

# COMPUTER INFORMATION SYSTEMS

(CIS)

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## INTERNET PROGRAMMING

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This program prepares students for entry-level positions in Internet programming. Recipients of this certificate will find themselves developing interactive web sites, whether as front-end site solutions or back-end data gathering and manipulation; or developing stand-alone, custom applications with Internet functionality.

### Certificate of Achievement Requirements:

CIS 36A	Java Programming Language I	4
CIS 64	Internet Programming in JavaScript	2
CIS 65	CGI Programming	2
CIS 66	XML Documents and Applications	2
CIS 234A	World Wide Web Publishing I	2
CIS 234B	World Wide Web Publishing II	2
	Total required units:	14

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## PC APPLICATIONS HELP DESK SPECIALIST

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### Certificate of Achievement Requirements:

BUS 5	Human Relations in Business	3
CIS 1	Introduction to Computer Information Systems	4
CIS 35	Microcomputer Operating Systems	4
CIS 201	Introduction to Computer Hardware	4
CIS 239	Help Desk Tools and Techniques	2
	Total required units:	17

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## WEB PAGE AUTHORIZING

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### Certificate of Achievement Requirements:

CIS 233	Introduction to the Internet	2
CIS 234A	World Wide Web Publishing I	2
CIS 234B	World Wide Web Publishing II	2
CIS 234C	Web Creation with Dreamweaver	2
CIS 242A	Digital Animation with Flash	2
CIS 242B	Digital Video	2
CIS 242C	Digital Audio Production I	2
	Total required units:	14

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## COMPUTER NETWORKS AND COMMUNICATIONS

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This program is in abeyance and under review at this time.

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## MICROCOMPUTER SOFTWARE SPECIALIST

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This program is in abeyance and under review at this time.

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## SOFTWARE DEVELOPMENT

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This program is in abeyance and under review at this time.

### 1. +Introduction to Computer Information Systems

*4 units, 3 hours lecture, 3 hours laboratory*

*Acceptable for credit: CSU, UC*

*[CIS 1+CIS 5: CAN CSCI 2]*

General nature of computer hardware, software and systems: Hands-on applications include introduction to word processing, spreadsheet, database management and presentation software, and a brief introduction to web browsing and email. 0701.00 AA/AS area 4c

### 5. +Introduction to Computer Science

*5 units, 4 hours lecture, 3 hours laboratory*

*Acceptable for credit: CSU, UC*

*[CIS 1+CIS 5: CAN CSCI 2]*

Architecture of digital computers, design of algorithms for solving various problems, and basic skills in computer programming. 0701.00 AA/AS area 4c

### 35. +Microcomputer Operating Systems

*4 units, 3 hours lecture, 3 hours laboratory*

*Recommended preparation: CIS 1 or 5*

*Acceptable for credit: CSU*

Microcomputer operating systems: Selection, use and programming with operating systems, concentrating on the personal computer. 0702.00 AA/AS area 4c

**36A. +Java Programming Language I***4 units, 3 hours lecture, 3 hours laboratory**Prerequisite: CIS 25 or 26 or 215**Recommended preparation: CIS 233 or 237**Acceptable for credit: CSU, UC*

Introduction to object-oriented program design: Overview of the Java programming language including developing applets for web pages and standalone applications. 0707.10

AA/AS area 4c

**40. +Database Management***4 units, 3 hours lecture, 3 hours laboratory**Recommended preparation: CIS 1 or 5**Acceptable for credit: CSU*

Design, implementation, and maintenance of databases: Analysis of user requirements; building tables, queries, forms, reports, and other topics. 0707.20

AA/AS area 4c

**42. +Introduction to Spreadsheet Applications***4 units, 3 hours lecture, 3 hours laboratory**Recommended preparation: CIS 1 or 5 or 200*

*Course is equivalent to CIS 42A and 42B. Not open for credit to students who have completed or are currently enrolled in CIS 42A and/or 42B.*

*Acceptable for credit: CSU*

Principles of electronic spreadsheets using features available with currently popular spreadsheet software: Worksheet creation and formatting; entering of data, formulas, and functions; editing and printing; basic charting; basic database functions of sorting and querying; financial functions; logical functions; forecasting trends; lookup tables; "pivot tables"; graphic design for financial statements; statistical operations (regression analysis); macro programming. 0702.10

AA/AS area 4c

**48NA-TZ. +Selected Topics in Computer Information Systems***.5-9 units*

See section on Selected Topics. 0701.00

AA/AS area 4c (if course taken for one or more units)

**49. +Independent Study in Computer Information Systems***.5-5 units**Course study under this section may be repeated three times.*

See section on Independent Study. 0701.00

**64. +Internet Programming in JavaScript***2 units, 1.5 hours lecture, 1.5 hours laboratory**Prerequisite: CIS 16 or 26, and 234A**Recommended preparation: CIS 36**Acceptable for credit: CSU*

Development of web-based interactive programs using JavaScript. 0707.10

AA/AS area 4c

**65. +CGI Programming***2 units, 1.5 hours lecture, 1.5 hours laboratory**Prerequisite: CIS 16 or 26, and 234A**Recommended preparation: CIS 39A and 234B**Acceptable for credit: CSU*

Implementation of CGI applications in PERL and C, with an emphasis on form handlers, shopping carts, search pages and databases access. 0707.10

AA/AS area 4c

**66. +XML Documents and Applications***2 units, 1.5 hours lecture, 1.5 hours laboratory**Prerequisite: CIS 234A**Recommended preparation: CIS 234B**Acceptable for credit: CSU*

Development of documents and applications using the eXtensible Markup Language (XML), a Web document-authoring meta-language that is used to separate data from its visual representation; use of XSL for data translation. 0702.10

AA/AS area 4c

**201. +Introduction to Computer Hardware***4 units, 3 hours lecture, 3 hours laboratory*

*Course is equivalent to CIS 201A and 201B. Not open for credit to students who have completed or are currently enrolled in CIS 201A and/or 201B.*

Introduction to computer hardware: Maintaining and servicing computer equipment, fundamental concepts and architecture, major computer subsystems and peripheral devices, common computer problems, troubleshooting techniques, repair procedures and preventive maintenance; examines traditional, current and emerging computer technologies. 0708.20

AA/AS area 4c

**205. +Computer Literacy***1 unit, 14 term hours lecture, 14 term hours laboratory*

Introduction to computers and information technology for people with no background in nor knowledge of computers. 0701.00

AA/AS area 4c

**209. +Introduction to Windows***1 unit, .75 hours lecture, .75 hours laboratory**Recommended preparation: CIS 205*

Introduction to graphical user interfaces using Microsoft Windows. 0701.00

AA/AS area 4c

**233. +Introduction to the Internet***2 units, 1.5 hours lecture, 1.5 hours laboratory**Recommended preparation: CIS 205*

Using the Internet for access to information resources: Access methods, resources, and how to use them. 0709.00

AA/AS area 4c

**234A. +World Wide Web Publishing I**

*2 units, 1.5 hours lecture, 1.5 hours laboratory*  
*Recommended preparation: CIS 233 and Grart 12*

Creating and publishing Web pages over the Internet using the Hypertext Markup Language (HTML). 0709.00  
 AA/AS area 4c

**234B. +World Wide Web Publishing II**

*2 units, 1.5 hours lecture, 1.5 hours laboratory*  
*Prerequisite: CIS 233 and 234A*

*Recommended preparation: Grart 12*

Continuation of CIS 234A with emphasis on: Advanced HTML and layout techniques, client-side image maps, CGI scripting, introduction to Cascading style sheets and dynamic scripting. 0709.00

