs that involve the American Indian. The historical beginnings, development and current significance of issues will be studied.
- SW 322 AMERICAN INDIAN PHILOSOPHIES (3-0) 3  
The course will look at the various aspects of American Indian philosophies and the manifestations of those philosophies. The course will study both traditional philosophies and those which have been changed through contact with American society.
- SW 323 SOUTHWEST INDIAN HISTORY (3-0) 3  
Studies the history and culture of Native American groups in the Southwest. Winter term. This course is the same as Hist 380.
- SW 365 HISPANIC CIVILIZATION (3-0) 3  
Contributions of Spain and Portugal to the building of western civilization. Topics include: Great Age of Exploration, Golden Age of Spanish-Portuguese Civilization, Masterworks of Literature, and History of Ideas. Offered on demand.
- SW 375 HISPANIC-AMERICAN CIVILIZATION (3-0) 3  
The literature, culture, thought, art, anthropology, history, geography and contemporary position of Hispanic-American civilization. Offered on demand.
- SW 381 MEXICAN-AMERICAN LITERATURE (3-0) 3  
A study of selected literary works by Mexican-American authors from the traditional Hispanic period to the current Chicano movement. Designed to give an appreciation and awareness of the culture of Mexican-Americans and to show their literary contributions to the main body of world literature.

SW 383 SOUTHWEST HISTORY TO 1868 (3-0) 3  
This course will cover the Spanish, Mexican and early territorial periods in the Southwest, concluding with the end of the Civil War and the Navajo treaty of 1868. Fall term. This course is the same as Hist 380.

SW 384 SOUTHWEST HISTORY, 1868 TO PRESENT (3-0) 3  
This course will cover the political, social and economic history of the Southwest from 1868 to the present. This course is the same as Hist 380.

SW 481 COLORADO HISTORY (3-0) 3  
The history and peoples of Colorado from the preterritorial days through the present.

SW 482 MINING IN THE AMERICAN WEST (3-0) 3  
From the days of the Spanish to today, a history of mining and its impact, with special emphasis on the Southwest.

SW 498 PROBLEMS IN SOUTHWEST STUDIES I 3  
A senior-level individual research project based on the needs and interests of the individual. Offered on demand.  
*Prerequisite:* consent of committee director.

SW 499 PROBLEMS IN SOUTHWEST STUDIES II 3  
Same as above.

For other course descriptions, see listings under the appropriate disciplines.

**Spanish**  
(see Modern Languages)

**Theatrical Arts**  
(see English - Theatre)



## THE SCHOOL OF BUSINESS ADMINISTRATION

VACANT, DEAN  
JEREMY J. COLEMAN, ASSISTANT DEAN

The School of Business Administration provides students with the professional education necessary for responsible careers in business, government, and nonprofit organizations, as well as for teaching or admission to graduate school. The educational emphasis, reflecting the environment in which Fort Lewis College is located, tends toward small to medium size organizations, but does not disregard the large organizations in which many graduates develop their careers. The School is accredited by the American Assembly of Collegiate Schools of Business (AACSB) and fully adheres to the high standards of this accreditation. Fort Lewis College, the University of Colorado, the University of Denver, and Colorado State University are the only institutions in Colorado to have achieved this prized accreditation.

The School of Business Administration degree programs are designed to provide a balanced combination of the arts and sciences and professional business education. The more specific objectives of the Bachelor of Arts degree programs offered by the School of Business Administration are:

- to provide, as a base, a general understanding of the principles of modern business and organizational practices;
- to develop balanced thinking and understanding of the economic, political, and social environments in which modern business and government are conducted;
- to ensure that students are skilled in the use of analytical tools and techniques for decision making;
- to develop the capacity for critical thought, leadership, and the ability to work with others;
- to enhance each student's appreciation for cultural values and for one's responsibilities in modern society.

The School is characterized by its professional attitude, the diversity of its largely work-experienced faculty, and its close student-faculty relationship. In addition to concern for good classroom instruction, the faculty believe that much learning takes place through personal and informal contacts with and among students. The Business Club, Accounting Club, a collegiate chapter of the American Marketing Association, and Beta Gamma Sigma, a national honorary business fraternity, are active campus groups.

The curricula offered by the School lead to the Bachelor of Arts degree with a major in Accounting, Economics, or Business Administration. Within the Business Administration major, options are offered in Business Administration (General Business), Management, and Marketing.

### Acceptance of Transfer Credits

College undergraduate programs in business administration normally concentrate professional business courses in the last two years of a four-year program. The objective is to permit the student to acquire a foundation of work in the basic arts and sciences as a prerequisite for professional courses.

As a result of this general policy, it is recommended that students planning to transfer into the Fort Lewis College School of Business Administration do so by the end of their sophomore year. A student must complete her or his final 28 credit hours in residence at Fort Lewis College.

Students taking their first two years of work at a junior or community college or at another four-year institution should take only those business courses that are offered at the freshman or sophomore level at Fort Lewis College. Business courses taught at junior or community colleges may not be used to satisfy upper-division course requirements (courses at the 300- and 400-level) of the School of Business Administration.

### **Prerequisite Requirement**

Students who enroll in a business course without having satisfactorily completed the required prerequisite(s), or consent of the instructor, are subject to possible administrative withdrawal from the course.

### **Non-Business Students**

Students who are not working toward a baccalaureate degree in business are prohibited from taking business credits which will exceed 25% of their total program. This provision is in accordance with the accreditation standards of the American Assembly of Collegiate Schools of Business.

### **The "4+1" BA/MBA Programs**

Fort Lewis College students who graduate with a BA in Business Administration, and who meet the entrance requirements of the respective institution, may continue on to the MBA program at either Colorado State University or the University of Southern Colorado, expecting to complete that program in one year.

### **Business Minor**

Minors are available in Business Administration and Economics.

### **School of Business Administration Faculty**

Professors Bernard E. Anderson, Leonard D. Atencio, Jeremy J. Coleman, Joseph C. Colgan, Robert Dolphin, Jr., Reginald A. Graham, John F. Hale, Donald L. James, Jerry M. Kaufman, Vernon E. Lynch, Jr., Reed H. McKnight, Richard A. Podlesnik and John H. Zoller

Professor Emerita Miriam T. Henderson

Associate Professors James P. Clay, E. Lee Holehan and Dale E. Lehman

Assistant Professors Lawrence S. Corman, Roland F. Fluck, J. Larry Goff, O.D. Perry, and Charles O. Tustin

## THE CURRICULUM

A student who majors in one of the Bachelor of Arts degree programs in the School of Business Administration must complete:

*Credits*

I.	General Studies (not satisfied below).....	41
II.	Common Requirements:	
	Acc 225 Introduction to Financial Accounting.....	4
	Acc 226 Introduction to Managerial Accounting*	
	<i>or</i>	
	Acc 227 Cost/Managerial Accounting I.....	4
	Econ 262 Principles of Economics-Micro.....	3
	Econ 272 Principles of Economics-Macro.....	3
	BA 253 Business Statistics.....	4
	BA 301 Management and Organizational Behavior.....	3
	BA 310 Business Environment.....	3
	BA 340 Principles of Marketing.....	3
	BA 353 Operations Management.....	4
	BA 380 Financial Management.....	3
	BA 420 Management Information Systems.....	3
	BA 496 Seminar in Administrative Strategy.....	4
	Total.....	41
III.	The following courses in the quantitative and Computer Science areas:	
	CS 100 Introduction to Computers and their Applications**.....	3
	Math 210 Calculus for Business (General Studies, Group B).....	4
	Total.....	7
IV.	Additional requirements are listed on the following pages under each major or option.	
V.	Sufficient elective credits to bring the student's total credits to 128 (the minimum number required for graduation). At least 40% but no more than 60% of the student's total credits must be taken outside of the School of Business Administration.	

\*Accounting majors are required to take Acc 227; other students may substitute Acc 227 for Acc 226.

\*\*May substitute any computer programming language course.

For students with majors offered by the School of Business Administration, Acc 225, Acc 226 (or Acc 227), Econ 262, and Econ 272 are prerequisites for 300- and 400-level courses offered by the School of Business Administration.

## Scheduling the Common Business Requirements

It is recommended that courses in Box 1 below be completed before taking courses in Box 2 and those in Box 2 be completed before taking courses in Box 3. It is required that courses in the first three boxes be completed before taking BA 496.

Box 1	Box 2	Box 3	Box 4
Acc 225 Acc 226 (227) Econ 262 Econ 272 BA 253 CS 100	BA 301 BA 310 BA 340 Math 210	BA 353 BA 380	BA 420 BA 496

### Suggested Course Sequence

#### First Year

(to be divided between two terms)

FCS	Freshman Composition Seminar .....	4
Math 210	Calculus for Business .....	4
CS 100	Introduction to Computers & Their Applications ...	3
Econ 262	Principles of Economics - Micro .....	3
Econ 272	Principles of Economics - Macro.....	3
	General Distribution Requirements.....	14
	Physical Education.....	1
<b>Total</b> .....		<b>32</b>

### Suggested Course Sequence

#### Second Year

(to be divided between two terms)

SCS	Sophomore Composition Seminar .....	4
Acc 225	Introduction to Financial Accounting .....	4
Acc 226	Introduction to Managerial Accounting	
or		
Acc 227	Cost/Managerial Accounting I.....	4
BA 253	Business Statistics.....	4
	General Distribution Requirements.....	15
	Physical Education.....	1
<b>Total</b> .....		<b>32</b>

### Third and Fourth Years

Each student is advised to obtain a suggested sequence sheet from his or her advisor. Sheets are available for:

Accounting	Economics
Business Administration	Management
Business Education	Marketing

## Accounting

The accounting major prepares students to embark immediately upon a career as a public, industrial, or governmental accountant and provides a foundation in accounting and business administration that will enable him or her to pursue effectively graduate study in these fields. Graduates can expect to work in such areas as income tax preparation, general accounting, cost accounting, budgeting, and management advisory services.

The accounting program at Fort Lewis College is approved by the State Board of Accountancy of Colorado as preparation for the Certified Public Accountant Examination and for those receiving CPA certificates.

In addition to the College's General Requirements and the Common Requirements of the School of Business Administration, a student studying accounting must complete the following requirements.\*

Acc 323 Intermediate Accounting I.....	4
Acc 324 Intermediate Accounting II.....	4
Acc 327 Cost/Managerial Accounting II.....	4
Acc 430 Income Tax Accounting.....	4
Acc 436 Auditing - Theory and Practice	
<i>or</i>	
Acc 437 Internship in Public Accounting.....	3-4
Accounting Elective.....	3-4
BE 221 Business Communications.....	3

Total..... 25-27\*

\*The credits used to satisfy the accounting major may not be used to satisfy any other major, minor, or option within the School of Business Administration.

### Courses

Acc 225 INTRODUCTION TO FINANCIAL ACCOUNTING (4-0) 4  
 Concepts related to the preparation of financial statements and reports for parties external to the firm, such as stockholders, creditors and labor unions, will be introduced. Understanding the information presented in the financial statements, the balance sheet, the income statement, and the statement of changes in financial position will be the major emphasis of the course.

Acc 226 INTRODUCTION TO MANAGERIAL ACCOUNTING (4-0) 4  
 Concepts related to the preparation of reports useful to management in planning and controlling the operations of a business will be introduced. The primary emphasis in this course will be on using accounting information for management planning, control, and decision making. Topics include: behavior of costs, budgeting and planning, cost-volume-profit analyses, and analysis of financial statements.

*Prerequisite:* Acc 225.

Acc 227 COST/MANAGERIAL ACCOUNTING I (4-0) 4  
 Concepts related to the preparation of reports useful to management in the planning and controlling operations of a business are studied. Primary emphasis will be on developing accounting information for planning, control and decision making. Requires students to learn how historical costs are accumulated, measured, and used. **Required for accounting majors;** others may substitute this course for Acc 226.

*Prerequisite:* Acc 225.

Acc 232 PREPARATION OF YOUR INCOME TAX RETURN (3-0) 3  
A nontechnical approach to the fundamental concepts and mechanics of preparation of federal income tax returns. All classes of individual returns and commonly encountered business forms are covered.

Acc 319 MANAGERIAL ACCOUNTING (3-0) 3  
The application of accounting information for the principal purpose of making managerial decisions is stressed. Topics include: the analysis and interpretation of financial statements; budgeting for planning and control; cost behavior (cost-volume-profit relationships); relevant cost analysis for making long- and short-range capital expenditure decisions; and the impact of income taxes on management planning. This course is not available to students who have over 14 semester credits in accounting. Offered on demand.

*Prerequisite:* Acc 226.

Acc 323 INTERMEDIATE ACCOUNTING I (4-0) 4  
The fundamental process of accounting is analyzed. The proper treatment of business transactions in the recording and analyzing phases is reviewed. Financial accounting theory and problems are studied along with financial statement presentation. Fall term.

*Prerequisite:* Acc 227 or consent of instructor.

Acc 324 INTERMEDIATE ACCOUNTING II (4-0) 4  
Continuation of financial accounting theory and problems. In addition, partnership accounting and an introduction to business combinations are covered. Winter term.

*Prerequisite:* Acc 323.

Acc 327 COST/MANAGERIAL ACCOUNTING II (4-0) 4  
A continuation of Cost/Managerial Accounting I. Emphasis on standard costs, analyses for decision making, and other special cost and analysis problems.

*Prerequisite:* Acc 227.

Acc 430 INCOME TAX ACCOUNTING (4-0) 4  
A brief history of the income tax, income tax accounting, and a study of current federal income tax provisions are presented.

*Prerequisite:* Acc 323 or consent of instructor.

Acc 431 ADVANCED INCOME TAX ACCOUNTING (3-0) 3  
An introduction to tax research and planning, federal income tax treatment of taxpayers other than individuals (corporations, subchapter S corporations, partnerships, trusts and estates), the treatment of property transfers subject to federal and state gift and death taxes. The student will learn and utilize methodology of tax research. Offered on demand.

*Prerequisite:* Acc 430.

Acc 434 ADVANCED ACCOUNTING (4-0) 4  
This course develops basic accounting principles relating to consolidated statements, fund and governmental accounting, bankruptcies, receiverships, estates and trusts, actuarial accounting. Fall term.

*Prerequisite:* Acc 324.

Acc 435 SURVEY OF ACCOUNTING THEORY TRENDS (4-0) 4  
The origin and development of accounting; a review of the ideas of leading accounting theoreticians; an examination of current accounting theory; a look at accounting theory as it relates to the CPA examination. Winter term.

*Prerequisite:* Acc 324.

**Acc 436 AUDITING — THEORY AND PRACTICE (4-0) 4**

Functions of the independent public accountant are stressed. The course includes audit reports and options, account analysis, audit programs, working paper content and form, professional ethics, applications of accounting and auditing standards, SEC stock exchange regulations, investigations for purchase and financing, and current literature on auditing. Winter term.

*Prerequisites:* Acc 324 and 327.

**Acc 437 INTERNSHIP IN PUBLIC ACCOUNTING 3**

The accounting student in his/her senior year may be placed with a selected certified public accounting firm where he/she will serve as a member of the accounting staff. The planned program of activities is the basis for a term paper to be submitted to the supervising college faculty member at the end of the trimester. The student's performance will be evaluated periodically by his/her supervisor in the firm as well as the assigned college faculty member.

*Prerequisite:* consent of area coordinator.