AA/AS area 4c

**234C. +Web Creation with Dreamweaver**

*2 units, 1.5 hours lecture, 1.5 hours laboratory*  
*Prerequisite: CIS 234B*

*Recommended preparation: CIS 1*

Creation and management of web sites and pages using Macromedia Dreamweaver: Authoring of web sites which incorporate DHTML, JavaScript through "behaviors," rollovers, and techniques for managing large-scale web sites. 0709.00

AA/AS area 4c

**239. +Help Desk Tools and Techniques**

*2 units, 1.5 hours lecture, 1.5 hours laboratory*

Help desk tools and techniques: Troubleshooting problems on computer systems, both networked and stand-alone; customer service skills for success; use of help desk software. 0708.20  
 AA/AS area 4c

**240. Computer Literacy in Health Science**

*1 unit, 13.5 term hours lecture, 18 term hours laboratory; or 1.5 hours lecture, 2 hours laboratory for 9 weeks*

Introduction to the computer, its uses, and its influence on the health care setting: Hands-on use of software for patient record-keeping, word processing, spreadsheets, and other hospital inter-departmental communications networks. 0701.00

AA/AS area 4c

**242A. +Digital Animation with Flash**

*2 units, 1.5 hours lecture, 1.5 hours laboratory*  
*Prerequisite: CIS 234A*

*Recommended preparation: CIS 1*

Creation of digital animation and interactive vector graphics for the production of animation and interactive content for the Internet and other applications using Macromedia Flash.

0702.10

AA/AS area 4c

**242B. +Digital Video**

*2 units, 1.5 hours lecture, 1.5 hours laboratory*  
*Prerequisite: CIS 234A*

*Recommended preparation: CIS 1*

General overview of digital video editing techniques, digital video formats and compression schemes for distribution of digital video via CDs and over the web: Includes hands-on experience with creating short digital videos for the web, presentations, and multimedia applications distributed via CD-ROM. 0702.10

AA/AS area 4c

**242C. +Digital Audio Production I**

*2 units, 1.5 hours lecture, 1.5 hours laboratory*  
*Corequisite: CIS 1 or 5 or 205*

Creation of digital audio for radio, music, internet, film and video: Digital audio theory, recording, editing, mixing, and mastering of sound using Pro Tools Digital Audio Workstation. 0702.10

AA/AS area 4c

**248NA-TZ. +Selected Topics in Computer Information Systems**

*.5-9 units*

See section on Selected Topics. 0701.00

AA/AS area 4c (if course taken for one or more units)

# COOPERATIVE EDUCATION

(COPED)

Duplicate credit will not be granted for concurrent enrollment in General Work Experience and Occupational Work Experience Education. A maximum of 16 units can be granted for occupational work experience or a combination of general and occupational work experience education. The student's plan of work and study must have the approval of the college work experience supervisor. Work experience, in conjunction with a program of instruction, makes it possible for a student to obtain college credit for paid or volunteer experience.

## 450. +General Work Experience

*1-3 units, hours to be arranged*

*Corequisite: During regular semesters, students must enroll in a minimum of seven units including Cooperative Work Experience Education. During summer sessions, students must enroll in one other class in addition to Cooperative Work Experience Education.*

*Acceptable for credit: CSU*

*Course study under this section may be repeated three times. Supervised employment to assist in acquiring desirable work habits and attitudes, increase educational motivation, and develop improved human relations skills. Employment need not relate to educational or occupational goals. 4932.00*

## 452A-476F. Occupational Work Experience

*1-4 units each course, hours to be arranged*

*Corequisite: During regular semesters, students must enroll in a minimum of seven units including Cooperative Work Experience Education. During summer sessions, students must enroll in one other class in addition to Cooperative Work Experience Education.*

*Acceptable for credit: CSU*

*Course study under this section may be repeated three times. Supervised employment providing opportunities to become a productive, responsible individual and to extend learning in a chosen occupational field.*

### 452A. +Occupational Work Experience in Landscape Horticulture

*1-4 units, hours to be arranged. 0109.00*

### 456A. +Occupational Work Experience in Accounting

*1-4 units, hours to be arranged. 0502.00*

### 456D. +Occupational Work Experience in Business Administration/Management

*1-4 units, hours to be arranged. 0505.00*

### 456E. +Occupational Work Experience in General Business

*1-4 units, hours to be arranged. 0501.00*

### 456F. +Occupational Work Experience in Administrative Assistant

*1-4 units, hours to be arranged. 0514.00*

### 456K. +Occupational Work Experience in Real Estate

*1-4 units, hours to be arranged. 0511.00*

### 456L. +Occupational Work Experience in Administrative Office Systems and Applications

*1-4 units, hours to be arranged. 0514.00*

### 456P. +Occupational Work Experience in Business Information Processing

*1-4 units, hours to be arranged. 0514.00*

### 470A. +Occupational Work Experience in Certified Nurse Assistant/Home Health Aide

*1-4 units, hours to be arranged. 1203.30*

### 470B. +Occupational Work Experience in Nursing, A.D.

*1-4 units, hours to be arranged. 1203.00*

### 470C. +Occupational Work Experience in Radiologic Science

*1-4 units, hours to be arranged. 1225.00*

### 470D. +Occupational Work Experience in Vocational Nursing

*1-4 units, hours to be arranged. 1203.20*

### 472A. +Occupational Work Experience in Child Development

*1-4 units, hours to be arranged. 1305.00*

### 474A. +Occupational Work Experience in Paralegal Studies

*1-4 units, hours to be arranged. 1402.00*

### 476A. +Occupational Work Experience in Administration of Justice

*1-4 units, hours to be arranged. 2105.00*

### 476C. +Occupational Work Experience in Community Social Services

*1-4 units, hours to be arranged. 2104.00*

**476D. +Occupational Work Experience in Environmental Hazardous Materials Technology**

*1-4 units, hours to be arranged. 0303.01*

**476E. +Occupational Work Experience in Recreation and Leisure Services**

*1-4 units, hours to be arranged. 0836.00*

**476F. +Occupational Work Experience in Environmental Management and Restoration Technology**

*1-4 units, hours to be arranged. 0303.02*

## COUNSELING

(COUN)

**24. +College Success**

*3 units, 3 hours lecture*

*Acceptable for credit: CSU, UC*

*Recommended preparation: Engl 201B*

Identification and development of resources that facilitate college success: High-performance learning utilizing information organization and management, critical-thinking and problem-solving skills, effective time management, learning styles and strategies and memory theory, goal setting and educational planning, and campus/community resources. 4930.10  
CSU area E

**57. +Career and Life Planning**

*3 units, 3 hours lecture*

*Acceptable for credit: CSU, UC*

*Recommended preparation: Engl 201B*

In-depth career and life planning: Self-exploration, identifying values, interests, needs and goals, development of skills for assuming careers and lifestyles over the life span, influence of career choice on the quality of life and the development of a career action plan. Designed to assist those students considering the transition of a career change or undecided about the selection of a college transfer major. 4930.10  
CSU area E

**200A. +Orientation to College**

*.5 units, .5 hours lecture*

Information for new students: College programs, policies and procedures, campus resources and assessment. 4930.10

**200B. +Orientation to College**

*.5 units, .5 hours lecture*

*Recommended preparation: Coun 200A*

Educational planning and college success skills: Development of a Student Educational Plan (SEP) with a counselor and introduction to topics such as time management, study skills, note-taking, and test-taking techniques. 4930.10

**207A. +Career Exploration**

*1 unit, 1 hour lecture*

Career decision making: Exploration and clarification of values, skills, and goals to facilitate informed and realistic career choices, and introduction to personal and occupational assessment tools. 4930.10

**207B. +Career Exploration**

*1 unit, 1 hour lecture*

Occupational assessment tools: Practice in networking, informational interviews, research on employment opportunities and trends, and resources used in job search. 4930.10

**207C. +Career Exploration**

*1 unit, 1 hour lecture*

Job search skills: Resumes, cover letters, telephone skills, and interviewing techniques. 4930.10

**221. +Preparing for College/University Transfer**

*.5-1 units, .5-1 hours lecture*

In-depth information and assistance with the transfer process to four-year colleges and universities: Lower-division major and general education requirements, college/university selection, admission procedures, application deadlines, financial aid, and scholarship information. Students will receive the information necessary to develop a Student Educational Plan (SEP) for transfer. 4930.10

**224. +College Preparedness**

*2-3 units, 2-3 hours lecture*

*Recommended preparation: Coun 200A and 200B*

Acquisition of college success skills: Time management, good study habits, effective note taking, goal-setting strategies, educational planning, and use of library and other learning resources. 4930.10

## DANCE

(DANCE)

**48NA-TZ. +Selected Topics in Dance**

*.5-5 units*

See section on Selected Topics. 1008.00

**248NA-TZ. +Selected Topics in Dance**

*.5-5 units*

See section on Selected Topics. 1008.00

# ECONOMICS

## (ECON)

The major in Economics is designed to prepare students for transfer to four-year institutions; to enter the business world with knowledge of economic trends and conditions; or to provide training for such positions as market analyst, sales analyst, or stockbroker. The **AA degree in Economics** will be awarded upon satisfactory completion of the Major course requirements and the General Education requirements.

### Degree Major Requirements:

BUS 1A	Financial Accounting	4
BUS 10	Introduction to Business	3
CIS 1	Introduction to Computer Information Systems	4
ECON 1	Principles of Economics (Macro-Economics)	3
ECON 2	Principles of Economics (Micro-Economics)	3
ECON 10	Economic History of the United States	3
GEOG 5	Economic Geography	3
MATH 13	Introduction to Statistics	4
	Total required units:	27

### Recommended:

BUS 2	Introduction to Business Law (3)
BUS 5	Human Relations (3)

### 1. Principles of Economics (Macro-Economics)

*3 units, 3 hours lecture*

*Econ 1 is not a prerequisite to Econ 2*

*Not open for credit to students who have completed or are currently enrolled in Econ 11.*

*Acceptable for credit: CSU, UC*

*[CAN Econ 2]*

Introductory economic concepts: Measurements of national income and production; causes of inflation, recession, and depression; money and banking; government monetary and fiscal (spending and taxation) policy; stabilization techniques; economic growth; history of economic thought and philosophy. 2204.00

AA/AS area 2; CSU area D; IGETC area 4

### 2. Principles of Economics (Micro-Economics)

*3 units, 3 hours lecture*

*Acceptable for credit: CSU, UC*

*[CAN Econ 4]*

Forms of business organization, theory of the firm within competitive and non-competitive markets, distribution of income, poverty, labor issues, and agriculture. 2204.00

AA/AS area 2; CSU area D; IGETC area 4

### 10. Economic History of the United States

*3 units, 3 hours lecture*

*Acceptable for credit: CSU, UC*

Economic development of the United States: Major economic issues, and institutions and their impact on modern American society. 2204.00

AA/AS area 2; CSU area D; IGETC area 4

### 11. Business Economics

*3 units, 3 hours lecture*

*Not open for credit to students who have completed or are currently enrolled in Econ 1.*

*Acceptable for credit: CSU*

Basic operations of the American economic system from the point of view of the consumer and the business person: Nature of the mixed economy, fiscal and monetary policy, employment, inflation, economic stability, market structure, price system, government economic policies, international issues, and comparative economic systems. 2204.00

AA/AS area 2; CSU area D

### 48NA-TZ. Selected Topics in Economics

*.5-5 units*

See section on Selected Topics. 2204.00

### 49. Independent Study in Economics

*.5-5 units*

*Course study under this section may be repeated three times.*

See section on Independent Study. 2204.00

### 248NA-TZ. Selected Topics in Economics

*.5-5 units*

See section on Selected Topics. 2204.00

# EDUCATION

## (EDUC)

### 1. +Introduction to the Field of Education

*3 units, 3 hours lecture*

*Acceptable for credit: CSU, UC*

Historical and sociological analysis of the education system and careers in teaching: Study of principles of effective instructional models, with emphasis on student-centered and culturally-relevant methods; research of resources for curriculum and instruction; and observation of teaching practices in local schools. 0801.00

AA/AS area 2

**48NA-TZ. +Selected Topics in Education***.5-9 units*

See section on Selected Topics. 0801.00

**248NA-TZ. +Selected Topics in Education***.5-9 units*

See section on Selected Topics. 0801.00

# EMERGENCY MEDICAL TECHNICIAN

**(EMT)**

A **Certificate of Skills in Emergency Medical Technician I** will be awarded upon satisfactory completion of EMT 210.

**210. +Emergency Medical Technician-Basic***5 units, 4 hours lecture, 3 hours laboratory*

*Prerequisite: Hlted 9 or Standard First Aid, and Hlted 11 or CPR/BLS, and health clearances: Recent TB skin test (within 9 months of beginning of class), and hepatitis B vaccine (completion of two of three-shot series by beginning of class). Meets California State Department of Health criteria.*

Basic training course covering all techniques of emergency medical care considered within the responsibilities of the Emergency Medical Technician as well as all operational aspects of the job: Emphasis on the development of student skills in the recognition of illness and injuries, and proper procedures of emergency care. 1250.00

**261. +Emergency Medical Technician  
Recertification***2 units, 1.5 hours lecture, 1.5 hours laboratory*

*Prerequisite: EMT 210 or EMT certification that is current or that has been expired no more than four years; and Hlted 11 or current CPR certification*

*Non-degree applicable*

*Course study under this section may be repeated as needed.*

Recertification through review of didactic and practical techniques required of the Emergency Medical Technician: Examination of all aspects of the job including roles and responsibilities of the Emergency Medical Technician, medical-legal aspects, human systems and basic anatomy, types of emergencies encountered, extrication and rescue of patients, and documentation and communications. 1250.00

# ENGINEERING

**(ENGIN)****17. Introduction to Electrical Engineering***3 units, 3 hours lecture**Prerequisite: Phys 4B or (quarter-system Phys 4C at COA)**Prerequisite or corequisite: Math 3F or 3D or (4F)**Acceptable for credit: CSU, UC*

Basic circuit elements, modeling, critical laws and network theorems. Techniques for analysis of lumped, linear circuits including operational amplifiers. Analysis of AC circuits and power; semiconductor diodes and rectifier design. 0901.00

**35. Engineering Mechanics-Statics***3 units, 3 hours lecture**Prerequisite: Math 3C, and Phys 4A or (quarter-system Phys 4B at COA)**Acceptable for credit: CSU, UC*

Vectorial treatment of principles of the statics of particles and rigid bodies: Applications to problem of two-dimensional and three-dimensional systems; centroids and moments of inertia, structures, friction, and principles of virtual work. 0901.00

# ENGLISH

(ENGL)

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## LANGUAGE ARTS

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The **AA degree in Language Arts** will be awarded upon satisfactory completion of the Major course requirements and the General Education requirements.