**BA 499 INDEPENDENT STUDY 1-3**

Individual research is conducted under the supervision of a faculty member. Fall and winter terms.

*Prerequisite:* approval of the Dean of the School of Business Administration.

## Business Administration

The business administration program, sometimes referred to as general business, provides a broad base of knowledge for beginning a business career. It enables maximum flexibility in career choice and change throughout one's career.

Students are expected to develop a basic understanding of the social, legal, and economic environments of business, including an introduction to international business, the principles of leadership and organization theory, the quantitative tools of decision making, and the functional areas of the firm.

Students work with assigned advisors to select elective courses that enhance their particular interests. Emphasis is placed on developing a general background with a well-balanced understanding of business. This program, then, provides a sound undergraduate education for entrance into graduate school.

In addition to the College's General Requirements and the Common Requirements of the School of Business Administration, a student studying business administration (general business) must complete the following major requirements:

One 300-level Economics course..... 3

A minimum of 15 credits of business administration courses at the 300- or 400-level, with at least one course from each group.\*

**GROUP A:**

BA 342 Retailing.....	3
BA 343 Sales Management.....	3
BA 344 Advertising.....	3
BA 345 Professional Salesmanship.....	3
BA 370 Topics in International Business-Marketing.....	3
BA 390 Special Topics in Marketing.....	3

BA 437 Internship in Business-Marketing.....	3
BA 445 Marketing Management.....	3
BA 446 Marketing Research.....	3

## GROUP B:

BA 302 Industrial Relations.....	3
BA 307 Personnel.....	3
BA 311 Business Law I.....	3
BA 312 Business Law II.....	3
BA 360 Introduction to Management Science.....	3
BA 370 Topics in International Business-General, Finance, or Management.....	3
BA 382 Financial Institutions.....	3
BA 386 Insurance.....	3
BA 390 Special Topics in Management.....	3
BA 401 Entrepreneurship and Small Business Management.....	3
BA 407 Management Consulting.....	3
BA 415 Management in Action.....	3
BA 437 Internship in Business - General, Finance, or Management.....	3
BA 481 Cases and Problems of Financial Management.....	3
BA 483 Investments.....	3
BA 484 Portfolio Management.....	3
BA 489 Real Estate.....	3
BE 308 Office Management.....	3

Total Groups A and B ..... 15\*

\*The 15 credits used to satisfy an option in business administration may not be used to satisfy any other major, minor, or option within the School of Business Administration.

## Management

The management option prepares students for responsible supervisory and management positions in all types of organizations: business, government, and nonprofit. Students become familiar with the opportunities and processes of management as they develop skills in planning, organizing, leading, and controlling.

Students in management are introduced to the process of acquiring and utilizing financial, human, and physical resources in the pursuit of organizational objectives. Interpersonal relations, leadership, and decision making are emphasized.

In addition to the College's General Requirements and the Common Requirements of the School of Business Administration, a student studying management must complete the following requirements:

One 300-level Economics course..... 3

A minimum of 15 credits from the following courses:\*

BA 302 Industrial Relations.....	3
BA 307 Personnel.....	3
BA 360 Introduction to Management Science.....	3
BA 370 Topics in International Business-Management.....	3



BA 390	Special Topics in Management.....	3
BA 401	Entrepreneurship and Small Business Management.....	3
BA 407	Management Consulting.....	3
BA 415	Management in Action.....	3
BA 437	Internship in Business - Management.....	3
BE 308	Office Management.....	3
Econ 361	Managerial Economics**	
or		
Econ 375	Industrial Organization**.....	3
Total.....		15*

\*The 15 credits used to satisfy an option in Management may not be used to satisfy any other major, minor, or option within the School of Business Administration.

\*\*May not be used to fulfill the 300-level Economics course requirement and the Management option requirement simultaneously.

## Marketing

The marketing option emphasizes the performance of business activities designed to plan, price, promote, and distribute goods and services to satisfy consumer wants. The study of marketing recognizes the large proportion of the consumer dollar allocated to marketing, creating vast opportunities for graduates in this field.

Careers in marketing may be pursued in industry, government, and non-profit organizations, in such areas as retailing, purchasing, marketing research, personal selling, advertising, sales promotion, product management, public relations, physical distribution, and consumer affairs.

In addition to the College's General Requirements and the Common Requirements of the School of Business Administration, a student studying marketing must complete the following requirements:

One 300-level Economics course.....	3
Required:	
BA 445 Marketing Management.....	3
BA 446 Marketing Research.....	3
Plus any three of the following courses:	
BA 342 Retailing.....	3
BA 343 Sales Management.....	3
BA 344 Advertising.....	3
BA 345 Professional Salesmanship.....	3
BA 370 Topics in International Business-Marketing.....	3
BA 390 Special Topics in Marketing.....	3
BA 437 Internship in Business - Marketing.....	3
Total.....	15*

\*The 15 credits used to satisfy an option in Marketing may not be used to satisfy any other major, minor, or option within the School of Business Administration.

## REQUIREMENTS FOR A MINOR IN BUSINESS ADMINISTRATION:

A student majoring in another discipline may complete a minor in Business Administration upon satisfactorily fulfilling the following requirements:

Econ 160	Basic Economics .....	3
Acc 225	Introduction to Financial Accounting .....	4
BA 301	Management and Organizational Behavior .....	3
BA 310	Business Environment.....	3
BA 340	Principles of Marketing.....	3
Two (2)	upper-division Business Administration electives .....	6
Total.....		22

### Courses

#### BA 253 BUSINESS STATISTICS (4-0) 4

An introductory course covering the collection and analysis of numerical data for decision-making purposes. Topics to be covered include descriptive statistics, measures of central tendency and dispersion, probability, sampling distributions, estimation, hypothesis testing, and regression and correlation. Credit toward graduation will be given for only one of the following courses: BA 253, Psych 241, and Math 201.

*Prerequisite:* Math 110 or equivalent preparation.

#### BA 301 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR (3-0) 3

A study of the principles, practices and processes of administration; the organization of a system, the behavior of people in the organization, and the development of organizational effectiveness.

#### BA 302 INDUSTRIAL RELATIONS (3-0) 3

An adaptive managerial approach to employer-employee relations. Included is an introduction to union-management relations which emphasizes labor law, collective bargaining, and arbitration. Current theories of organizational behavior are studied as applied in the industrial relations system.

*Prerequisite:* BA 301.

#### BA 307 PERSONNEL (3-0) 3

Nature of the personnel system in the firm: recruitment and selection, training and development, performance appraisal, wage and salary administration, role of the government in manpower administration, labor relations, and discipline.

*Prerequisite:* BA 301.

#### BA 310 LEGAL ENVIRONMENT OF BUSINESS (3-0) 3

An examination of the primary lawmaking and adjudicatory processes, with a substantial emphasis upon the role that economic, social, political and ethical forces play upon the shaping of legal rules.

#### BA 311 BUSINESS LAW I (3-0) 3

Basic principles of law as applied to business transactions. Study of the law of contracts and sales, sales warranties, law of agency and personal property is included. The social and legal environment of business is examined.

*Prerequisite:* BA 310.

#### BA 312 BUSINESS LAW II (3-0) 3

Continuation of Business Law I. Study of the law of partnerships, corporations, secured transactions, suretyship, real property and bankruptcy.

*Prerequisite:* BA 310.

- BA 340 PRINCIPLES OF MARKETING (3-0) 3  
The course stresses marketing activities from a managerial perspective. It includes the marketing of goods and services and ideas in both business and nonbusiness organizations. There is an emphasis on concepts of marketing and application of these concepts in decision making and managing marketing variables in a dynamic environment.  
*Prerequisite:* Econ 262 or 160.
- BA 342 RETAILING (3-0) 3  
An introduction to retailing from the management point of view; study of retail policies and organization, the operation of the buying and selling functions, merchandise control, store systems, personnel management, retail accounting, and expense control.  
*Prerequisite:* BA 340.
- BA 343 SALES MANAGEMENT (3-0) 3  
The course is concerned primarily with the management of outside sales forces of manufacturers and wholesaling middlemen.  
*Prerequisite:* BA 340.
- BA 344 ADVERTISING (3-0) 3  
The course is a comprehensive survey of advertising that deals with the management, planning, creation and use of advertising.  
*Prerequisite:* BA 340 or consent of instructor.
- BA 345 PROFESSIONAL SALESMANSHIP (3-0) 3  
The salesperson considered (viewed) as a consultant whose job is to assist buyers to make purchase decisions. Course examines the consultant relationship of a professional salesperson in assisting the buyers. The ethics, responsibilities, and sales skills of a professional salesperson are examined.  
*Prerequisite:* BA 340 or consent of instructor.
- BA 353 OPERATIONS MANAGEMENT (4-0) 4  
Concepts and methods for economical planning and control of activities required for transforming a set of inputs into specified goods or services. Emphasis is given to forecasting, decision analysis, cost analysis, design of production systems, production/marketing relationships, and operations planning and control.  
*Prerequisites:* BA 253 (or acceptable BA 190 Business Statistics course or the BA 251/252 sequence from prior catalogs) and Math 210.  
*Recommended:* BA 301, 310, and 340.
- BA 360 INTRODUCTION TO MANAGEMENT SCIENCE (3-0) 3  
Same as Math 360.
- BA 370 TOPICS IN INTERNATIONAL BUSINESS (3-0) 3  
An examination of selected topics and issues pertaining to the international marketplace. Students may take this course one or more times for credit, provided the subject is different on each occasion.
- BA 380 FINANCIAL MANAGEMENT (3-0) 3  
Covers the time value of money, determination of stock and bond values, the role of risk in decision making, capital budgeting, cost of capital and the long- and short-term financial management of assets and liabilities. **Recommended for the junior year.**  
*Prerequisite:* Acc 226 or 227.

- BA 382 FINANCIAL INSTITUTIONS (3-0) 3  
Provides a descriptive and analytical understanding of financial markets, the major categories of financial institutions, the public policy toward these institutions, the nature of financial planning, interest rate analysis, and liquidity/credit management.  
*Prerequisite:* BA 380.
- BA 386 INSURANCE (3-0) 3  
Coverage available, buying methods, and general procedures of operation of all types of insurance companies. Special emphasis on the analysis of the standards of more common forms of fire, marine, casualty, and life insurance contracts. Fall term.
- BA 401 ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT (3-0) 3  
How to conceive, initiate, organize, manage and operate a small business.  
*Prerequisites:* BA 340, 353 and 380, senior standing or consent of instructor.
- BA 407 MANAGEMENT CONSULTING (3-0) 3  
The study of the concepts and models of management consulting and their application in business organizations. Emphasis is on practical application and the utilization of relevant tools and techniques. Students are required to engage in consulting services.  
*Prerequisites:* BA 340, 353 and 380, senior standing, and consent of instructor.
- BA 415 MANAGEMENT IN ACTION 3-6  
The study of management principles and their application through research, plant visits, and on-site interviews with top management personnel.
- BA 420 MANAGEMENT INFORMATION SYSTEMS (MIS) (3-0) 3  
A study of information processing, the systems concept, the analysis and design of information systems, and data-base hardware and software technology as they apply to producing information to be used in business decision making.  
*Prerequisites:* CS 100, BA 340 and BA 353, or consent of instructor.
- BA 437 INTERNSHIP IN BUSINESS 3  
Directed experience working in a business organization performing professional duties and responsibilities. Specific requirements will depend on the supervising college faculty member but include, as a minimum, the keeping of a detailed journal and the completion of a term paper. A minimum of 75 hours of directed experience will be required. The student's performance will be evaluated by his/her supervisor in the business organization as well as the assigned college faculty member.  
*Prerequisite:* senior-level business administration major and consent of area coordinator.
- BA 445 MARKETING MANAGEMENT (3-0) 3  
Detailed case analysis of corporate marketing problems. Cases include all of the marketing inputs and allied internal and external forces and resources.  
*Prerequisites:* BA 340 and senior standing.
- BA 446 MARKETING RESEARCH (3-0) 3  
Evaluates the role of research in marketing management. Includes the use of research in defining, analyzing and resolving marketing problems. Consideration is given to research procedures, sources of data, and the use of information for decision making.  
*Prerequisites:* BA 253 and BA 340.

**BA 481 CASES AND PROBLEMS OF FINANCIAL MANAGEMENT (3-0) 3**

This course will apply the tools learned in BA 380 to a variety of business problems and cases. Areas of analysis will not be confined to finance but will include decision making in marketing, management, etc., realizing the interdisciplinary reality of business. Offered on demand.

*Prerequisite:* BA 380.

**BA 483 INVESTMENTS (3-0) 3**

Analysis of several theories of investment followed by an investigation and study of security markets. Corporate bonds and stocks are stressed; however, federal and state bonds and private investment opportunities are also considered. Offered on demand.

*Prerequisite:* BA 380.

**BA 484 PORTFOLIO MANAGEMENT (3-0) 3**

A continuation of analysis of investment theories from BA 483, followed by application of these theories through advanced security analysis. Institutional investors will be studied, and discussions of investment diversification, risk and return will be applied to both institutional and individual investing concepts. Offered on demand.

*Prerequisite:* BA 483.

**BA 489 REAL ESTATE (3-0) 3**

The regulation, practices, legal aspects, and professional ethics of the real estate business. Some consideration is given to real estate appraisal techniques and theory. Winter term.

*Prerequisite:* BA 310.

**BA 496 SEMINAR IN ADMINISTRATIVE STRATEGY (4-0) 4**

The integration of managerial theories, techniques, and skills. Provides vicarious experiences and research in administrative decision making, policy, strategy, and tactics. Emphasis is on the total organization and its internal and external relationships and responsibilities. An appropriate term paper is required.

*Prerequisites:* senior standing and completion of all other courses in the Common Requirements, with the exception of BA 420.

**BA 499 INDEPENDENT STUDY 1-3**

Individual research is conducted under the supervision of a faculty member.

*Prerequisite:* approval of the Dean of the School of Business Administration.

## Business Teacher Preparation

Students who desire to become certified to teach business subjects in junior high and secondary schools must complete the requirements for the business administration degree and the secondary education certification requirements.

### Courses

**BE 100 BEGINNING TYPING (0-3) 1**

The introduction of the keyboard, the development of touch-typewriting skills (both speed and accuracy), and all of the related components leading to the successful production of manuscript typewriting will be taught. No typewriting competency is presumed. This is a beginning course offered to provide college students an opportunity to learn to typewrite.