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### Degree Major Requirements:

Completion of at least 18 units in English and Communication courses selected from the following list:

ENGL 10A-B Creative Writing (3-3)	
ENGL 17A-B Shakespeare (3-3)	
ENGL 26 Survey of the Bible as Literature (3)	
ENGL 30A-B Introduction to American Literature (3-3)	
ENGL 32A-B Contemporary Women Writers (3-3)	
ENGL 38 Lift Every Voice: Race, Class, and Gender in the United States (3)	
ENGL 40 Jewish-American Writers (3)	
ENGL 43 Introduction to the Study of Poetry (3)	
ENGL 44A-B Masterpieces of World Literature (3-3)	
ENGL 46A-B Survey of English Literature (3-3)	
COMM 4 The Dynamics of Group Discussion (3)	
COMM 20 Interpersonal Communication Skills (3)	
COMM 45 Public Speaking (3)	18
Total required units:	18

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### 1A-1B. Composition and Reading

*4-4 units, 4 hours lecture*

*Prerequisite for Engl 1A: Engl 201B or ESL 21B or appropriate placement through multiple-measures assessment*

*Prerequisite for Engl 1B: Engl 1A*

*Acceptable for credit: CSU, UC*

*[Engl 1A: CAN Engl 2], [Engl 1B: CAN Engl 4]*

*[Engl 1A+Engl 1B: CAN Engl Seq A]*

**1A:** Reading and writing of expository prose: Critical thinking, identifying logical fallacies, and reasoning inductively and deductively.

AA/AS area 4a, 4d; CSU area A2; IGETC area 1A

**1B:** Continued expository writing based on careful reading of selected plays, poems, and novels. 1501.00

AA/AS area 3, 4a, 4d; CSU area C2; IGETC area 3

### 5. Critical Thinking in Reading and Writing

*3 units, 3 hours lecture*

*Prerequisite: Engl 1A*

*Acceptable for credit: CSU, UC*

Development of ability to analyze, criticize, and advocate ideas: Relationship of language to logic, induction and deduction, facts, inferences, judgments, and formal and informal fallacies of language and thought. Instructs in writing about issues of critical thinking to develop both thinking and writing skills. 1501.00

AA/AS area 4a, 4d; CSU area A3; IGETC area 1B

### 10A-10B. Creative Writing

*3-3 units, 3 hours lecture*

*Prerequisite for Engl 10A and 10B: Engl 1A*

*Engl 10A is not prerequisite to Engl 10B*

*Acceptable for credit: CSU, UC*

*[Engl 10A: CAN Engl 6]*

Writing fiction, poetry, and drama, and careful analysis of the techniques used by established writers. 1507.00

AA/AS area 3, 4d; CSU area C2

### 17A-17B. +Shakespeare

*3-3 units, 3 hours lecture*

*Prerequisite for Engl 17A and 17B: Engl 1A*

*Engl 17A is not prerequisite to Engl 17B*

*Acceptable for credit: CSU, UC*

Study of selected works of Shakespeare. 1503.00

AA/AS area 3, 4d; CSU area C2; IGETC area 3

### 26. +Survey of the Bible as Literature

*3 units, 3 hours lecture*

*Prerequisite: Engl 1A*

*Acceptable for credit: CSU, UC*

Close reading and discussion of the Old Testament, New Testament, and Apocrypha with emphasis on literary forms, philosophical ideas, literary themes, and symbolism; non-sectarian. 1503.00

AA/AS area 3, 4d; CSU area C2; IGETC area 3

### 30A-30B. +Introduction to American Literature

*3-3 units, 3 hours lecture*

*Prerequisite for Engl 30A and 30B: Engl 1A*

*Engl 30A is not prerequisite to Engl 30B*

*Acceptable for credit: CSU, UC*

*[Engl 30A: CAN Engl 14], [Engl 30B: CAN Engl 16]*

*[Engl 30A+Engl 30B: CAN Engl Seq C]*

**30A:** Survey of American literature from pre-colonial beginnings to Walt Whitman.

**30B:** American romanticism to literature of the 20th century. 1503.00

AA/AS area 3, 4d; CSU area C2; IGETC area 3

**32A-32B. +Contemporary Women Writers***3-3 units, 3 hours lecture**Prerequisite for Engl 32A and 32B: Engl 1A**Engl 32A is not prerequisite to Engl 32B**Acceptable for credit: CSU, UC*

Survey of contemporary fiction, poetry, and autobiography by women writers: Emphasis on cross-cultural perspectives and the works of African, African-American, Asian, Native American, Hispanic, Jewish, and Northern European women writers. 1503.00

AA/AS area 3, 4d; CSU area C2; IGETC area 3

**38. +Lift Every Voice: Race, Class, and Gender in the United States***3 units, 3 hours lecture**Prerequisite: Engl 1A**Acceptable for credit: CSU, UC*

Through essays, poetry, stories and novels, a multitude of perspectives from across America's cultures will be examined to better understand the differences we have in common. 1501.00

AA/AS area 2, 3, 4d, 5; CSU area C2; IGETC area 3; UCB American Cultures

**40. +Jewish-American Writers***3 units, 3 hours lecture**Prerequisite: Engl 1A**Acceptable for credit: CSU, UC*

Study of stories, novels, plays, poetry, and essays by Jewish-American writers with emphasis on 20th-century writers: Their uniqueness, their links to tradition, and their contribution to American culture. 1503.00

AA/AS area 3, 4d; CSU area C2; IGETC area 3

**43. +Introduction to the Study of Poetry***3 units, 3 hours lecture**Prerequisite: Engl 1A**Acceptable for credit: CSU, UC*

Introduction to the elements of poetry: Imagery, sound, form, tone, and diction. 1503.00

AA/AS area 3, 4d; CSU area C2; IGETC area 3

**44A-44B. +Masterpieces of World Literature***3-3 units, 3 hours lecture**Prerequisite for Engl 44A and 44B: Engl 1A**Engl 44A is not prerequisite to Engl 44B**Acceptable for credit: CSU, UC*

Lecture and discussion on selected masterpieces of world literature from classics to the present. 1503.00

AA/AS area 3, 4d; CSU area C2; IGETC area 3

**46A-46B. +Survey of English Literature***3-3 units, 3 hours lecture**Prerequisite for Engl 46A and 46B: Engl 1A**Engl 46A is not prerequisite to Engl 46B**Acceptable for credit: CSU, UC**[Engl 46A: CAN Engl 8], [Engl 46B: CAN Engl 10]**[Engl 46A+Engl 46B: CAN Engl Seq B]*

Close study of selected works by major British writers from Chaucer to Yeats: Literary qualities of the works read rather than their historical or social significance. 1503.00

AA/AS area 3, 4d; CSU area C2; IGETC area 3

**48NA-TZ. +Selected Topics in English***.5-5 units*

See section on Selected Topics. 1501.00

**49. Independent Study in English***.5-5 units**Course study under this section may be repeated three times.*

See section on Independent Study. 1501.00

**53. Technical Writing***3 units, 3 hours lecture**Prerequisite: Engl 1A**Acceptable for credit: CSU*

Analysis of the organization, style, and format of both technical and nontechnical writing: Training in preparation of informal and formal reports related to the student's field of interest; research reports, progress reports, proposals, status reports, and user manuals. 1501.00

AA/AS area 4d

**201A. Preparation for Composition and Reading***3 units, 3 hours lecture**Prerequisite: Engl 250D or 252B or 259D or 292B or 292EB or satisfactory multiple-measures assessment of writing skills, and Engl 251D or 252B or 259D or 293B or satisfactory multiple-measures assessment of reading skills.*

Intermediate approach to preparation for paragraph and theme development: Expository writing techniques on simple and complete thesis statements as a means of better organization of ideas. 1501.00

AA/AS area 4a, 4d

**201B. Preparation for Composition and Reading***3 units, 3 hours lecture**Prerequisite: Engl 201A*

Intermediate approach to preparation for paragraph and theme development: Expository writing techniques on simple and complete thesis statements as a means of better organization of ideas. 1501.00

AA/AS area 4a, 4d

**202. +Reading for Information***3 units, 3 hours lecture**Recommended preparation: Appropriate placement through multiple-measures assessment*

Reading skills to prepare for college-level reading: Comprehension, vocabulary, and rate-improvement techniques. 1501.00

**203A. Accelerated English: Integrated Reading and Writing***5 units, 4 hours lecture, 3 hours laboratory**Prerequisite: Engl 250D or satisfactory multiple-measures assessment of writing skills, and Engl 251D or satisfactory multiple-measures assessment of reading skills**Recommended preparation: Engl 295A-D and 208*

Effective college reading and writing skills in an accelerated format: Intensive language learning and processing; writing workshop discourse; reading and comprehension laboratory; reading and writing strategies, skills, and techniques; first-year introduction to composition and reading; practice in expository and argumentative writing; and exposure to the type of close reading and text analysis expected of college students.

1501.00

AA/AS area 4a, 4d

**203B. Accelerated English: Integrated Reading and Writing***5 units, 4 hours lecture, 3 hours laboratory**Prerequisite: Engl 203A*

Continuation of college reading and writing skills in an accelerated format: Intensive language learning and processing; writing workshop discourse; reading and comprehension laboratory; reading and writing strategies, skills, and techniques; first-year introduction to composition and reading; practice in expository and argumentative writing; and exposure to the type of close reading and text analysis expected of college students.

1501.00

AA/AS area 4a, 4d

**208. +Writing Workshop***.5-1 unit, .25-.5 hours lecture, .75-1.5 hours laboratory**Course study under this section may be repeated three times.*

Individualized instruction in writing, utilizing computers: Grammar and punctuation, sentence structure, idea development and/or organizational skills. 1501.00

**210A-210B. Creative Writing***3-3 units, 3 hours lecture**Engl 210A is not prerequisite to Engl 210B*

Writing fiction, poetry, and drama, and careful analysis of techniques used by established writers. 1507.00

AA/AS area 3, 4d

**217A-217B. +Shakespeare***3-3 units, 3 hours lecture**Engl 217A is not prerequisite to Engl 217B*Study of selected works of Shakespeare. 1503.00  
AA/AS area 3, 4d**230A-230B. +Introduction to American Literature***3-3 units, 3 hours lecture**Engl 230A is not prerequisite to Engl 230B***230A:** Survey of American literature from pre-colonial beginnings to Walt Whitman.**230B:** American romanticism to literature of the 20th century. 1503.00

AA/AS area 3, 4d

**232A-232B. +Contemporary Women Writers***3-3 units, 3 hours lecture**Engl 232A is not prerequisite to Engl 232B*

Survey of contemporary fiction, poetry, and autobiography by women writers: Emphasis on cross-cultural perspectives and the works of African, African-American, Asian, Native American, Hispanic, Jewish, and Northern European women writers. 1503.00

AA/AS area 3, 4d

**243. +Introduction to the Study of Poetry***3 units, 3 hours lecture*

Introduction to the elements of poetry: Imagery, sound, form, tone, and diction. 1503.00

AA/AS area 3, 4d

**244A-244B. +Masterpieces of World Literature***3-3 units, 3 hours lecture**Engl 244A is not prerequisite to Engl 244B*

Lecture and discussion on selected masterpieces of world literature from classics to the present. 1503.00

AA/AS area 3, 4d

**248NA-TZ. +Selected Topics in English***.5-5 units*

See section on Selected Topics. 1501.00

**250A-C. +Basic Writing***1-5 units each level, 1-5 hours lecture**Non-degree applicable**Course study under this section may be repeated two times.*

Review of organizing of materials and writing correctly, including spelling, grammar and punctuation. 4930.21

**250D. +Basic Writing***1-5 units, 1-5 hours lecture**Recommended preparation: Engl 250A-C**Non-degree applicable*

Review of organizing of materials and writing correctly, including spelling, grammar and punctuation. 4930.21

**251A-C. Basic Reading***1-3 units each level, 1-3 hours lecture**Non-degree applicable**Course study under this section may be repeated two times.*

Practice in techniques to improve basic reading skills: Analysis and correction of individual reading problems. 4930.70

**251D. Basic Reading***1-3 units, 1-3 hours lecture**Recommended preparation: Engl 251A-C**Non-degree applicable*

Continuation of ENGL 251A-C. 4930.70

**252A-252B. Integrated Reading and Writing***5 units each level, 4 hours lecture, 3 hours laboratory**Non-degree applicable**Course study under this section may be repeated one time.*

Preparation in combined reading and writing instruction to ensure success in college: Integrated reading, writing, and critical thinking, using materials representing points of view and perspectives across the curriculum. 4930.20

**253A-B. ++Computer-Assisted Composition***.5-1 unit each level, 1.5-3 hours laboratory**Open-entry/open-exit: Students may enroll up to the 12th week of the semester.**Non-degree applicable**Course study under this section may be repeated one time.*

Introduction to writing using the computer: Practice in writing and revising essays and other related writing exercises. 1501.00

**258. +Writing Workshop (Basic Skills)***.5-1 unit, .25-.5 hours lecture, .75-1.5 hours laboratory**Non-degree applicable**Course study under this section may be repeated three times.*

Individualized instruction in writing, utilizing computers: Grammar and punctuation, sentence structure, idea development and/or organizational skills. 4930.21

**270A-D. ++The Writing Center***.5-3 units each level, 1.5-9 hours laboratory**Open-entry/open-exit: Students may enroll up to the 12th week of the semester.**Non-degree applicable**Course study under this section may be repeated three times.*

One-to-one assistance with any writing-related problem, project, or assignment in any discipline. 4930.21

**280A-D. ++Communication Skills Laboratory***.5-3 units each level, 1.5-9 hours laboratory**Open-entry/open-exit: Students may enroll up to the 12th week of the semester.**Non-degree applicable**Course study under this section may be repeated three times.*

Assistance with language skills: Reading, grammar, spelling, vocabulary, and sentence structure/paragraph development. Students work at their own pace under the direction of an instructor or tutor. 4930.20

**294A-D. Intensive Reading Improvement Workshop***1-5 units each level, 1-5 hours lecture, 0-10 hours laboratory**Non-degree applicable**Course study under this section may be repeated three times.*

Modular course designed to improve students' reading ability through intensive work in problem areas: Reading efficiency, oral fluency, vocabulary development, textbook reading, and study skills. 4930.70

**295A-D. +Fundamentals of Writing***3-5 units each level, 3-5 hours lecture**Non-degree applicable**Course study under this section may be repeated three times.*

Writing course designed to teach basics of English grammar, correct sentence structure, paragraph development, and composition revision. 4930.21

**348NA-TZ. +Selected Topics in English***.5-5 units**Non-degree applicable*

See section on Selected Topics. 4930.20

# ENGLISH AS A SECOND LANGUAGE

## (ESL)

The English as a Second Language Department offers courses designed to develop reading, writing, listening, and speaking skills to students whose native language is not English.