- BE 107 INTERMEDIATE TYPING (0-3) 2  
The development of speed and accuracy in producing business forms. Fall and winter terms.  
*Prerequisite:* one year of high school typing or ability to pass the typing qualification examination.
- BE 108 ADVANCED TYPING (0-3) 2  
The development of skill in office production. Business letters, business forms, tabulations, and manuscripts are presented. Use of electric machines. Fall and winter terms.
- BE 111 ELEMENTARY GREGG SHORTHAND (2-3) 3  
The basic principles of reading and writing shorthand, and dictation of practice material. Fall term.
- BE 144 BUSINESS MACHINE CALCULATIONS (0-1.5) 1  
The latest arithmetical techniques used in business and accounting. Stress is placed on applications including a thorough instruction in the use of rotary and listing calculators, electronic calculators, and ten-key adding machines. Fall and winter terms.
- BE 213 ADVANCED SHORTHAND SKILLS (1-3) 3  
The practice of dictation, transcription, speed building and vocabulary building toward the development of skill in shorthand. This course will be taught at two levels of skills development. Level II is required for secretarial studies majors. The course may be repeated once for credit. Fall and winter terms.  
*Prerequisite:* BE 111 or consent of instructor.
- BE 221 BUSINESS COMMUNICATIONS (3-0) 3  
A course built around the basic concept that both the functions and objectives of business are achieved through effective communication. Includes the processes of business communication and the conventions of business writing. Fall and winter terms.
- BE 232 SECRETARIAL PROCEDURES (0-6) 4  
Basic secretarial principles and procedures, including filing procedures, mail, telephone, and reception techniques; machine transcription; duplicating machines; receiving callers; business etiquette; expediting meetings; and legal facets of secretarial work. Also includes office simulation. Winter term.  
*Prerequisites:* BE 108 and 213, or consent of instructor.
- BE 308 OFFICE MANAGEMENT (3-0) 3  
The principles of office management. The responsibilities of management for office services, office layout and space utilization, office furniture and equipment, machines and appliances, branch office management, office personnel problems, training of office workers, office costs, and office methods and procedures are included. Individual research required. Winter term.
- BA 499 INDEPENDENT STUDY 1-3  
Individual research is conducted under the supervision of a faculty member. Fall and winter terms.  
*Prerequisite:* approval of the Dean of the School of Business Administration.

## Economics

The major in economics is designed to: (1) provide the student with an understanding of our present-day economic system and an understanding of economics and its relationship to other disciplines; and (2) prepare the student for graduate work or employment in government and business.

A minor is offered in economics in addition to a Bachelor of Arts degree with a major in economics. For details interested students should consult with the area coordinator.

Students majoring in economics may be certified to teach in the broad area of social studies at the secondary level. To obtain requirements for teacher certification, please contact the Department of Teacher Education.

In addition to the College's General Requirements and the Common Requirements of the School of Business Administration, a student majoring in economics must complete the following departmental requirements:

**Specific Major Requirements:**

Econ 356 Intermediate Micro-Theory.....	3
Econ 364 Intermediate Macro-Theory.....	3

Total..... 6

**Other Major Requirements:**

Any four of the following courses:

Econ 310 Economic History of the U.S. ....	3
Econ 320 Economics of the Southwest.....	3
Econ 361 Managerial Economics.....	3
Econ 365 Money and Banking.....	3
Econ 367 Comparative Economic Systems.....	3
Econ 369 Public Finance.....	3
Econ 371 International Economics .....	3
Econ 375 Industrial Organization .....	3
Econ 390 Special Topics in Economics.....	3
Econ 475 Regional Economics.....	3

Total.....12

### **Courses**

Econ 160 BASIC ECONOMICS (3-0) 3

Basic Economics is designed for students who do not intend to major in economics or business. This course covers both macro and micro subjects, and focuses on the individual and how he or she expresses his or her desires through the market system.

Econ 201 PERSONAL ECONOMICS (3-0) 3

Managing personal finances including budgeting, insurance, taxes, home ownership, investments, retirement and estate planning. This course is designed for majors outside the School of Business Administration.

Econ 262 PRINCIPLES OF ECONOMICS - MICRO (3-0) 3

Price determination and income distribution in a capitalistic economy. Investigation of current economic issues with particular emphasis on labor-management relations, agriculture, international trade, and government regulation of business. Fall and winter terms.

Econ 272 PRINCIPLES OF ECONOMICS - MACRO (3-0) 3

An introductory course on national income analysis. Included are an introduction to markets, the determination of prices via the market, income flows, macro-economic equilibrium, monetary and fiscal policy and an introduction to international economics. Fall and winter terms.

*Prerequisite:* Econ 262.

- Econ 310 ECONOMIC HISTORY OF THE UNITED STATES (3-0) 3  
A study of the origin and development of the economic institutions of the United States from Colonial times to the present. U.S. economic development is considered in relation to theories of economic growth and development. Offered on demand.
- Econ 320 ECONOMICS OF THE SOUTHWEST (3-0) 3  
A theoretical analysis of economic organization in the southwestern U.S. from the Colonial era to the present. Analysis includes models appropriate to economics in the process of development and the influence of cultures on the developmental process. Offered on demand.
- Econ 356 INTERMEDIATE MICRO-THEORY (3-0) 3  
This course deals with the price system as it directs resources to more efficient use. It deals with pricing under the various degrees of competition and stresses demand analysis. The principles of production economics are explored. Offered on demand.  
*Prerequisite:* Econ 262.
- Econ 361 MANAGERIAL ECONOMICS (3-0) 3  
A course designed to connect economic theory with business decision making. The course deals with the application of economic models to business decisions, quantitative methods for decision making, cost-benefit and cost-effectiveness analysis. Winter term.  
*Prerequisites:* Econ 262, Math 210.
- Econ 364 INTERMEDIATE MACRO-THEORY (3-0) 3  
A course that examines the economy as a whole. Included are an analysis of national income accounting, consumption, investment, government spending, the level of employment, monetary theory, monetary and fiscal policy and international economic policy. Offered on demand.  
*Prerequisite:* Econ 272.
- Econ 365 MONEY AND BANKING (3-0) 3  
Money, deposit creation, central banking, financial institutions, banking structure, and the Dual Banking System are covered. Monetary theory, policy, inflation, and unemployment are examined. International monetary problems are analyzed. Fall term.  
*Prerequisite:* Econ 272.
- Econ 367 COMPARATIVE ECONOMIC SYSTEMS (3-0) 3  
An analysis and comparison of capitalism, socialism, and communism and a survey of the historical background in which these systems developed. Offered on demand.
- Econ 369 PUBLIC FINANCE (3-0) 3  
An analysis of the financing of federal, state, and local units of government. Emphasis given to problems of taxation, expenditures and debt management. Offered on demand.  
*Prerequisite:* Econ 272.
- Econ 371 INTERNATIONAL ECONOMICS (3-0) 3  
Classical, neoclassical and modern trade theory. Comparative analysis of marketing functions, institutions and structures in different national environments. Exchange rates, import/export monopolies, quotas, tariffs, and other foreign fiscal policies. Offered on demand.  
*Prerequisite:* Econ 272.



## Econ 375 INDUSTRIAL ORGANIZATION (3-0) 3

An empirical, theoretical, and legal analysis of economic concentration in the United States. Includes detail of market and aggregate concentration, alternative models of oligopoly behavior from economic theory, and studies of cases in antitrust law. Offered on demand.

*Prerequisite:* Econ 272.

## Econ 475 REGIONAL ECONOMICS (3-0) 3

A study in the economic structure, stability and growth of regional and urban economics. Included is an analytical approach to the location of economic activity, and methods of measuring and analyzing regional and urban economic performance. Attention will be focused on problems unique to the southwestern region of the national economy. Offered on demand.

*Prerequisite:* Econ 364 or consent of instructor.

## BA 499 INDEPENDENT STUDY 1-3

Individual research is conducted under the supervision of a faculty member. Fall and winter terms.

*Prerequisite:* approval of the Dean of the School of Business Administration.

## THE SCHOOL OF EDUCATION

STEPHEN A. RODERICK, DEAN

### Departments:

*Teacher Education* — Virginia Regelman, Chair

*Physical Education* — Troy D. Bledsoe, Chair

*Psychology* — Harold L. Mansfield, Chair

### Teacher Education

Professors Marvin L. Giersch, Gary D. Knight, Virginia A. Regelman, Stephen A. Roderick, Donald F. Whalen, Ray N. Wilson and Pamela R. Young;

Professor Emerita Edith W. Brochu;

Associate Professor Janice Simmons;

Assistant Professor Charles H. Reid

Since its inception in 1970, the Department of Teacher Education has been committed to a quality program for the training of teachers. Those students completing the requirements of the program are expected to have strong liberal arts training with additional depth in the subject area to be taught. Procedures have been established for students who complete the Teacher Certification Program to be recommended to the Colorado Department of Education for a teaching certificate and to receive the services of the Fort Lewis College Placement Office in securing employment. Students from other areas of study may take certain education courses as electives if they desire a broad understanding of American school systems.

The Teacher Certification Program, having been approved by the Colorado Department of Education, is designed to provide students with certification in Colorado. It is also accredited by the National Council for the Accreditation of Teacher Education (NCATE).

Students at Fort Lewis College may seek teacher certification at the elementary level. This requires completion of the elementary education program as well as an academic major. Students interested in seeking special preparation in the areas of bilingual/bicultural education or English as a Second Language should meet with the Director of Bilingual Education.

Students seeking certification at the secondary level must, in addition to the Teacher Certification Program, complete a major in one of the following areas: art, business education, English, mathematics, music, physical education, science (includes approved major in biology, chemistry, geology, general science or physics and several support courses), social studies (includes an approved major in anthropology, history, economics, political science, psychology, sociology or Southwest Studies), or Spanish. Students interested in seeking special preparation in English as a Second Language should meet with the Director of Bilingual Education.

Students majoring in art, music or physical education may seek certification for grades K-12. These students must complete the major for their respective discipline, the Teacher Certification Program courses, and additional requirements beyond the secondary certification program.

**RULES AND REGULATIONS REGARDING TEACHER CERTIFICATION ARE ESTABLISHED BY THE COLORADO STATE BOARD OF EDUCATION. ADJUSTMENTS ARE MADE IN THE FORT LEWIS PROGRAM AS THESE RULES AND REGULATIONS CHANGE.**

## **PHILOSOPHY**

The educational philosophy of the Teacher Education Department is that an adequate program of teacher preparation must select individuals who are capable of becoming effective teachers and provide the preservice teacher with the technical and attitudinal skills necessary for functioning in the public schools of the present, as well as the public schools of the future.

The unique geographical location and the population characteristics of the student body and the service area dictate that the Teacher Certification Program of Fort Lewis College be cognizant of the need to prepare teachers to fulfill the requirements of the schools in the immediate area.

## **GOALS**

Academic as well as experiential bases are a vital concern for a program oriented toward the individual student's acquisition of subject matter skills and development of attitudinal competencies. The goals of the program are:

1. to provide the preservice teacher with orienting, formative and consolidating experiences in subject matter teaching;
2. to provide the preservice teacher with experiences that will ensure opportunities to learn about children and young adults, the community, and the teaching profession;
3. to provide the preservice teacher with experiences that will enable the student to maximize his/her own potential as a person and to recognize that every other person is of great worth and is entitled to develop to his/her greatest potential;
4. to provide the preservice teacher with experiences that will lead to an enthusiasm for life and a love of learning, to help make it possible for each student to successfully meet the challenges he/she faces in a rapidly changing world; and
5. to provide certified school personnel, and others who work with children in the surrounding geographic areas, with professional growth opportunities to meet in-service needs.

## **ADMISSION TO THE PROGRAM**

The student makes application for admission to the Teacher Education Program while enrolled in Ed 201 Teacher Education Admissions Seminar. Requirements for initial admission include:

1. a passing score (75th percentile or higher) on the State Board-adopted basic skills test, California Achievement Test - Level 19 (CAT), which consists of mathematics, spelling and English grammar;
2. an acceptable oral presentation before a panel of three or more judges or completion of a college speech class with a grade of B- or higher;
3. demonstrated competency in written communication skills;
4. evidence of having met at least one of the following:
  - a) a rank in the top two quartiles of the candidate's high school graduating class;

OR

- b) a score of 19 or above on the American College Test (ACT);  
OR
  - c) a score of 950 or above on the Scholastic Aptitude Test (SAT);  
OR
  - d) a grade point average of at least 2.50 on a 4.00 scale for at least 30 semester credits of the most recent college or university work. (All credits in the term in which the 30th is reached must be included.);
- 5. completion of a minimum of 30 college credits;
  - 6. a minimum of C- or better in Ed 201 and recommendation of the Ed 201 instructor, who evaluates personal and professional qualities; and
  - 7. evidence of prior experience of working with children/youth.

### ADMISSION TO STUDENT TEACHING

Requirements for admission to student teaching are more stringent than for initial admission to the program. In addition to the criteria listed under "Admission to the Program," each candidate must:

- 1. receive the recommendation of the Teacher Education Department, which considers each candidate in light of such factors as character, personal adjustment, physical condition, and human relations skills;
- 2. submit documentation of having completed 100 hours of supervised practicum experience since admission into the program;
- 3. receive the recommendation of the major department;
- 4. have completed 80 percent of the required courses for the major and have senior standing;
- 5. satisfactorily complete, with no grade lower than a C-, all elementary or secondary education courses listed under "Specific Departmental Requirements" and "Auxiliary Requirements from Other Departments";
- 6. possess a minimum grade point average of 2.50 in each of the following:
  - a) overall,
  - b) the major,
  - c) the certification sequence; and
- 7. submit a completed application form no later than the second week of the fall term for winter and summer student teaching; no later than the second week of the winter term for fall student teaching.

### ADMISSION OF TRANSFER OR UNCLASSIFIED STUDENTS

Transfer or unclassified students will be accepted into the Teacher Certification Program depending on prior preparation and scholastic achievement. The requirements listed under "Admission to the Program" and "Admission to Student Teaching" apply to these students. Written evaluation and acceptance of the student's major by the appropriate academic department of Fort Lewis College are required. Contact an advisor in the Teacher Education Department as soon as possible to plan your program.

## SECONDARY EDUCATION PROGRAM

### REQUIREMENTS FOR CERTIFICATION IN SECONDARY EDUCATION:

Credits

General Studies (not satisfied below).....41

### CERTIFICATION SEQUENCE

#### Departmental Requirements:

Ed 201 Teacher Education Admissions Seminar.....	3
Ed 205 Survey of Exceptionalities.....	2
Ed 215 Practicum: Exceptionality.....	1

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**The following courses require admission to the Teacher Certification Program. (See page 185 for qualifications for admission.)**

Ed 217 Teacher Aide and AV Practicum: Secondary.....	2
Ed 303 Planning and Instructional Objectives.....	1
Ed 362 Teaching Reading in the Content Areas.....	3
Ed 368 Methods of Teaching Exceptional Students: Secondary.....	2
Ed 373 Computer-Assisted Instruction and Evaluation Techniques in the Secondary Classroom.....	1
Ed 406 Issues in Secondary Education.....	2
Ed 480 Methods of Teaching (Subject Area).....	2
Ed 495 Laboratory Experience and Seminar in the Secondary School.....	15

Total.....34

#### Auxiliary Requirements:

Psych 157 Introduction to Psychology (General Studies, Group D).....	3
Psych 218 Psychological Foundations of Education.....	3

Total.....6

Electives and Courses in Major Academic Field.....47

**MINIMUM REQUIRED FOR GRADUATION.....128**

## ELEMENTARY EDUCATION PROGRAM

### REQUIREMENTS FOR CERTIFICATION IN ELEMENTARY EDUCATION:

### CERTIFICATION SEQUENCE

Credits

#### Departmental Requirements:

Ed 201 Teacher Education Admissions Seminar.....	3
Ed 205 Survey of Exceptionalities.....	2
Ed 261 Reading Skills in Elementary School.....	3
Ed 215 Practicum: Exceptionality.....	1

The following courses require admission to the Teacher Certification Program. You must be admitted to the program BEFORE you enroll in any of the following courses listed as departmental requirements.