### SUGGESTED GUIDELINES FOR STUDENT LEVEL OF DIFFICULTY

SUBJECT AREA	LEVELS					
	PRE-I	I	II	III	IV	V
Speaking		ESL 250A	ESL 250B	ESL 200A	ESL 200B	ESL 200C
Speaking/Study Skills						ESL 24
Writing		ESL 251A	ESL 251B	ESL 201A	ESL 201B	ESL 21A-B
Grammar		ESL 252A	ESL 252B	ESL 202A	ESL 202B	ESL 202C
Reading		ESL 253A	ESL 253B	ESL 203A	ESL 203B	ESL 23 (Laney)
Vocabulary/Context				ESL 205A	ESL 205B	
Spelling/Phonics			ESL 256			
Pronunciation				ESL 257A	ESL 257B	
Conversation			ESL 258			
Lifeskills/Job Preparation	ESL 290A-C	ESL 291A-C	ESL 292A-C			
Vocational	ESL 271A-C	ESL 272A-C		ESL 226A-B	ESL 227A-B	

#### 21A. +Writing 5 (Composition/Reading)

5 units, 5 hours lecture

*Prerequisite:* ESL 201B or appropriate placement through multiple-measures assessment

*Recommended preparation:* ESL 202C (can be taken concurrently)

*Acceptable for credit:* CSU, UC

Advanced level of writing: Focus on reading, developing ideas, and writing expository essays. 4930.81

AA/AS area 4a, 4d

#### 21B. +Writing 6 (Composition/Reading)

5 units, 5 hours lecture

*Prerequisite:* ESL 21A or appropriate placement through multiple-measures assessment

*Recommended preparation:* ESL 202C (can be taken concurrently)

*Recommended for those taking, or planning to take Engl 1A.*

*Acceptable for credit:* CSU, UC

High advanced level of reading and writing: Focus on developing critical thinking skills, writing expository essays, and introduction to writing a research paper. 4839.81

AA/AS area 4a, 4d

#### 24. +Speaking/Study Skills 5

4 units, 4 hours lecture

*Prerequisite:* ESL 204 or appropriate placement through multiple-measures assessment

*Acceptable for credit:* CSU

Advanced level of spoken American English: Focus on oral and listening skills through film, radio, college lectures, presentations, debate and discussion; problem solving, decision making, and opinion forming emphasized using advanced patterns, structures, vocabulary, and idiomatic expressions of American English. 4839.81

#### 48NA-TZ. +Selected Topics in English as a Second Language

.5-5 units

See section on Selected Topics. 4930.81

#### 200A. +Speaking 3

5 units, 5 hours lecture

*Prerequisite:* ESL 250B or appropriate placement through multiple-measures assessment

Low intermediate level of speaking: Emphasis on grammar skills to improve both fluency and accuracy in American English. 4930.81

**200B. +Speaking 4***5 units, 5 hours lecture**Prerequisite: ESL 200A or appropriate placement through multiple-measures assessment*

High intermediate level of speaking: Emphasis on grammar skills to improve fluency and accuracy in American English. 4930.81

**200C. +Speaking 5 (Academic Speaking Skills)***5 units, 5 hours lecture**Prerequisite: ESL 200B or appropriate placement through multiple-measures assessment*

Continuation of high intermediate level of spoken American English: Through various forms of media, mini-lectures, problem solving, teacher-student presentations, role playing, and small-group discussions, students will apply learned English language patterns, structures, and vocabulary in everyday speech. 4930.81

**201A. +Writing 3***5 units, 5 hours lecture**Prerequisite: ESL 251B or appropriate placement through multiple-measures assessment**Recommended preparation: ESL 202A (can be taken concurrently)*

Low intermediate level of writing: Introduction to basic academic writing skills; expanding paragraphs into simple essays. 4930.81

**201B. +Writing 4***5 units, 5 hours lecture**Prerequisite: ESL 201A or appropriate placement through multiple-measures assessment**Recommended preparation: ESL 202B (can be taken concurrently)*

High intermediate level of writing: Further development of academic writing skills with a focus on well-developed paragraphs and short essays. 4830.81

**202A. +Grammar 3***3 units, 3 hours lecture**Prerequisite: ESL 252B or appropriate placement through multiple-measures assessment*

Low intermediate level of English grammar: Introduction to complex grammar structures and sentence patterns. 4930.81

**202B. +Grammar 4***3 units, 3 hours lecture**Prerequisite: ESL 202A or appropriate placement through multiple-measures assessment*

High intermediate level of English grammar: Continuation and expansion of ESL 202A. 4830.81

**202C. +Grammar 5***3 units, 3 hours lecture**Prerequisite: ESL 202B or appropriate placement through multiple-measures assessment**Formerly offered as ESL 22.*

Advanced level of English grammar: Focus on expanding, refining, and applying complex grammar skills to formal writing. 4930.81

**203A. +Reading 3***4 units, 4 hours lecture**Prerequisite: ESL 253B or appropriate placement through multiple-measures assessment*

Low intermediate level of reading: Emphasis on development of academic vocabulary, and expanding critical skills essential for college-level reading. 4830.81

**203B. +Reading 4***4 units, 4 hours lecture**Prerequisite: ESL 203A or appropriate placement through multiple-measures assessment*

High intermediate level of reading: Further development of academic vocabulary and critical reading skills essential for reading literature and college textbooks. 4930.81

**205A. +Vocabulary and Idioms in Context 3***3 units, 3 hours lecture**Prerequisite: Appropriate placement through multiple-measures assessment*

Intermediate level of vocabulary through the study of words and idioms as used in context. 4930.81

**205B. +Vocabulary and Word Analysis in Context 4***3 units, 3 hours lecture**Prerequisite: ESL 205A or appropriate placement through multiple-measures assessment*

High intermediate/low advanced level of vocabulary and content: Focus on vocabulary useful in academic courses; analysis of word derivations. 4930.81

**226A-B. +English for the Childcare Provider 3***3 units each level, 3 hours lecture**Recommended preparation for ESL 226A: ESL 201A or 203A.**Recommended preparation for ESL 226B: ESL 226A.**Course study under this section may be repeated one time.*

Intermediate level ESL course: Designed to develop greater facility in reading, speaking, listening and writing skills in the childcare provider whose first language is not English and who is enrolled, or planning to be enrolled, in the Child Development program (A); continued development of reading, speaking, listening and writing skills for the childcare provider (B). 4930.81

**227A-B. +English for the Healthcare Worker 3***3 units each level, 3 hours lecture**Recommended preparation for ESL 227A: ESL 201A or 203A**Recommended preparation for ESL 227B: ESL 227A**Course study under this section may be repeated one time.*

Intermediate level ESL course: Designed to develop greater facility in reading, speaking, listening and writing skills in the healthcare worker whose first language is not English and who is enrolled, or planning to be enrolled, in a healthcare program such as Associate Degree Nursing (A); continued development of reading, speaking, listening and writing skills for the healthcare worker (B). 4930.81

**248NA-TZ. +Selected Topics in English as a Second Language***.5-5 units*

See section on Selected Topics. 4830.81

**250A. +Speaking 1***5 units, 5 hours lecture**Recommended preparation: Appropriate placement through multiple-measures assessment**Non-degree applicable*

High beginning level of speaking: Emphasis on basic grammar skills; practice in speaking and understanding American English. 4930.82

**250B. +Speaking 2***5 units, 5 hours lecture**Prerequisite: ESL 250A or appropriate placement through multiple-measures assessment**Non-degree applicable*

Continuation of the listening and speaking skills introduced in ESL 250A. 4930.82

**251A. +Writing I***5 units, 5 hours lecture**Prerequisite: ESL 252A**Non-degree applicable**Course study under this section may be repeated one time.*

High beginning level of writing: Emphasis on basic sentences; punctuation rules; short narrative and descriptive paragraphs. 4930.82