Ed 216 Teacher Aide and AV Practicum: Elementary.....	2
Ed 301 Classroom Practices and Instructional Strategies .....	2
<b>Ed 301 is a prerequisite to the following classes:</b>	
Ed 305 Mathematics in the Elementary School.....	2
Ed 360 Methods of Teaching Diagnostic Reading in the Elementary School.....	3
Ed 367 Methods of Teaching Exceptional Students: Elementary.....	2
Ed 374 Computer-Assisted Instruction and Evaluation Techniques in the Elementary Classroom .....	1
Ed 411 Science in the Elementary School.....	2
Ed 415 Social Studies in the Elementary School.....	2
Ed 433 Language Arts in the Elementary School.....	2
Ed 494 Laboratory Experience and Seminar in the Elementary School.....	15
Ed 496 Seminar (to be taken in the fall or winter trimester immediately preceding student teaching).....	2

Total.....44

**Additional Requirements:**

**Most of the following meet General Studies Requirements:**

Music, Art or Theatre.....	3
Engl 327 Children's Literature .....	3
Engl 362 Introduction to Linguistics.....	3
Math 215 Mathematics for the Elementary School Teacher I....	3
Math 216 Mathematics for the Elementary School Teacher II...	3
Bio 100 Laboratory Experiences in Biology.....	1
Bio 110 Survey of Life Sciences.....	3
<b>The student will select a course and corresponding laboratory from the following two — Physical Science or Geology:</b>	
Phy Sci 100 Physical Science Laboratory.....	1
Phy Sci 105 The Physical Sciences .....	3
<i>or</i>	
Geol 113 Physical Geology .....	4
Psych 157 Introduction to Psychology.....	3
Psych 218 Psychological Foundations of Education .....	3
Psych 254 Life Span Human Development .....	3
Art 273 Art for Elementary Teachers.....	3
Mu 316 Music in the Elementary School.....	3
PE 370 Methods of Teaching Elementary Physical Education...	3
American and/or Latin American History (may take two classes in Latin American History—3 credits each—or two classes in American History—3 credits each—or one class—3 credits each—in each area).....	6
Non-Western Class — any course used to satisfy the Non-Western Requirement CANNOT be used to satisfy any other General Distribution Requirement.....	3

## Courses

### Ed 201 TEACHER EDUCATION ADMISSIONS SEMINAR (3-0) 3

A course designed to orient prospective members to the teaching profession and to the teacher certification sequence. Historical, philosophical and sociological developments which have resulted in relevant contemporary educational issues are explored. This course MUST be taken during the first term of enrollment in the Teacher Certification Program. It may be taken concurrently with Ed 202, 205 and/or 261. Those who possess a baccalaureate degree may take it concurrently with any Ed 200-level course as well as Ed 301 or 303. Students may apply for admission to the Teacher Certification Program during this course. Until admission is granted, students may not enroll, during future terms, in any course listed under "Departmental Requirements." It is recommended that students have a grade point average of 2.50 and prior experience working with children or young people before enrollment. Offered every term.

*Prerequisite:* must have completed 30 semester credits.

### Ed 202 COMMUNICATION COMPETENCIES FOR CLASSROOM TEACHERS (3-0) 3

This course is designed to aid prospective teachers in the development of formalized communication skills. Offered on demand.

### Ed 205 SURVEY OF EXCEPTIONALITIES (2-0) 2

Overview of exceptional conditions including visual impairment, hearing impairment, physical and other health impairments, mental retardation, learning disabilities, speech impairments, emotional and behavioral disturbances and giftedness. Offered every term.

### Ed 215 PRACTICUM: EXCEPTIONALITY 1

Field experience as tutor, volunteer, study-buddy, or Big Brother/Sister with one who experiences some kind of handicapping condition (exceptionality), in order to gain awareness of and sensitivity to individual differences. Recommended to be taken concurrently with Ed 367 or 368. Fall and winter terms.

### Ed 216 TEACHER AIDE AND AV PRACTICUM: ELEMENTARY 2

A course that gives students practical experience in an elementary school setting as well as instruction in group processes and basic audio-visual equipment and materials. It features placement in local or nearby schools and the experience of a regular assignment in one teaching situation for the duration of the term—not to exceed 6 hours per week. Assignments are highly individualized and are monitored by public school personnel. There are weekly seminars and audio-visual instructional sessions. A minimum of 50 contact hours in the school is required. Should be taken prior to or concurrently with Ed 301. Fall and winter terms.

*Prerequisites:* Ed 201 and admission to the Teacher Certification Program. Students who possess a baccalaureate degree may take the course during their first term of enrollment provided the teacher competency tests are taken prior to field placement.

## Ed 217 TEACHER AIDE AND AV PRACTICUM: SECONDARY 2

A course that gives students practical experience in a secondary school setting as well as instruction in processes and basic audio-visual equipment and materials. It features placement in local or nearby schools and the experience of a regular assignment in one teaching situation for the duration of the term—not to exceed 6 hours per week. Assignments are highly individualized and are monitored by public school personnel. There are weekly seminars and audio-visual instructional sessions. A minimum of 50 contact hours in the school is required. Should be taken prior to or concurrent with Ed 303. Fall and winter terms.

*Prerequisites:* Ed 201 and admission to the Teacher Certification Program. Students who possess a baccalaureate degree may take the course during their first term of enrollment provided the teacher competency tests are taken prior to field placement.

## Ed 261 READING SKILLS IN ELEMENTARY SCHOOL (3-0) 3

The scope and sequence of reading skills in the elementary school with emphasis on readiness for the various aspects of the reading process. Fall and winter terms.

Ed 301 CLASSROOM PRACTICES  
AND INSTRUCTIONAL STRATEGIES (2-0) 2

A course dealing with behavioral objectives, lesson planning, unit construction, testing, skill continuums, classroom management, discipline techniques and other subjects of a general nature as background for methods courses. Fall and winter terms.

*Prerequisites:* admission to the Teacher Certification Program and Ed 216 unless taken concurrently with Ed 301. Students who possess a baccalaureate degree may take the course during their first term of enrollment.

## Ed 303 PLANNING AND INSTRUCTIONAL OBJECTIVES (1-0) 1

Development of curricular principles involved in lesson, unit, and course planning for teaching: writing instructional objectives, selecting appropriate teaching strategies, selecting materials for student activities, and determining alternative evaluation methods. Fall and winter terms.

*Prerequisites:* admission to the Teacher Certification Program and Ed 217 unless taken concurrently with Ed 303. Students who possess a baccalaureate degree may take the course during their first term of enrollment.

## Ed 305 MATHEMATICS IN THE ELEMENTARY SCHOOL (2-0) 2

Content and procedures in the teaching of modern mathematics in the elementary school. Fall and winter terms.

*Prerequisites:* Math 216 and Ed 301.

## Ed 310 ADVANCED ELEMENTARY TEACHER AIDE PRACTICUM 1-3

A course that gives students additional practical experience in an elementary school setting. It features placement in local or nearby schools and the experience of a regular assignment in one teaching situation for the duration of the term—not to exceed 12 hours per week. Assignments are highly individualized and are monitored by public school personnel. Credit is based on the ratio of 1 credit per 35 contact hours. Fall and winter terms.

*Prerequisites:* Elementary—Ed 216 and 301; K-12—Ed 217 and 303.



## Ed 311 ADVANCED SECONDARY TEACHER AIDE PRACTICUM 1-3

A course that gives students additional practical experience in a secondary school setting. It features placement in local or nearby schools and the experience of a regular assignment in one teaching situation for the duration of the term—not to exceed 12 hours per week. Assignments are highly individualized and are monitored by public school personnel. Credit is based on the ratio of 1 credit per 35 contact hours. Fall and winter terms.

*Prerequisite:* Secondary—Ed 217 and 303; K-12—Ed 216 and 303.

## Ed 330 HUMAN RELATIONS IN THE CLASSROOM (3-0) 3

Designed to increase teacher effectiveness in the realm of interpersonal relations and group dynamics; analysis of individual and group behavior in a classroom setting; theoretical concepts and skill training in classroom management. Offered on demand.

Ed 331 THE SOUTHWESTERN MINORITY CHILD  
IN THE CLASSROOM (3-0) 3

Course is designed to provide a systematic analysis of the forces which shape the behavior of the Native American or Chicano child in an educational setting. Major emphasis will be placed on the development of an understanding of the differences in culture, value systems, attitudes and feelings of these minority students as they relate to the education system. Offered on demand.

Ed 332 MATERIALS AND METHODS  
OF BILINGUAL EDUCATION (3-0) 3

An introduction to the group and individual methods of teaching in a bilingual/bicultural setting and current methods for teaching cognitive areas in other languages. Also introduces bilingual materials available. Students required to make materials to meet Southwest classroom needs. Offered on demand.

*Prerequisite:* Ed 301 or consent of instructor.

## Ed 333 SOUTHWEST LANGUAGE IMMERSION FOR TEACHERS 1-3

Language immersion is designed for prospective teachers who may encounter Native American languages and/or Southwest Spanish dialects in the school community. It provides the student with basic oral skills in the languages and the courses are taught almost entirely in the target languages. Students may enroll for 1, 2, or all of the courses for a total of 3 credits. Offered on demand.

Ed 334 METHODS OF TEACHING ENGLISH  
AS A SECOND LANGUAGE (3-0) 3

Designed to prepare bilingual/bicultural and English teachers in their teaching of children with language backgrounds other than English. Application is made of both generalized and specific techniques. Offered on demand.

*Prerequisite:* Engl 362.

## Ed 353 GROWTH AND DEVELOPMENT OF THE YOUNG CHILD (3-0) 3

A study of the physical, mental, social, emotional, and psychological growth and development of the child from conception through early childhood. Emphasis is given to the child in the school setting. Offered on demand.

*Prerequisite:* consent of instructor.

Ed 355 METHODS AND TECHNIQUES  
FOR TEACHING PRESCHOOL CHILDREN (3-0) 3

Designed to acquaint the student with the preschool curricula and methods of teaching children ages 1-6. The student will have the opportunity to discover creative activities and their implementation in the classroom. An eclectic approach will be used. Offered on demand.

*Prerequisite:* consent of instructor.

Ed 360 METHODS OF TEACHING DIAGNOSTIC READING  
IN THE ELEMENTARY SCHOOL (3-0) 3

Methods and materials used in the teaching of elementary school reading. Emphasis will be placed on diagnosis and prescription and individualization of instruction. Fall and winter terms.

*Prerequisites:* Ed 261 and 301.

Ed 362 TEACHING READING  
IN THE CONTENT AREAS: SECONDARY (3-0) 3

The course includes reading theory, reading as skills development, techniques and materials for the detection of individual differences in reading ability, readiness for reading subject matter, vocabulary development in specific content areas, reading study skills, and increasing comprehension and reading rate. Fall and winter terms.

*Prerequisite:* Ed 303.

Ed 365 EDUCATIONAL MEASUREMENT (3-0) 3

A presentation of the applications of measurement and their contributions to and usefulness in the education program. Offered on demand.

*Prerequisite:* Psych 218 or consent of instructor.

Ed 367 METHODS OF TEACHING EXCEPTIONAL  
STUDENTS: ELEMENTARY (2-0) 2

Designed to prepare elementary classroom teachers to meet the needs of exceptional students. Emphases are on adapting teaching methods and materials. Recommended to be taken concurrently with Ed 215. Offered every term.

*Prerequisites:* Ed 205 and 301 or consent of instructor.

Ed 368 METHODS OF TEACHING EXCEPTIONAL  
STUDENTS: SECONDARY (2-0) 2

Strategies and tactics for teaching mainstreamed secondary-level exceptional students are presented and practiced in a workshop format. Recommended to be taken concurrently with Ed 215. Fall and winter terms.

*Prerequisites:* Ed 205 and 303.

Ed 373 COMPUTER-ASSISTED INSTRUCTION AND EVALUATION  
TECHNIQUES IN THE SECONDARY CLASSROOM (0-2) 1

The impact of microcomputers on school curricula and teaching strategies for using them effectively will be covered. Major types of computer-assisted instruction (CAI) will be studied. Testing and other evaluation techniques relevant to the secondary classroom will be studied. Fall and winter terms.

*Prerequisite:* Ed 303.

Ed 374 COMPUTER-ASSISTED INSTRUCTION AND EVALUATION  
TECHNIQUES IN THE ELEMENTARY CLASSROOM (0-2) 1

The impact of microcomputers on school curricula and teaching strategies for using them effectively in the elementary classroom will be covered. Major types of computer-assisted instruction (CAI) will be studied. Testing and other evaluation techniques relevant to the elementary classroom will be studied. Fall and winter terms.

*Prerequisite:* Ed 301.

Ed 387 PRACTICUM IN EXTRACURRICULAR ACTIVITIES 1-3

Students will be assigned to a supervisor with responsibility for an extra-curricular activity. Examples include, but are not limited to, athletics, intramurals, drama, musicals, and speech teams. The student receives 1 credit for every 25 hours of actual experience. In addition, a paper is required. Placement is contingent upon availability of assignment. A maximum of 3 credits is permitted. Fall and winter terms.

*Prerequisites:* consent of the instructor.

Ed 406 ISSUES IN SECONDARY EDUCATION (2-0) 2

This course is intended to sensitize the student to current issues in secondary education. School law, accountability, classroom management, cultural pluralism, and the junior high/middle school concept will be areas of emphasis. Fall and winter terms.

*Prerequisite:* Ed 303.

Ed 411 SCIENCE IN THE ELEMENTARY SCHOOL (2-0) 2

Emphasis on helping prospective teachers to: (1) analyze the science needs of elementary school children in the modern world; (2) select subject matter which will help pupils meet these needs; and (3) develop methods of teaching which will encourage scientific inquiry on the part of the learner. Fall and winter terms.

*Prerequisites:* Ed 301, Phy Sci 100 and 105 or Geol 113, and Bio 100 and 110L.

Ed 415 SOCIAL STUDIES IN THE ELEMENTARY SCHOOL (2-0) 2

Content and procedures in the social studies program of the elementary school. Offered every term.

*Prerequisites:* Ed 301 and completion of 6 credits of social science.

Ed 420 INSTRUCTIONAL MEDIA (3-0) 3

A study of the importance of instructional media in the learning process; advanced principles underlying the selection and utilization of materials for instructional purposes; exploration of visual and auditory aids available to teachers in the elementary and secondary schools; and demonstration and achievement of skills in the use of instructional media in teaching. Offered on demand.

Ed 433 LANGUAGE ARTS IN THE ELEMENTARY SCHOOL (2-0) 2

A study of the content areas in the elementary language arts program and teaching methods that are most effective in teaching children to communicate in English. Areas of emphasis include handwriting, listening, speaking, vocabulary development, written composition, spelling and grammar and usage. Fall and winter terms.

*Prerequisites:* Ed 301 and Engl 362.

Ed 454 LANGUAGE ARTS FOR EARLY CHILDHOOD (3-0) 3  
 The various skills of language development of the young child are considered and language arts curriculum materials for early childhood are surveyed. Offered on demand.

*Prerequisite:* consent of instructor.

Ed 455 MODERN TRENDS IN EARLY CHILDHOOD EDUCATION (3-0) 3

Emphasis is given to recent developments which have influenced early childhood education programs such as Head Start, Day Care, and federal legislation. A consideration of appropriate curriculum materials is also included. Offered on demand.

*Prerequisite:* consent of instructor.

Ed 461 DIAGNOSTIC AND REMEDIAL READING (3-0) 3

A study of the diagnosis and teaching of children with reading difficulties with emphasis on the development of appropriate skills through laboratory experience. Offered on demand.

*Prerequisite:* consent of instructor.

Ed 480 METHODS OF TEACHING (SUBJECT AREA) (2-0) 2

A course designed to show the prospective teacher how to teach specific subjects at the secondary level. Attention is given to the historical development and new trends within the subject areas and their influence upon curricula, learning, and teaching. CHECK WITH MAJOR DEPARTMENT FOR TERM OFFERED (some selections are only offered in alternate years).

*Prerequisite:* Ed 303.

Ed 487 ADVANCED PRACTICUM IN EXTRACURRICULAR ACTIVITIES 1-3

Students will be assigned to a supervisor of an extracurricular activity. The student receives 1 credit for every 35 hours of actual experience. In addition, a research paper is required. Placement is contingent upon availability of assignment. A maximum of 3 credits is permitted. Fall and winter terms.

*Prerequisites:* Ed 387 and consent of instructor.

Ed 488 SEMINAR AND PRACTICUM IN COLLEGE TEACHING (1-2) 2

A course designed for students in all academic disciplines who are interested in gaining knowledge and experience in teaching at the college level, especially students planning to attend graduate school with a teaching assistantship. The seminar portion of the course includes discussion of such topics as: learner/student characteristics, characteristics of good teaching, course outline or syllabus, lesson planning, goals and objectives, teaching techniques and methods, instructional aids, testing and grading. The practicum portion of the course consists of a mentor relationship with a Fort Lewis College faculty member in which the student arranges to assist the instructor with a course in his/her academic discipline. The student spends a minimum of 40 hours during the term working with the instructor in all aspects of that course. Fall and winter terms. Repeatable once with consent of instructor.

Ed 490 ADVANCED TOPICS IN EDUCATION 1-3

Designed to accommodate the needs or requests of school systems, teachers, or regular Fort Lewis College students who seek credit for topics of immediate concern. Course topic will be one not normally or regularly available through another course offering. Offered on demand.

- Ed 494 LABORATORY EXPERIENCE AND SEMINAR  
IN THE ELEMENTARY SCHOOL 5-15  
Directed observation and teaching in the public schools at the elementary level. Periodic seminars are held in which relevant areas of elementary school organization and management are discussed. Offered every term.  
*Prerequisite:* admission to student teaching. (See requirements on page 183.)
- Ed 495 LABORATORY EXPERIENCE AND SEMINAR  
IN THE SECONDARY SCHOOL 5-15  
Includes observation, participation, teaching, and allied activities under the direction of a selected regular teacher in a secondary school in consultation with college consultants. Offered every term.  
*Prerequisite:* admission to student teaching. (See requirements on page 183.)
- Ed 496 SEMINAR (2-0) 2  
The class will include information on health care and health education in the public schools, child abuse, school and community relationships, classroom management, professional organizations and negotiations, current issues, and information pertaining to placement files, job applications, interview techniques and teacher certification. Fall and winter terms.  
*Prerequisites:* Ed 301, senior standing, and to be taken the trimester immediately prior to student teaching.
- Ed 499 INDEPENDENT STUDY 1-3  
Individual research is conducted under the supervision of a faculty member. Offered every term.  
*Prerequisites:* approval of instructor and department chairman after submittal of formal request form available from the Teacher Education Department.

## Physical Education

Professors Troy D. Bledsoe,  
Joan M. Sanders, and Charles H. Walker;  
Professor Emeritus Adolph M. Kuss  
Associate Professor Carol M. Seale;  
Assistant Professors James S. Cross, William E. Hayes,  
Cathy L. Mohr, and Paul W. Petersen;  
Instructors Sheldon Cole Keresey and JoAnn Soignier

The objectives of the Department of Physical Education are:

1. to provide for the preparation of skilled teachers of physical education as well as qualified persons in the allied areas of recreation, coaching, and athletic training;
2. to provide a meaningful program in individual and dual sports, stressing the carry-over value of these activities for all students;
3. to provide extracurricular experiences for all students in health, physical education, recreation, and athletic training; and
4. to provide professional leadership for the intramural, recreational, and athletic activities of the students.

**REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN PHYSICAL EDUCATION:**

	<i>Credits</i>
General Studies (not satisfied below) .....	41
Specific Departmental Requirements:	
PE 165 Standard First Aid, Safety, and CPR.....	2
PE 170 Introduction to Physical Education .....	2
PE 175 Field Experience in Physical Education .....	1
PE 198 Introduction to Kinesiology.....	2
PE 243 Personal Health.....	3
PE 254 Adapted Physical Education.....	2
PE 260 Anatomical Kinesiology.....	3
PE 340 Motor Learning: Principles and Practices.....	3
PE 350 Measurement and Evaluation .....	3
PE 360 Physiological Kinesiology.....	3
PE 370 Methods of Teaching Elementary Physical Education .....	3
PE 380 Methods of Teaching Secondary Physical Education.....	3
PE 480 Organization and Administration of Health and Physical Education Programs.....	3
PE 496 Seminar in Physical Education.....	2
Total.....	35
Other Departmental Requirements .....	10
1. <i>Non-Teaching Concentration.</i> A nonteaching major will elect any 10 additional credits of physical education theory courses.	
2. <i>K-12 Teaching Concentration.</i> A teaching major who elects a K-12 concentration is required to take PE 371, 372, 381 and 410 and elect any 3 additional credits of physical education theory courses.	
3. <i>Secondary Teaching Concentration.</i> A teaching major who elects a secondary concentration is required to take PE 381, 410, and elect any 6 additional credits of physical education theory courses.	
4. <i>Coaching Concentration.</i> A teaching major who elects a coaching concentration is required to take the identified required courses in the K-12 or secondary concentration. In addition, he or she is required to take PE 224 and 375.	
5. <i>Athletic Training Concentration.</i> A teaching major who elects a concentration in athletic training is required to take the identified courses in the K-12 or secondary concentration. In addition, he or she is required to take PE 224, 324 and 253.	
6. <i>Skills.</i> All physical education majors must take eight PE Act skills courses from the following areas:	
a. Team Sports (four courses)	
b. Individual and Dual Sports (two courses)	
c. Dance (one course)	
d. Gymnastics and Tumbling (one course)	
Auxiliary Requirements from Other Departments:	
Bio 121 Human Anatomy and Physiology (General Studies, Group B) .....	3
Electives.....	39
<b>TOTAL REQUIRED FOR GRADUATION.....</b>	<b>128</b>

### Suggested Course Sequence

#### First Year

FALL		WINTER	
PE 170	2	PE 165	2
PE 175	1	PE Act	1
FCS	4	Bio 121 w/Lab	3
Psych 157	3	General Studies	<u>9-10</u>
General Studies	3		15-16
PE Act	1		
Bio 110	3		
Bio Lab	<u>1</u>		
	17-18		

#### Second Year

FALL		WINTER	
PE 198	2	PE 243	3
PE Act	1	PE Concentration	4
SCS	4	Ed 205	2
Psych 218	3	Psych 254 (K-12)	3
General Studies	3	PE Act	1
Ed 201	<u>3</u>	General Studies	3
	16	Ed 215	<u>1</u>
			17

#### Third Year

FALL		WINTER	
Ed 303	1	PE 260	3
PE 340	3	PE 350	3
PE 370	3	PE Act	1
PE 254	2	PE Concentration	2
PE Concentration	2	PE 496	2
Ed 368	2	Ed 362	3
PE Act	1	Ed 373	1
Ed 217	<u>3</u>	Ed 311	<u>2</u>
	16		15-17

#### Fourth Year

FALL		WINTER	
PE 360	3	Ed 495	15
PE 480	3		
PE 380	3		
PE Concentration	2		
Ed 406	2		
Elective	<u>3</u>		
	16		

A teaching major who elects a K-12 concentration must take either Ed 216 and 311 or Ed 217 and 310. A teaching major who elects a secondary concentration must take Ed 217.

### Courses

- PE ACT PHYSICAL ACTIVITY (0-2) 1  
Seasonal physical activities during each trimester for men or women. Up to a maximum of 6 credits can be counted toward graduation. No physical activity at the same level can be repeated for credit. Offered each term.
- PE 165 STANDARD FIRST AID, PERSONAL SAFETY, AND CPR (2-0) 2  
Study and practice of Red Cross first aid procedures in handling common injuries, accidents and medical emergencies. Fall and winter terms.
- PE 170 INTRODUCTION TO PHYSICAL EDUCATION (2-0) 2  
Designed to orient the student in the field of physical education as a profession. Course will include discussion of the nature and scope of the field, its aims and objectives, mechanical, psychological and physiological foundations, and professional opportunities, responsibilities and associations. Fall and winter terms.
- PE 175 FIELD EXPERIENCE IN PHYSICAL EDUCATION (0-2) 1  
Observational experiences followed by discussions will be used to increase the students' understanding of the nature and role of physical education and coaching in the elementary and secondary school setting. Fall and winter terms.
- PE 198 INTRODUCTION TO KINESIOLOGY (2-0) 2  
An introduction to the anatomical and physiological systems of the human body with an emphasis upon the interrelationships between the systems and human movement. Fall and winter terms.  
*Prerequisite:* Bio 121.
- PE 224 BASIC PRINCIPLES OF ATHLETIC TRAINING (2-0) 2  
An introduction to the field of athletic training. Professional opportunities in this field are discussed. Students will develop a basic understanding of athletic injuries as they relate to prevention, nature and causes. Fall and winter terms.  
*Prerequisite:* PE 198 or consent of instructor.
- PE 225 TECHNIQUES OF COACHING FOOTBALL (2-0) 2  
Classroom instruction directed toward the various phases of American football: history, defensive theory, strategy, personnel, offensive theory, the kicking game, practice organization, relationship and influence of teachers, parents, booster clubs, and news media. Winter term.
- PE 226 TECHNIQUES OF COACHING VOLLEYBALL (2-0) 2  
Study of principles, methods, techniques and strategies involved in the coaching of volleyball. Winter term.
- PE 227 TECHNIQUES OF COACHING BASKETBALL (2-0) 2  
Analysis of the game of basketball in theory and application with special emphasis upon teaching the game. Development of offense, defense, and special situations for both prospective coaches and enthusiasts. Fall term.
- PE 228 TECHNIQUES OF COACHING WRESTLING (2-0) 2  
Study of principles, methods, techniques, and strategies involved in the coaching of wrestling. Fall term, alternate years.
- PE 229 TECHNIQUES OF COACHING TRACK AND FIELD (2-0) 2  
Designed to teach methods, techniques and principles of coaching all events in track and field at both the high school and college levels. Fall term, alternate years.



- PE 233 OFFICIATING OF FOOTBALL (1-0) 1  
 Designed to provide individuals with the rules, skills, and mechanics of officiating. Includes rules of the National Federation of High Schools, National Association of Intercollegiate Athletics and National Collegiate Athletic Association. Fall term.
- PE 234 OFFICIATING OF VOLLEYBALL (1-0) 1  
 Instruction in the rules and practice of the mechanics and skills of officiating volleyball at the high school and college levels. Fall term, alternate years.
- PE 235 OFFICIATING OF BASKETBALL (1-0) 1  
 Designed to teach the student the rules, skills and mechanics of officiating basketball. Winter term.
- PE 236 OFFICIATING OF WRESTLING (1-0) 1  
 Discussion and practice in the techniques of officiating wrestling, with an intensive study of the rules of both high school and college. Winter term, alternate years.
- PE 243 PERSONAL HEALTH (3-0) 3  
 A study of the basic facts related to the health of the individual with a strong emphasis on the social implication of these facts. Fall and winter terms.
- PE 253 BASIC PRINCIPLES OF NUTRITION (2-0) 2  
 A study of the principles of nutrition science, guidelines for making healthful food choices, and techniques for evaluating nutrition information. Students will study the relationship between nutrition and general health. Winter term.
- PE 260 ANATOMICAL KINESIOLOGY (3-0) 3  
 An in-depth study of the basic body movements; osteology; applied myology; spatial relations of muscles to joints; aggregate muscle action; kinesiological constructs of summation of internal forces, aerodynamics and hydrodynamics; techniques for cinematographic and noncinematographic analysis of sport skills. Winter term.  
*Prerequisite:* PE 198.
- PE 261 WATER SAFETY INSTRUCTOR (1-2) 2  
 Water safety instructors course designed to train and certify (Red Cross) teachers of swimming and lifesaving. Winter term.  
*Prerequisite:* current Advanced Lifesaving Certification (Red Cross).
- PE 265 HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION (2-0) 2  
 The history of physical education from ancient civilization to the present day. Special emphasis is given to the philosophical approaches to the profession by outstanding physical educators. Each student develops a philosophy of physical education. Fall term.
- PE 275 PRINCIPLES OF PHYSICAL EDUCATION (2-0) 2  
 Examination of the psychological, sociological, and physiological principles underlying the philosophies, objectives, and curriculum of physical education. Winter term.
- PE 312 ADMINISTRATION OF INTRAMURAL PROGRAMS (2-2) 3  
 The course will give the student information in all pertinent areas of intramural administration. In addition, each student will have hands on" experience working in the Fort Lewis College Intramural and Recreation Program. Winter term.

PE 324 ADVANCED TECHNIQUES OF ATHLETIC TRAINING (2-2) 3  
An in-depth study of the anatomical considerations, the prevention and recognition, and the treatment and rehabilitation of athletic injuries. Fall term.

*Prerequisite:* PE 224.

PE 340 MOTOR LEARNING: PRINCIPLES AND PRACTICES (3-0) 3  
Principles involved in learning motor skills, the individual variables which affect this learning, and the practice and techniques for improving motor performance. Fall term.

PE 350 MEASUREMENT AND EVALUATION (3-0) 3  
Administration of tests in physical education. Obtaining data from tests, analyzing this data, and the evaluation and interpretation of this data. Winter term.

PE 354 ADAPTED PHYSICAL EDUCATION (2-2) 3  
Background and foundation—the understanding of the individual who is atypical: sociological and psychological implications; how an adapted program is developed; organization, administration, and methods of teaching; tests and measurements; relaxation and therapeutic exercises; understanding specific disabilities. Fall term.

PE 360 PHYSIOLOGICAL KINESIOLOGY (3-0) 3  
Theory and laboratory investigations into the temporary and adaptational adjustments of selected body systems to the stress of human movement under different intensities, durations, and environments. Fall term.

*Prerequisite:* PE 198.

PE 370 METHODS OF TEACHING  
ELEMENTARY PHYSICAL EDUCATION (3-0) 3  
Emphasis will be upon values, principles, objectives, growth and development characteristics, curriculum construction, and general methods of organizing and teaching physical education in grades K-6. Fall and winter terms.

PE 371 ELEMENTARY PHYSICAL EDUCATION SKILLS (2-0) 2  
Experience in analyzing and presenting physical education skills with an understanding of progression and appropriate methods for elementary school children. Fall term.

*Prerequisite:* PE 370.

PE 372 MOTOR AND PERCEPTUAL-MOTOR DEVELOPMENT (1-0) 1  
Designed to acquaint classroom teachers and physical educators with theories, principles, activity selection, and relationships between motor, perceptual-motor and cognitive development of elementary and preschool children. Winter term.

*Prerequisite:* PE 370.