**251B. +Writing 2***5 units, 5 hours lecture**Prerequisite: ESL 251A or appropriate placement through multiple-measures assessment**Recommended preparation: ESL 252B (can be taken concurrently)**Non-degree applicable*

Continuation of writing skills introduced in ESL 251A. 4930.82

**252A. +Grammar 1***5 units, 5 hours lecture**Recommended preparation: Appropriate placement through multiple-measures assessment**Non-degree applicable*

High beginning level of English grammar: Review and practice of basic grammar structures, sentence patterns, and parts of speech. 4930.82

**252B. +Grammar 2***5 units, 5 hours lecture**Prerequisite: ESL 252A or appropriate placement through multiple-measures assessment**Non-degree applicable*

Continuation and expansion of basic grammar skills and sentence patterns introduced in ESL 252A. 4930.82

**253A. +Reading I***3 units, 3 hours lecture**Recommended preparation: Appropriate placement through multiple-measures assessment**Non-degree applicable**Course study under this section may be repeated one time.*

High beginning level of reading: Focus on basic vocabulary development; techniques for reading comprehension. 4930.82

**253B. +Reading 2***3 units, 3 hours lecture**Prerequisite: ESL 253A or appropriate placement through multiple-measures assessment**Non-degree applicable*

Continuation of the reading skills introduced in ESL 253A. 4930.82

**256. +Spelling and Phonics of American English 2***5 units, 5 hours lecture**Recommended preparation: Appropriate placement through multiple-measures assessment**Non-degree applicable*

Study of the sounds and spelling of American English. 4930.82

**257A. +Pronunciation 3***3 units, 3 hours lecture**Recommended preparation: ESL 256 or appropriate placement through multiple-measures assessment**Non-degree applicable*

Improvement in pronunciation, intonation, and fluency in English for speakers of English as a second language, with practice in the use of standard conversation expressions and styles. 4930.82

**257B. +Pronunciation 4***3 units, 3 hours lecture**Recommended preparation: ESL 257A or appropriate placement through multiple-measures assessment**Non-degree applicable*

Continuation of ESL 257A: Improvement in pronunciation, intonation, and fluency in English for speakers of English as a second language, with practice in the use of standard conversational expressions and styles. 4930.82

**258. +Conversation 2***3 units, 3 hours lecture**Recommended preparation: Appropriate placement through multiple-measures assessment**Non-degree applicable*

Beginning level of spoken American English: Focus on self-expression and vocabulary needed for daily activities. 4930.82

**271A-C. ++ESL through Computers I***1 unit each level, 1 hour lecture**Open-entry/open-exit**Non-degree applicable**Course study under this section may be repeated two times.*

Basic ESL utilizing computers: Designed for beginning ESL students who have minimal English ability and who want to acquire basic English skills while learning beginning computer functions. 4930.82

**272A-C. ++ESL through Computers II***1 unit each level, 1 hour lecture**Open-entry/open-exit**Non-degree applicable**Course study under this section may be repeated two times.*

Continuing ESL utilizing computers: Designed for ESL students who have acquired some English ability and who want to continue developing English skills while learning intermediate computer functions. 4930.82

**290A-C. +Beginning ESL 1***3 units Level A, 4 units Level B, 5 units Level C**3 hours lecture Level A, 4 hours lecture level B, 5 hours lecture Level C**Course study under this section may be repeated two times.*

Basic level English as a Second Language course designed for those with minimal or no English skills: Focus on very basic grammar, and writing and reading lifeskills such as personal information, everyday activities, and feelings/emotions. 4930.82

**291A-C. +Beginning ESL 2***3 units Level A, 4 units Level B, 5 units Level C**3 hours lecture Level A, 4 hours lecture Level B, 5 hours lecture Level C**Recommended preparation: ESL 290A-C or appropriate placement through multiple-measures assessment**Course study under this section may be repeated two times.*

High beginning level English as a Second Language course designed for those with minimal English skills: Focus on high beginning level grammar, and writing and reading lifeskills such as personal information, everyday activities, and feelings/emotions. 4930.82

**292A-C. +Intermediate ESL 1***3 units Level A, 4 units Level B, 5 units Level C**3 hours lecture Level A, 4 hours lecture Level B, 5 hours lecture Level C**Recommended preparation: ESL 291A-C or appropriate placement through multiple-measures assessment**Open entry/open exit**Non-degree applicable**Course study under this section may be repeated two times.*

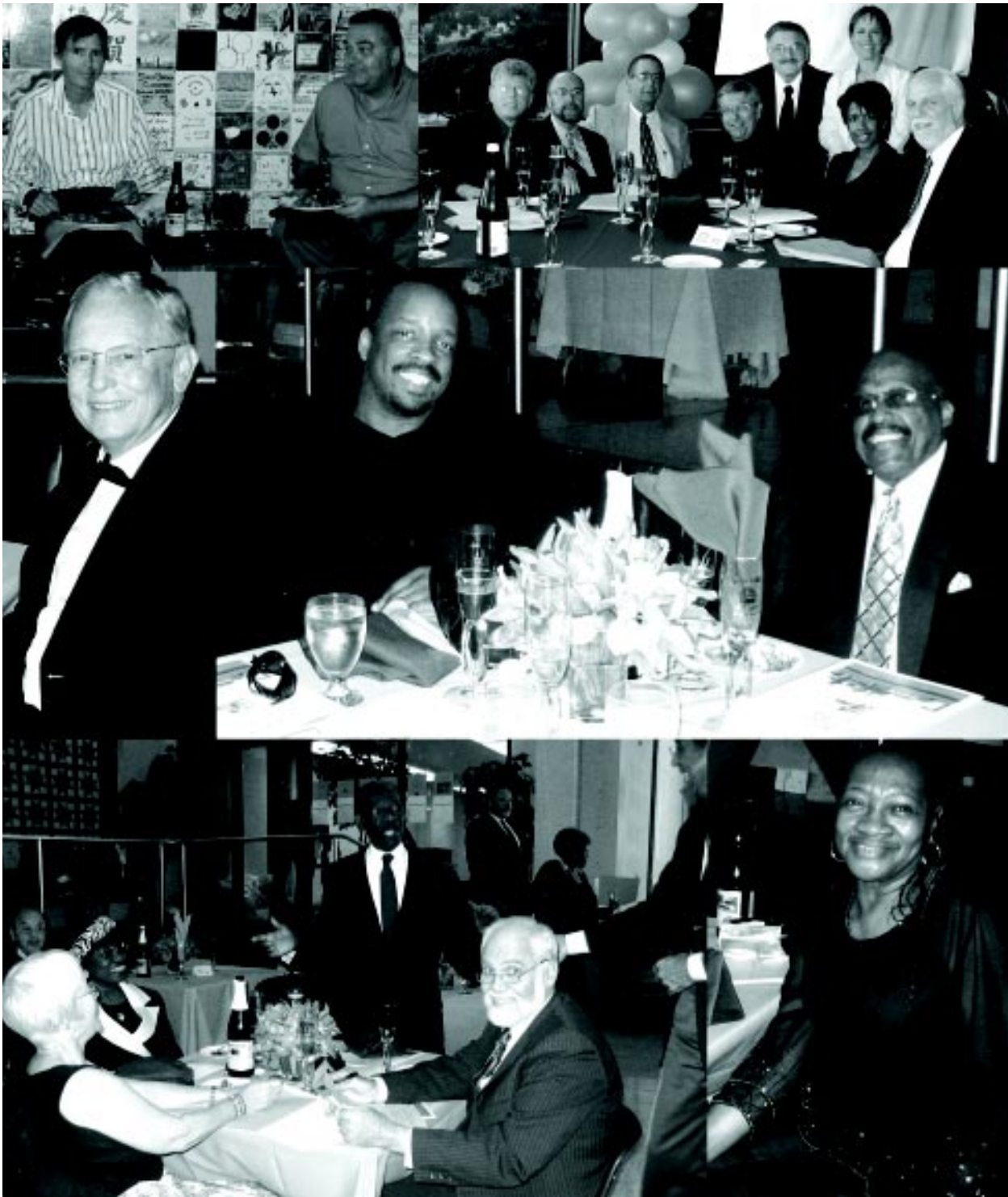
Low intermediate level English as a Second Language course designed for those who need to improve their English skills to move to academic classes or enter a vocational program: Focus on low intermediate level grammatical structures and increasing fluency in speaking, reading, writing, and listening in English; lifeskills and workplace skills to prepare students for further education and the workplace. 4930.82