PE 375 PSYCHOLOGY OF COACHING (2-0) 2  
Examination of psychological principles and concepts as they apply to athletes and coaches involved in competitive sports. Fall term.

*Prerequisite:* Psych 157.

PE 380 METHODS OF TEACHING PHYSICAL EDUCATION IN SECONDARY SCHOOLS (3-0) 3

A teacher candidate course designed to familiarize the student with methods and materials for successful teaching at the junior high and senior high levels. Emphasis is upon planning objectives, growth and development characteristics, curriculum construction, organization, and today's issues and current trends. The course satisfies the Teacher Education requirements met with Ed 480. Fall and winter terms.

*Prerequisite:* ED 303.

PE 381 PHYSICAL EDUCATION SKILLS FOR SECONDARY SCHOOL TEACHERS (2-0) 2

Experience in analyzing and presenting physical education skills with an understanding of progression and appropriate methods for teaching secondary school students. Winter term.

*Prerequisite:* PE 380.

PE 400 OUTDOOR RECREATION—FIELD CAMP 6

This five-week field camp will expose students to several outdoor recreation activities. The focus will be on leadership, planning, values, safety and natural freedom.

*Prerequisites:* PE Act Rock Climbing; PE Act Kayaking; PE Act Camping; PE Act Ski Touring; or have skills necessary for baseline participation.

PE 410 CURRICULUM CONSTRUCTION IN PHYSICAL EDUCATION (2-0) 2

Examination of principles, practices, functional philosophies and trends as they relate to curriculum construction for grades K-12. Fall term.

PE 420 SOCIAL DIMENSIONS OF PHYSICAL EDUCATION (2-0) 2

Development of a theoretical framework and an analysis of research concerning socio-cultural influences on physical education activities and sports; interrelationships among forces in society and physical education and their effect upon the individual and the group. Winter term.

PE 480 ORGANIZATION AND ADMINISTRATION OF HEALTH AND PHYSICAL EDUCATION PROGRAMS (3-0) 3

Relationships, procedures and problem-solving approaches in effective organization and administration of health, physical education, recreation, and athletic programs. Budget, use of facilities and equipment, legal responsibilities, public relations, policy development and supervision are analyzed. Fall term.

*Prerequisite:* junior standing.

PE 496 SEMINAR IN PHYSICAL EDUCATION (2-0) 2

Discussions and inquiries dealing with contemporary issues, trends, and problems in physical education. Fall and winter terms.

*Prerequisite:* junior standing.

PE 499 INDEPENDENT STUDY 1-3

Opportunity to investigate a significant problem through laboratory or library research under the supervision of a faculty member. Fall and winter terms.

*Prerequisites:* senior standing and approval of department chairman and instructor after presentation of a problem outline.

## Psychology

Professors Harold L. Mansfield, Roger Peters and Robert M. Wageman;  
Associate Professors David J. Bullis and Thomas A. Skurky  
Assistant Professors Linda L. Faldetta and Gloria Manucia

The psychology major is designed to meet the needs of many students, all of whom have an interest in the scientific study of behavior and its causes, which is the most general definition of modern psychology.

Students of psychology can be divided into the following types:

1. The student who wishes to prepare for admission to graduate school upon graduation from college, and who knows that in order to serve in any responsible capacity as a professional psychologist, graduate education beyond the bachelor's degree is mandatory. This student is aware that admission to graduate school is intensely competitive, and is willing to participate in a rigorous program of study which emphasizes preparation in basic concepts and research at the undergraduate level.
2. The student who wishes to seek employment in some helping agency where working with people and their problems can be done with a bachelor's degree, and where the student can gather experience in order to decide if further education in psychology is desirable.
3. The student who is unconcerned at present with specific career goals, but who is sufficiently interested in studying behavior to use a psychology major as the basis for a liberal arts education.
4. The student who is interested in studying behavior, but who does not fit into one of the above categories.

The needs of all psychology students are addressed by a major which is demanding, yet flexible; a major which ensures exposure to current thinking and techniques of modern psychology, but at the same time allows students to explore their own interests and set their own goals. As they become more familiar with the field of psychology and more aware of individual interests, students are encouraged to redefine their goals.

The psychology major also provides the opportunity for interdisciplinary study by encouraging students to take courses in other departments. These courses can be counted toward the requirements of the psychology major.

A minor in psychology is available for students majoring in other disciplines. Requirements for a minor in psychology are described on page 204.

### REQUIREMENTS FOR A BACHELOR OF ARTS DEGREE WITH A MAJOR IN PSYCHOLOGY:

*Credits*

General Studies.....44

Specific Departmental Requirements (Core Program: All psychology majors must complete these requirements):

1. Orientation to Psychology (ALL required)
  - Psych 157 3 credits
  - Psych 219 4 credits
  - Psych 241 3 credits.....10

2. Research Experience (select two courses)	
Psych 327	4 credits
Psych 330	4 credits
Psych 365	4 credits
Psych 426	4 credits
	8
3. Human Perspectives (select three courses)	
Psych 242	3 credits
Psych 254	3 credits
Psych 387	3 credits
Psych 425	3 credits
Psych 441	3 credits
Psych 483	3 credits
	9
4. Program Integration (BOTH required)	
Psych 396	3 credits
Psych 496	3 credits
	6
TOTAL	33

#### Additional Departmental Requirements:

Each student must submit a proposal for an additional 24 credits to be taken as an adjunct to the 33 credits of core psychology courses presented above. All courses for the adjunct must be 300-level or above.

These additional credits must be arranged as follows:

1. No more than 9 credits can be in psychology, and these must be at the 300 level or above.
2. At least 15 credits must be advanced courses from fields other than psychology (300 level and above). These courses should be selected in accordance with the interests and career plans of the student.
3. The proposal should be submitted to the student's psychology advisor for approval by the beginning of the junior year. It will then be reviewed by the psychology faculty, and upon agreement and approval, will become a contract which the student must complete in order to satisfy this requirement.

The adjunct requirement is designed to encourage psychology majors to examine carefully and prepare for the opportunities they expect to have upon graduation. It also encourages participation in interdisciplinary study.

Any discipline offered at Fort Lewis may be considered as an adjunct area of study. Some suggestions are:

1. The student who anticipates graduate school in psychology should plan an adjunct proposal reflecting the requirements for admission to those graduate schools and programs of study which are of interest. Most graduate schools emphasize research experience and effective communication skills, including communication in mathematics and computer language. An adjunct program with this in mind would concentrate on gaining this experience and acquiring these skills.
2. The student who is considering entering a social service agency upon graduation—possibly an agency in the Southwest—would do well to achieve fluency in Spanish and become thoroughly acquainted with the history of cultural groups of the Southwest. A knowledge of current political issues concerning these groups would also be helpful.

3. A student focusing on psychology within a liberal arts education could use the adjunct credits in a variety of meaningful programs. It is fascinating to discover that anthropologists, biologists, economists, historians, political scientists, sociologists, journalists, novelists, philosophers, linguists, and poets also study behavior, and that these fields, as well as others, have enormous relevance to psychology and vice versa.

It is within this context that a student majoring in psychology as preparation for a career in law, medicine, the diplomatic or military services, business, public relations, or teaching would be able to propose a highly interesting adjunct program.

4. Finally, for the student who is unclear as to just what he or she plans to do with his/her degree in psychology, the adjunct proposal requires that this question be addressed early enough in the college experience for the dilemma to be resolved and action taken to better prepare the student for the world to be encountered upon graduation. Too often, career decision planning is postponed until the final trimester of the senior year. The adjunct proposal requirement allows exploration of alternatives during the freshman and sophomore years, but requires decision making, planning, and commitment by the student at the beginning of the junior year.

The requirements for a Bachelor of Arts degree in Psychology may be summarized as follows:

	<i>Credits</i>
General Studies .....	44
Core Program in Psychology .....	33
Adjunct Study Proposal Courses .....	24
General Electives .....	27
<b>TOTAL REQUIRED FOR GRADUATION .....</b>	<b>128</b>
<b>REQUIREMENTS FOR A MINOR IN PSYCHOLOGY:</b>	

A minor in psychology consists of at least 20 credits, distributed as follows: the three courses of the Orientation group, Psychology 157, 219, and 241; one upper division course from the Research Experience group; one upper division course from the Human Perspective group; and one other upper division psychology course.

### **Courses**

- Psych 157 INTRODUCTION TO PSYCHOLOGY (3-0) 3  
An introduction to the scientific study of behavior, including the concepts of learning, motivation, perception, emotions, personality, and sexuality. Abnormal, social, developmental, and physiological psychology will also be discussed.
- Psych 218 PSYCHOLOGICAL FOUNDATIONS OF EDUCATION (3-0) 3  
An introduction to the psychological principles relevant to education.  
*Prerequisite:* Psych 157.

**Psych 219 FOUNDATIONS OF EXPERIMENTAL PSYCHOLOGY (3-2) 4**  
Introduction to the basic assumptions, concepts, control areas, and methodology of experimentation in psychology. Includes the study of operational definitions, independent and dependent variables, measurement, techniques of observation, and experimental design. Laboratory is designed to provide skill in implementing simple experiments in a variety of psychological fields.

*Prerequisite:* Psych 157 and 241 or equivalent.

**Psych 228 INDUSTRIAL PSYCHOLOGY (3-0) 3**  
An introduction to the application of psychology to the industrial and organizational environment, including personnel recruitment and selection, job analysis, leadership, training, advertising and marketing, labor relations, and other relevant topics.

**Psych 241 BASIC STATISTICS FOR PSYCHOLOGISTS (3-0) 3**  
An introduction to the collection, organization and analysis of data from human and animal populations. Methods of sampling, treatment of data and reporting are covered. Descriptive statistics and statistical inference are taught, as are the decision factors and error analysis.

**Psych 242 PSYCHOLOGICAL TESTING (3-0) 3**  
A course designed to introduce the student to the area of psychological tests and measurements, providing training in the concepts and applications of intelligence tests, personality inventories, and projective techniques, as well as aptitude and interest scales.

*Prerequisite:* Psych 241.

**Psych 254 LIFE SPAN HUMAN DEVELOPMENT (3-0) 3**  
This course applies psychological principles to human perspectives of development. The first portion of the course is devoted to studying principles, processes, theories, and research methodology. The second part applies these concepts to each stage of the human life span from conception through aging and death and dying, with emphasis on child, preadolescent, and adolescent development. Community resources are used for field tips, guest speakers, etc., throughout the second part of the course.

*Prerequisite:* Psych 157.

**Psych 327 PHYSIOLOGICAL PSYCHOLOGY (3-2) 4**  
Study of basic neuroanatomy, neurophysiology, and other physiological variables in the prediction and understanding of behavior.

*Prerequisite:* Psych 219 or consent of instructor.

**Psych 330 ANIMAL BEHAVIOR (2-4) 2**  
This course emphasizes techniques of observation of animal behavior, particularly in the field. Techniques of description, analysis, classification of behavior, and critical analysis of theories of animal behavior, especially communication among mammals, will be presented. The weekly lab is usually a field trip.

*Prerequisite:* Psych 219.

**Psych 365 PSYCHOLOGY OF LEARNING (3-2) 4**  
The conditions of learning in animals and men as found in the experimental literature.

*Prerequisite:* Psych 219 or consent of instructor.

- Psych 387 ABNORMAL PSYCHOLOGY (3-0) 3  
 A study of the historical and contemporary perspectives in the broad range of behavior disorders. Theoretical and applied approaches to the treatment of disturbed persons and the use of the DSM III classification system.  
*Prerequisite:* Psych 219 or consent of instructor.
- Psych 394 FIELD SCHOOL IN CLINICAL PSYCHOLOGY 6  
 A one-month participation with a psychiatric team at a state hospital for mentally disturbed persons. Experiences include admission interviews, staffings, diagnostic techniques, treatment planning and implementation including occupational and recreational therapy. First summer term.  
*Prerequisite:* Psych 387; recommended: Psych 242.
- Psych 396 TOPICS IN RESEARCH (3-0) 3  
 A course in the methods and tools of research other than laboratory experimentation, such as historical, case study, descriptive, field, observational, and *ex post facto* investigations. Emphasis is on the design of psychological research, data collection techniques and interpretation.  
*Prerequisite:* Psych 219.
- Psych 425 SOCIAL PSYCHOLOGY (3-0) 3  
 An introduction to principles and methods in the empirical analysis of interpersonal influence. Examines roles, stereotypes, attitudes, and other socio-psychological phenomena.  
*Prerequisites:* Psych 157, 241.
- Psych 426 SENSATION AND PERCEPTION (3-2) 4  
 This course explores the chemistry, physics, and physiology of sensation and the cognitive psychology of perception from an information-processing point of view. Students use the laboratory to develop demonstrations of sensory and perceptual phenomena.  
*Prerequisite:* Psych 219.
- Psych 441 COGNITIVE SCIENCE (3-0) 3  
 Application of information processing models to attention, memory, problem-solving, language, intelligence and other high-level mental processes. Combines approaches of cognitive psychology, computer science, linguistics, and philosophy. Generally offered fall term of even-numbered years.  
*Prerequisite:* Psych 157 or consent of instructor.
- Psych 483 HISTORICAL INTRODUCTION  
 TO MODERN PSYCHOLOGY (3-0) 3  
 A study of the philosophical and scientific antecedents of modern psychology, together with a review of the classical psychological systems and theories from ancient times to the present.  
*Prerequisite:* senior standing in psychology and/or consent of instructor.
- Psych 496 SEMINAR (3-0) 3  
 Advanced study and research in selected topics. Fall and winter terms.  
*Prerequisites:* Psych 396; senior standing and consent of instructor.
- Psych 499 INDEPENDENT STUDY 1-3  
 Individual research is conducted under the supervision of a faculty member.  
*Prerequisite:* approval of department chairman.



# Administration and Faculty



## THE STATE BOARD OF AGRICULTURE\*

	<i>Address</i>	<i>Term Ends</i>
A. GARY AMES	Aurora	1991
KATHERINE A. CATTANACH	Denver	1989
JAMES R. ISGAR	Durango	1992
PATRICIA D. KELLY	Pueblo	1990
ANDY LOVE	Denver	1989
RICHARD L. ROBINSON	Denver	1991
PAUL S. SALAS	Fort Collins	1989
BRIAN A. SNOW	Denver	1988
JOHN R. STULP, JR.	Lamar	1990

### Officers

RICHARD ROBINSON	President
ANDY LOVE	Vice President

\*In addition, a faculty representative and a student representative are elected annually from each institution under the jurisdiction of the State Board of Agriculture as nonvoting members.

## COLORADO STATE UNIVERSITY SYSTEM

PHILIP E. AUSTIN	Chancellor, CSU System and President, Colorado State University
JOEL M. JONES	President, Fort Lewis College
ROBERT C. SHIRLEY	President, University of Southern Colorado

## ADMINISTRATIVE PERSONNEL

- JAMES K. ASH,  
Director of Cooperative Education
- EARL W. AULSTON,  
Assistant Controller
- TROY D. BLEDSOE,  
Director of Athletics
- WILLIAM C. BOLDEN,  
Assistant Director of Housing for  
Residence Life
- CLIFFORD C. CAPP,  
Acting Director of Institutional  
Research and Planning
- KATHERINE L. CHAFFIN  
Assistant to Director of Placement  
and Career Counselor
- CONRAD L. CHAVEZ,  
Director of Financial Aid
- DAVID P. EPPICH,  
Director of College Union and  
Student Activities
- MARCIA FRANZEN,  
Personnel Officer
- DALE D. GARLAND  
Admission Counselor
- GARY E. GOOLD,  
Controller
- MERLE JOOSTEN,  
Manager, Administrative  
Computing
- DANIEL W. LESTER,  
Director of the Library
- ROBERT P. LUNDQUIST,  
Director, Learning Assistance  
Center
- SUSAN MCGINNESS  
Director of Counseling and  
Student Development Center
- FRAN C. McMANUS  
Acting Director, Conferences and  
Institutes
- MARY JEAN MOSELEY,  
Director, Division of Intercultural  
Studies
- JOSEPH P. PERINO,  
Director of Budget
- BETTY PERRY,  
Acting Director of Housing
- CHARLES H. REID, JR.,  
Director of Records
- SHERI R. ROCHFORD,  
Associate Dean of Admission and  
Development
- JOAN M. SANDERS,  
Affirmative Action Director
- SUSAN A. SMITH,  
Registrar
- HARLAN L. STEINLE,  
Dean of Admission and  
Development
- CATHY TURNER,  
Bookstore Manager
- RICHARD C. WILLIS,  
Acting Administrator of Financial  
Aid
- JOE E. WOLCOTT,  
Director of Security
- CRAIG E. YOUNG,  
Acting Director, Computing and  
Telecommunications

**Academic Faculty**

1988-89

- ALCAZAR, REINALDO M., *Assistant Professor of Modern Languages* (1983)\*  
B.A., University of Northern Colorado, 1965  
M.A., University of Colorado, 1970  
Ph.D., University of Colorado, 1976
- ALLEN, DIANE L., *Librarian and Assistant Professor* (1984)  
B.A., University of California/Los Angeles, 1967  
M.L.S., University of California/Los Angeles, 1968  
M.A., University of California/Los Angeles, 1970
- ANDERSON, BERNARD E., *Professor of Business Administration* (1971)  
B.S., Arizona State University, 1960  
M.A., University of Arizona, 1961  
Ph.D., Ohio State University, 1964
- ANGUS, EDWARD L., *Dean, School of Arts and Sciences and Professor of Political Science* (1981)  
A.B., University of Kentucky, 1961  
M.A., Pennsylvania State University, 1963  
Ph.D., Pennsylvania State University, 1970
- ASH, JAMES K., *Director of Cooperative Education and Assistant Professor of History* (1970)  
B.A., University of California/Berkeley, 1967  
M.A., Harvard University, 1970
- ATENCIO, LEONARD D., *Professor of Economics* (1968)  
B.A., Fort Lewis College, 1964  
Ph.D., Kansas State University, 1969
- BAILEY, BRENDA, *Librarian and Instructor* (1986)  
B.F.A., Bowling Green State University, 1978  
M.L.S., Kent State University, 1983
- BARTLETT, WILLIAM R., *Professor of Chemistry* (1978)  
B.A., Luther College, 1965  
Ph.D., Stanford University, 1969
- BELL, GREGORY W., *Associate Professor of Mathematics* (1978)  
B.A., University of Utah, 1969  
M.A., University of Michigan, 1972  
Ph.D., University of Michigan, 1976
- BIRD, G. LEONARD, *Professor of English* (1969)  
B.A., San Diego State College, 1961  
M.A., University of Utah, 1963  
Ph.D., University of Utah, 1969
- BLAIR, ROBERT W., JR., *Professor of Geology* (1973)  
B.S., University of New Mexico, 1966  
Ph.D., Colorado School of Mines, 1975

\*Date after title denotes when appointment began at Fort Lewis College.

- BLEDSON, TROY D., *Director of Athletics, Professor of Physical Education* (1974)  
B.A., Hendrix College, 1949  
M.A., Memphis State University, 1955  
Ph.D., University of Denver, 1973
- BOHEMIER, DENISE A., *Assistant Professor of Chemistry* (1988)  
B.S., Lenoir Rhyne College, 1981  
M.S., University of Colorado, 1984  
Ph.D., University of Colorado, 1987
- BORDNER, KENNETH E., *Professor of Theatre* (1972)  
B.A., Princeton University, 1963  
M.A., University of Massachusetts, 1965  
M.F.A., University of Massachusetts, 1966
- BREW, DOUGLAS, *Professor of Geology* (1980)  
A.B., Dartmouth College, 1957  
M.S., Cornell University, 1963  
Ph.D., Cornell University, 1965
- BRUNVAND, AMY C., *Librarian and Instructor* (1988)  
B.S., University of Utah, 1986  
M.L.S., University of Pittsburgh, 1987
- BULLIS, DAVID, *Associate Professor of Psychology* (1980)  
B.A., SUNY/Plattsburgh, 1968  
M.S., SUNY/Plattsburgh, 1970  
Ph.D., Harvard University, 1976
- BURNS, SAMUEL A., *Director, Office of Community Services and Associate Professor of Sociology and Human Services* (1972)  
B.A., University of San Francisco, 1963  
Ph.D., University of Colorado, 1985
- CAMPBELL, JOHN A., *Professor of Geology* (1980)  
B.G., University of Tulsa, 1955  
M.S., University of Colorado, 1957  
Ph.D., University of Colorado, 1966
- CANO-MONTENEGRO, MIGUEL FEDERICO *Professor of Modern Languages* (1974)  
B.S., University of Mexico, 1956  
B.S., St. Louis University, 1963  
M.A., St. Louis University, 1966  
Ph.D., St. Louis University, 1973
- CAPP, CLIFFORD B., *Assistant Professor of Mathematics* (1970)  
B.S., Colorado State University, 1962  
M.S., Colorado State University, 1969
- CARGILE, ELLEN, *Associate Professor of Art, Division of Intercultural Studies* (1973)  
B.S., University of Texas, 1953  
M.Ed., University of Arkansas, 1967

CARRASCO, LOURDES M., *Associate Professor of Modern Languages* (1983)

B.A., University of California/Santa Barbara, 1968

M.A., University of California/Santa Barbara, 1970

Ph.D., Michigan State University, 1979

CHEESEWRIGHT, GORDON PAUL, *Associate Professor of English* (1988)

B.A., Principia College, 1964

M.A., University of California, Los Angeles, 1969

Ph.D., University of California, Los Angeles, 1972

CLAY, JAMES P., *Associate Professor of Business/Economics* (1982)

B.A., University of Colorado, 1966

M.A., Kansas State University, 1968

Ph.D., Kansas State University, 1974

C.M.A., 1982

COE, WILLIAM, *Professor of Philosophy* (1971)

A.B., Dartmouth College, 1957

M.A., Vanderbilt University, 1959

Ph.D., Pennsylvania State University, 1967

COLEMAN, JEREMY J., *Assistant Dean, School of Business, and Professor of Business Administration* (1983)

B.S., Princeton University, 1963

M.P.A., Harvard University, 1968

D.B.A., George Washington University, 1974

P.E., Colorado 1983

COLGAN, JOSEPH C., *Professor of Accounting* (1981)

B.A., Kearney State College, 1960

M.B.A., University of Denver, 1966

Ph.D., North Texas State University, 1981

C.P.A., Colorado, 1967

COLLIER, JAMES D., *Assistant Professor of Geology* (1984)

B.A., Carleton College, 1976

Ph.D., Colorado School of Mines, 1982

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B.S., Southwestern State College, 1963

M.N.S., Oklahoma University, 1970

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B.A., Texas Tech University, 1976

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B.A., Doane College, 1959

M.S., University of Nebraska, 1963

Ph.D., University of Nebraska, 1967

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B.S., Springfield College, 1974

M.S., Queens College, 1983

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B.A., University of Colorado, 1969  
M.A., University of Denver, 1973
- DARE, BYRON, *Associate Professor of Political Science* (1984)  
B.A., University of Southern California, 1973  
M.A., University of Southern California, 1974  
Ph.D., University of Southern California, 1983
- DECKER, JAMES C., *Professor of Political Science* (1966)  
B.A., University of Illinois, 1953  
M.A., University of Colorado, 1963  
Ph.D., University of Colorado, 1966
- DEVER, JOHN E., JR., *Professor of Biology* (1967)  
B.S., Rutgers University, 1960  
M.S., Oregon State University, 1962  
Ph.D., Michigan State University, 1967
- DIN, GILBERT C., *Professor of History* (1965)  
A.B., University of California/Berkeley, 1957  
M.A., University of California/Berkeley, 1958  
Doctor en Filosofia y Letras, University of Madrid, 1960
- DOLPHIN, ROBERT, JR., *Vice President for Business and Finance and Professor of Finance* (1984)  
B.S., Indiana University, 1960  
M.B.A., Indiana University, 1961  
D.B.A., Michigan State University, 1964
- DOWNEY, RALPH A., *Professor of Music* (1969)  
B.S., Lebanon Valley College, 1949  
M.M., University of Montana, 1965  
Ed.D., University of Montana, 1974
- DUKE, PHILIP G., *Associate Professor of Anthropology* (1980)  
B.A., Cambridge, England, 1976  
M.A., University of Calgary, Canada, 1978  
M.A., Cambridge, England, 1982  
Ph.D., University of Calgary, Canada, 1982
- ECKENRODE, THOMAS R., *Professor of History* (1969)  
A.B., St. Vincent College, 1958  
M.A., University of Colorado, 1964  
Ph.D., St. Louis University, 1970
- EL-HAKIM, OMNIA I., *Assistant Professor of Engineering* (1985)  
B.S., Ein Shams University, Egypt, 1966  
M.S., Cairo University, 1977  
Ph.D., Colorado State University, 1984
- ELLINGSON, JACK A., *Assistant Dean, School of Arts and Sciences, and Professor of Geology* (1970)  
B.S., University of Washington, 1958  
M.S., University of Washington, 1959  
Ph.D., Washington State University, 1968

- ELLIS, RICHARD N., *Director, Center for Southwest Studies and Professor of History* (1987)  
B.A., University of Colorado, 1961  
M.A., University of Colorado, 1963  
Ph.D., University of Colorado, 1967
- ENGLEHART, STANTON, *Professor of Art* (1961)  
B.F.A., University of Colorado, 1960  
M.F.A., University of Colorado, 1968
- ERICKSON, JAMES G., *Assistant to Vice President for Academic Affairs and Professor of Biology* (1964)  
B.A., Doane College, 1950  
M.S., Iowa State University, 1951  
Ph.D., University of Wyoming, 1964
- ESTLER, RON C., *Associate Professor of Chemistry* (1982)  
B.A., Drew University, 1972  
M.A., Johns Hopkins University, 1974  
Ph.D., Johns Hopkins University, 1976
- FALDETTA, LINDA L., *Assistant Professor of Psychology* (1983)  
B.A., Regis College, 1971  
M.A., Boston University, 1973  
Ph.D., Boston University, 1984
- FINE, KATHLEEN S., *Assistant Professor of Anthropology* (1983)  
B.A., DePauw University, 1974  
M.A., University of Illinois, 1980  
Ph.D., University of Illinois, 1986
- FLUCK, ROLAND F., *Assistant Professor of Business Administration* (1984)  
B.S., Xavier University, 1952  
M.S., University of Colorado, 1966  
D.B.A., University of Colorado, 1984
- GARCIA, REYES ROBERTO, *Assistant Professor of Philosophy* (1987)  
B.A., University of Colorado, 1973
- GASSER, LARRY W., *Professor of English* (1976)  
B.A., Western Washington State College, 1965  
M.A., Western Washington State College, 1967  
Ph.D., University of Denver, 1975
- GIBBS, RICHARD A., *Professor of Mathematics* (1971)  
B.A., Michigan State University, 1964  
M.S., Michigan State University, 1965  
Ph.D., Michigan State University, 1970
- GIERSCH, MARVIN L., *Professor of Education and Physical Education* (1970)  
B.S., Fort Hays Kansas State College, 1959  
M.S., Baylor University, 1960  
Ed.D., University of Northern Colorado, 1970
- GOFF, J. LARRY, *Assistant Professor of Business Administration* (1985)  
B.A., University of Oklahoma, 1960  
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- GORDON, DONALD R., *Associate Professor of Anthropology* (1975)  
B.A., California State University/San Francisco, 1964  
M.S., University of Oregon, 1969  
Ph.D., University of Oregon, 1974
- GRAHAM, REGINALD A., *Professor of Business Administration* (1971)  
B.S., Miami University, 1955  
M.B.A., Kent State University, 1958  
Ph.D., Case Western Reserve University, 1970
- GREATHOUSE, JOHN R., *Assistant Professor of Agriculture* (1986)  
B.S., Kansas State University, 1980  
M.S., Kansas State University, 1982  
Ph.D., Colorado State University, 1985
- GREFSRUD, GARY W., *Professor of Mathematics* (1971)  
B.S., Montana State College, 1960  
M.S. Montana State University, 1962  
Ph.D., Montana State University, 1971
- HAIGH, ANTHONY R., *Assistant Professor of Theatre* (1984)  
B.A., Rose Bruford College, England, 1969  
M.A., University of Lancaster, England, 1980  
Ph.D., Michigan State University, 1986
- HALE, JOHN F., *Professor of Business Administration and Psychology* (1970)  
A.B., Brown University, 1957  
M.A., Brown University, 1959  
Ph.D., Carnegie-Mellon University, 1963
- HAMILTON, RODNEY D., *Professor of Chemistry* (1969)  
B.S., Marietta College, 1960  
Ph.D., Indiana University, 1964
- HARTSFIELD, LARRY K., *Associate Professor of English* (1984)  
B.A., Abilene Christian University, 1974  
M.A., Southern Illinois University, 1976  
Ph.D., University of Texas, 1982
- HAYES, WILLIAM E., *Assistant Professor of Physical Education* (1971)  
B.S., University of New Mexico, 1962  
M.A., University of New Mexico, 1968
- HOLEHAN, EUGENE L., *Associate Professor of Business Education* (1972)  
B.A., Arizona State University, 1957  
M.A., Northern Arizona University, 1965  
Ed.D., Arizona State University, 1972
- HUNT, DAVID J., *Associate Professor of Art* (1978)  
B.A., Brigham Young University, 1967  
M.A., Brigham Young University, 1969
- HUNTER, DOREEN, *Professor of History* (1980)  
B.A., Stanford University, 1960  
M.A., University of California/Berkeley, 1961  
Ph.D., University of California/Berkeley, 1969

- JAMES, DONALD L., *Professor of Business Administration* (1974)  
B.S., Oklahoma State University, 1957  
M.S., Oklahoma State University, 1960  
D.B.A., University of Colorado, 1970
- JAMIESON, DAVID W., *Associate Professor of Biology* (1978)  
A.B., Humboldt State University, 1966  
M.A., Humboldt State University, 1969  
Ph.D., University of British Columbia, 1976
- JONES, JOEL M., *President and Professor of English and Intercultural Studies* (1988)  
B.A., Yale University, 1960  
M.A., Miami University, 1963  
Ph.D., University of New Mexico, 1966
- JONES, ROLAND C., *Associate Professor of English* (1967)  
B.A., University of Michigan, 1956  
M.A., Northern Arizona University, 1963  
Diploma for Advanced Graduate Studies, Michigan State University, 1970
- KAUFMAN, JERRY M., *Professor of Accounting* (1963-1978, 1987)  
B.S., Southwestern Oklahoma State University, 1959  
M.S., Oklahoma State University, 1961  
Ph.D., Oklahoma State University, 1974  
C.P.A., Colorado, Oklahoma, and Texas
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B.A., Eastern Washington State College, 1964  
M.A., University of Washington, 1967  
Ph.D., University of Washington, 1973
- KERESEY, SHELDON COLE, *Instructor and Head Football Coach* (1988)  
B.A., Colorado College, 1974  
M.A., University of Northern Colorado, 1983
- KNIGHT, GARY D., *Professor of Education* (1972)  
B.S., East Central State College, Oklahoma, 1962  
M.T., East Central State College, Oklahoma, 1964  
Ed.S., Eastern New Mexico University, 1970  
Ed.D., University of New Mexico, 1972
- LANG, LILLIAN B., *Associate Professor of English* (1973)  
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Ph.D., University of California/Santa Barbara, 1976
- LANGWORTHY, WILLIAM C., *Vice President for Academic Affairs and Professor of Chemistry* (1983)  
B.S., Tufts University, 1958  
Ph.D., University of California/Berkeley, 1962
- LEAVITT, DINAH L., *Professor of Theatre* (1978)  
B.A., University of Mississippi, 1969  
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Ph.D., University of Colorado, 1978

- LEHMAN, DALE E., *Associate Professor of Economics* (1983)  
B.A., State University of New York at Stony Brook, 1972  
M.A., University of Rochester, 1975  
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- LESTER, DANIEL W., *Director of the Library and Associate Professor* (1983)  
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- LEYERLE, BETTY J., *Associate Professor of Sociology and Human Services* (1984)  
B.A., Brooklyn College, 1970  
M.A., Brooklyn College, 1975  
Ph.D., City University of New York, 1981
- LIKES, ROBERT N., *Professor of Physics* (1974)  
B.A., Wayne State College, 1960  
M.Sci.Ed., University of Utah, 1965  
Ph.D., University of Wyoming, 1973
- LINDSEY, JULIA PAGE, *Associate Professor of Biology* (1978)  
B.A., Hendrix College, 1970  
M.S., University of Arizona, 1972  
Ph.D., University of Arizona, 1975
- LINTON, NORMAN, *Professor of Sociology and Human Services* (1973)  
B.A., Reed College, 1958  
M.A., University of Oregon, 1960  
Ph.D., University of California/Berkley, 1972
- LUM, DENNIS W., *Assistant Professor of Sociology and Human Services* (1975)  
B.A., University of Nevada/Reno, 1966  
M.A., University of Nevada/Reno, 1971  
M.A., University of California/San Diego, 1973
- LYNCH, VERNON E., JR., *Professor of Economics* (1972)  
B.A., University of Texas/Austin, 1965  
M.A., University of Texas/Austin, 1967  
Ph.D., University of Arizona, 1976
- MACK, LINDA S., *Associate Professor of Music* (1982)  
B.M.E., Illinois State University, 1975  
M.S., University of Illinois, 1980  
Ed.D., University of Illinois, 1982
- MacKEEFE, DEBORAH A., *Associate Professor of Modern Languages* (1972)  
Degre' Supérieur, Sorbonne, 1965  
B.A., University of Arizona, 1966  
M.A., University of Arizona, 1969  
Ph.D., University of Arizona, 1972
- MANN, ROCHELLE G., *Assistant Professor of Music* (1987)  
B.M.E., Indiana University, 1975  
M.S., Indiana University, 1980
- MANSFIELD, HAROLD L., *Professor of Psychology* (1974)  
B.S., Colorado State University, 1958  
M.A., University of Denver, 1967  
Ph.D., University of Denver, 1974

- MANUCIA, GLORIA K., *Assistant Professor of Psychology* (1983)  
B.A., University of California/Santa Cruz, 1975  
M.A., Arizona State University, 1980  
Ph.D., Arizona State University, 1985
- MAY, DONALD R., *Assistant Professor of Engineering and Physics* (1984)  
B.S., Colorado State University, 1978  
M.S., Colorado State University, 1982
- McHUGH, NEIL, *Assistant Professor of History* (1984)  
B.A., University of Kentucky, 1972  
M.A., Indiana University, 1974  
Ph.D., Northwestern University, 1986
- McKNIGHT, REED, *Professor of Accounting* (1981)  
B.S., University of Idaho, 1969  
M.B.A., Washington State University, 1971  
Ph.D., University of Oregon, 1981  
C.P.A., Montana, 1974
- MEHS, DOREEN M., *Professor of Chemistry* (1973)  
B.A., Harpur College, SUNY Binghamton, 1966  
M.A., State University of New York, Binghamton, 1972  
Ph.D., University of New Mexico, 1980
- MILLS, JAMES W., *Professor of Chemistry* (1973)  
A.B., Earlham College, 1963  
Ph.D., Brown University, 1967
- MOHR, CATHY L., *Assistant Professor of Physical Education and Head Women's Basketball Coach* (1984)  
B.A., University of California/Santa Barbara, 1975  
M.A., California State University/Northridge, 1983
- MOSELEY, MARY JEAN, *Director, Division of Intercultural Studies and Associate Professor of English* (1973)  
B.A., University of New Mexico, 1964  
M.A., University of New Mexico, 1970  
Ph.D., University of North Dakota, 1985
- NORTON, TOM D., *Professor of Physics and Engineering* (1973)  
B.S., University of Oklahoma, 1966  
M.S., University of Oklahoma, 1967  
Ph.D., University of Oklahoma, 1972
- PATERSON, JUDY L., *Librarian and Instructor* (1984)  
B.A., University of Washington, 1980  
M.Lib., University of Washington, 1983
- PAVICH, PAUL N., *Professor of English* (1978)  
B.A., Walsh College, 1967  
M.A., Colorado State University, 1968  
Ph.D., University of New Mexico, 1973
- PERRY, O.D., *Assistant Professor of Mathematics and of Computing and Information Services* (1972)  
B.B.A., New Mexico State University, 1968  
M.S., New Mexico State University, 1970  
D.B.A., United States International University, 1986

- PETERS, ROGER, *Professor of Psychology* (1975)  
B.A., University of Chicago, 1965  
Ph.D., University of Michigan, 1974
- PETERSEN, PAUL W., *Assistant Professor of Physical Education, Head Wrestling Coach and Assistant Football Coach* (1984)  
B.A., University of Northern Iowa, 1972  
M.A., University of Nebraska, 1976
- PETERSON, CARROLL V., *Professor of English* (1968)  
B.S., University of Minnesota, 1958  
M.A., University of Iowa, 1959  
Ph.D., University of Iowa, 1963
- PLOTKIN, IRA L., *Professor of History* (1975)  
B.A., University of Rochester, 1964  
M.A., University of Michigan, 1966  
Ph.D., University of Michigan, 1974
- PODLESNIK, RICHARD A., *Professor of Business Administration* (1979)  
B.S., Illinois Institute of Technology, 1971  
M.S., Illinois Institute of Technology, 1971  
Ph.D., Northwestern University, 1977
- RAMALEY, WILLIAM C., *Professor of Mathematics* (1973)  
B.S., Ohio State University, 1961  
M.A., University of Colorado, 1963  
Ph.D., University of Colorado, 1969
- REBER, MICK, *Associate Professor of Art* (1968-76; 1981)  
B.F.A., Brigham Young University, 1966  
M.F.A., Brigham Young University, 1968
- REGELMANN, VIRGINIA A., *Professor of Education* (1978)  
B.A., SUNY, Oswego, 1972  
M.S., SUNY, Oswego, 1973  
Ph.D., Arizona State University, 1978
- REID, CHARLES H., JR., *Director of Records and Assistant Professor of Education* (1950)  
A.B., Montclair State College, 1948  
M.Ed., University of Colorado, 1949
- RICHES, SUSAN M., *Professor of Anthropology* (1971)  
B.A., Eastern New Mexico University, 1964  
M.A., University of Wisconsin/Madison, 1970  
Ph.D., University of Wisconsin/Madison, 1976
- RITCHEY, JOHN M., *Professor of Chemistry* (1972)  
B.A., Wichita State University, 1962  
Ph.D., University of Colorado, 1968
- RODERICK, STEPHEN A., *Dean, School of Education and Professor of Education* (1980)  
A.B., MacMurray College, 1966  
M.A., University of Iowa, 1970  
Ph.D., University of Iowa, 1973

- ROE, ROBERT, *Assistant Professor of Mathematics* (1986)  
B.S., University of Colorado, 1978  
M.A., University of Wyoming, 1983  
Ph.D., University of Wyoming, 1987
- ROMME, WILLIAM H., *Assistant Professor of Biology* (1982)  
B.A., University of New Mexico, 1970  
M.S., University of Wyoming, 1977  
Ph.D., University of Wyoming, 1979
- ROSENBERG, HARRY C., *Associate Professor of Mathematics* (1964)  
B.A., University of Northern Colorado, 1956  
M.A., University of Northern Colorado, 1957  
M.A., University of Illinois, 1964
- ROSHONG, JAN CARL, *Associate Professor of Music* (1979)  
B.S., Ohio State University, 1965  
M.A., Ohio State University, 1974  
Ph.D., Ohio State University, 1978
- RYAN, INGRID W., *Associate Professor of Modern Languages* (1981)  
Diplom-Dolmetsch, University of Vienna, 1961  
M.A., Indiana University, 1965  
Ph.D., University of Oregon, 1980
- SANDERS, JOAN M., *Affirmative Action Director and Professor of Physical Education* (1972)  
B.A., Stanford University, 1950  
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Ph.D., University of Denver, 1970
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B.A., Carroll College, 1962  
M.A., University of Northern Colorado, 1968
- SERRETT, RANDALL K., *Assistant Professor of Accounting* (1986)  
B.S., Louisiana State University, 1973  
M.S., University of Houston, 1983  
M.B.A., University of Houston, 1984  
Ph.D., University of Houston, 1986
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B.A., University of Arizona, 1960  
M.Ed., University of Arizona, 1970  
Ed.D., University of Northern Colorado, 1978
- SKURKY, THOMAS A., *Associate Professor of Psychology* (1984)  
A.B., University of California, 1971  
C. Phil., University of California, 1977  
Ph.D., University of California, 1980
- SLUSS, THOMAS P., *Associate Professor of Biology* (1980)  
B.A., Western Reserve University, 1963  
M.A., Kent State University, 1972  
Ph.D., University of Arizona, 1977

- SMITH, DUANE A., *Professor of History* (1964)  
B.A., University of Colorado, 1959  
M.A., University of Colorado, 1961  
Ph.D., University of Colorado, 1964
- SOIGNIER, JO ANN, *Instructor of Physical Education and Director of Intramurals* (1986)  
B.A., Fort Lewis College, 1984  
M.A., Adams State College, 1987
- SOMERS, LEE PRESTON, *Professor of Biology* (1969)  
B.S., Wake Forest University, 1967  
M.A., University of Colorado, 1969  
Ph.D., University of Colorado, 1971
- SPENCER, ALBERT W., *Professor of Biology* (1965)  
B.A., Colorado State University, 1957  
M.S., Colorado State University, 1961  
Ph.D., Colorado State University, 1965
- STRAWN, RICHARD G., *Professor of Music* (1973)  
B.M., University of Redlands, 1959  
M.M., Indiana University, 1961
- SZUECS, LASZLO, *Associate Professor of Mathematics and Computer Science* (1984)  
B.A., Phillips University, 1963  
Ph.D., Johns Hopkins University, 1969  
M.S., University of Colorado, 1984
- TUSTIN, CHARLES O., *Assistant Professor of Business Administration* (1986)  
B.S., Colorado State University, 1964  
M.B.A., Arizona State University, 1981
- VAN SICKLE, SHAILA, *Professor of English* (1974)  
B.A., Carleton College, 1956  
M.A., Occidental College, 1959  
Ph.D., University of Denver, 1975
- VOGL, LAUREL C., *Associate Professor of Art* (1976)  
B.F.A., University of Southern California, 1964  
M.F.A., Claremont Graduate School, 1968
- WAGEMAN, ROBERT M., *Professor of Psychology* (1969)  
B.S., Arizona State University, 1961  
M.A., Arizona State University, 1963  
Ph.D., Arizona State University, 1968
- WALKER, CHARLES H., *Professor of Physical Education, Assistant Athletic Director, and Head Men's Tennis Coach* (1972)  
B.S., University of Nevada, 1960  
M.Ed., University of Nevada, 1964  
Ph.D., University of Utah, 1972
- WALKER, RICHARD C., *Assistant Professor of Mathematics* (1984)  
B.S., Colorado School of Mines, 1969  
M.S., Colorado School of Mines, 1975  
Ph.D., Colorado School of Mines, 1979

- WEAVER, PATRICIA E., *Professor of Music* (1969)  
M.B., Baylor University, 1955  
M.M., University of Illinois, 1958
- WELLS, C. GERALD, *Associate Professor of Art* (1970)  
B.A., University of Mississippi, 1959  
M.F.A., University of Mississippi, 1964
- WESTERVELT, THOMAS N., *Associate Professor of Geology* (1975)  
B.A., Middlebury College, 1967  
Ph.D., University of Wyoming, 1979
- WHELOCK, RICHARD M., *Instructor of Intercultural Studies* (1985)  
B.A., Fort Lewis College, 1972  
M.A., University of Arizona, 1984
- WILLIAMS, CARLA C., *Assistant Professor of Engineering* (1985)  
B.S.S.E., John Brown University, 1969  
M.A., University of New Mexico, 1973
- WILLIAMS, RAYMOND, *Associate Professor of Mathematics* (1974)  
B.A., Hendrix College, 1965  
M.S., University of Arkansas, 1967  
Ph.D., University of New Mexico, 1976
- WILSON, RAY N., *Professor of Education* (1971)  
A.B., University of Northern Colorado, 1961  
M.A., University of Northern Colorado, 1964  
Ph.D., University of Northern Colorado, 1968
- WINWARD, DEAN, *Assistant Professor of Agriculture* (1981)  
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B.S., Utah State University, 1979  
M.S., Utah State University, 1981
- WIXOM, JAMES A., *Assistant Professor of Mathematics and Computer Science* (1983)  
B.S., University of Utah, 1964  
Ph.D., University of Utah, 1971
- YOUNG, CRAIG E., *Manager of Academic Computing and Assistant Professor* (1983)  
B.S., Fort Lewis College, 1975  
M.S., Arizona State University, 1977
- YOUNG, PAMELA R., *Professor of Education* (1976)  
B.A., University of Texas/Austin, 1968  
M.Ed., University of Texas/Austin, 1974  
Ph.D., University of Texas/Austin, 1976
- ZOLLER, JOHN H., *Professor of Business Administration* (1971-1979, 1980)  
B.B.A., University of Minnesota, 1948  
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## Faculty Emeriti

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- BOWMAN, FRANK O., JR., *Professor of Geology Emeritus*  
 A.B., Williams College  
 B.S., University of North Carolina  
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- BOWMAN, WILLARD O., *Professor of Psychology Emeritus*  
 B.A., Berea College  
 B. Eng., I.T.I., University of Chicago  
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- BROCHU, EDITH W., *Professor of Education Emerita*  
 B.S., University of Kansas  
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- BUSHNELL, DONALD D., *Professor of Mathematics Emeritus*  
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- CULLEN, LOUIS C., *Associate Professor of Physical Education Emeritus*  
 B.S., University of New Mexico  
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