**348NA-TZ. +Selected Topics in English as a Second Language***.5-5 units**Non-degree applicable*

See section on Selected Topics. 4930.82

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# MERRITT COLLEGE 50TH ANNIVERSARY



# ENVIRONMENTAL DESIGN & ENERGY TECHNOLOGY

## (E TECH)

This two-year program emphasizes energy efficiency and ecological sustainability in the built environment. It is designed to prepare students for employment in the field of energy management, in building design and construction, or for transfer to a four-year institution. Opportunity is provided to link this major cooperatively with Laney College's Architectural Technology major.

The **AS degree in Environmental Design and Energy Technology** will be awarded upon satisfactory completion of the Major course requirements and the General Education requirements. A **Certificate** will be awarded upon satisfactory completion of the major course requirements.

### Degree Major/Certificate Requirements:

CIS 205	Computer Literacy	1
ENVST 11	Introduction to Sustainable Environmental Systems (3)	
	or	
BIOL 13	Principles of Ecology (3)	3
ENVST 12	Urban Ecology	2
ENVST 15	Environmental Law	3
ENVST 16	Environmental Careers	1
E TECH 11	Energy Options	3
E TECH 16	Energy Auditing	2
E TECH 17	Introduction to Green Building and Ecological Design	3
GEOG 1	Physical Geography (3)	
	or	
GEOG	Any Geology course of 3 or more units (3)	3
MATH 203	Intermediate Algebra	4
PHYS 35A-D	Energy-Efficient Design and Construction	2
And:	Any Environmental Field Studies Course	<u>2</u>
	Total required units:	29

### Recommended:

CHEM 30A	Introductory Inorganic Chemistry (4)
POSCI 1	Government and Politics in the United States (3)

### 11. +Energy Options

*3 units, 3 hours lecture*

*Acceptable for credit: CSU*

Survey of the many alternatives to current energy uses, the nature of the energy crisis, and the need for a national energy policy: Explores ways to match needs for energy with abundant supplies of renewable energy, as well as methods of conserving energy. 0946.10

### 16. +Energy Auditing

*2 units, 2 hours lecture*

*Acceptable for credit: CSU*

Intensive examination of household energy usage, conservation, and rehabilitation: Energy concepts, heat loss calculations, basic solar concepts, site selection, design improvements, appliances, and utility systems. 0946.10

### 17. +Introduction to Green Building and Ecological Design

*3 units, 3 hours lecture*

*Acceptable for credit: CSU*

Introduction to green and natural building and renovation utilizing resource conservation and solar energy: Home and site selection, energy-conscious design and construction, solar energy systems and greenhouses, solid waste management and recycling, and landscape design and water conservation. 0946.10

### 48NA-TZ. +Selected Topics in Environmental Design and Energy Technology

*.5-9 units*

See section on Selected Topics. 0946.10

### 49. +Independent Study in Environmental Design and Energy Technology

*.5-5 units*

*Course study under this section may be repeated three times.*

See section on Independent Study. 0946.10

### 248NA-TZ. +Selected Topics in Environmental Design and Energy Technology

*.5-9 units*

See section on Selected Topics. 0946.10

# ENVIRONMENTAL HAZARDOUS MATERIALS TECHNOLOGY

(EHMT)

This program responds to the needs of employers, employees, regulators, and commercial handlers of hazardous substances. The program can lead to either a Certificate, to a two-year vocational competency-based Associate in Science degree, or transfer to a four-year institution. The program will prepare students for entry-level jobs that provide technical support in handling hazardous materials. Comprehensive objectives include providing fundamental knowledge of regulatory requirements of federal, state, and local agencies; proper handling procedures for hazardous substances; and appropriate health and safety practices. The Merritt College EHMT program is part of a statewide consortium of community colleges offering essentially the same program, thus allowing a student to complete the certificate program at more than one consortium college with a guarantee of full transferability of the required courses.

The **AS degree in Environmental Hazardous Materials Technology** will be awarded upon satisfactory completion of the Major course requirements and the General Education requirements. A **Certificate** will be awarded upon satisfactory completion of the major course requirements.

## Degree Major/Certificate Requirements:

BIOL 24	Basic Human Anatomy and Physiology	4
CHEM 30A	Introductory Inorganic Chemistry	4
CHEM 30B	Introductory Organic and Biochemistry	4
EHMT 11	Introduction to Environmental Hazardous Materials Technology	3
EHMT 12	Waste Stream Generation/Reduction/Treatment	3
EHMT 13A-D	Health Effects of Hazardous Materials	4
EHMT 14	Hazardous Waste Management Applications	4
EHMT 15	Safety and Emergency Response	4
EHMT 16	Hazardous Materials Management Applications	4
ENVST 11	Introduction to Sustainable Environmental Systems (3)	
	or	
BIOL 13	Principles of Ecology (3)	3
<b>Plus 3 units in courses from the following topics:</b>		
Communications Skills courses in Communication, Technical Writing, or Computer Applications		
		<u>3</u>
	Total required units:	40

## Recommended:

GEOL 1	Introduction to Physical Geology (4)
POSCI 1	Government and Politics in the United States (3)

## 11. +Introduction to Environmental Hazardous Materials Technology

3 units, 3 hours lecture

Acceptable for credit: CSU

Overview of the environmental hazardous materials technology field: History of pollution leading to current legislation, environmental effects of pollution, an overview of the regulatory framework, and career opportunities in the handling and management of hazardous substances. 0303.01

## 12. Waste Stream Generation/Reduction/Treatment

3 units, 3 hours lecture

Acceptable for credit: CSU

Industrial processes and their generation of waste streams in seven selected industries: Electroplating, metal finishing and printed circuit board production, oil refining and chemical production, steel production, general manufacturing, printing and graphic reproduction, agriculture and consumer services; applicable regulations; the importance of waste minimization/treatment concepts; and home hazardous waste generation and reduction. 0303.01

## 13A-D. +Health Effects of Hazardous Materials

1-4 units, 1-4 hours lecture

(1 unit, 1 hour lecture each module)

Modular course

Prerequisite: Biol 24

Acceptable for credit: CSU

Course study under this section may be repeated three times.

Principles of toxicology and industrial hygiene:

**13A:** Introduction and Exposure to Hazards: Introduction to industrial toxicology; history, hazards, and exposure to toxic materials.

**13B:** Action and Effects of Chemical, Physical and Biological Hazards: Teratogens, mutagens, and carcinogens.

**13C:** Health Hazards: Identification, monitoring, exposure and control.

**13D:** Treatment and Prevention: Medical monitoring, risk evaluation and ergonomics. 0303.01

## 14. Hazardous Waste Management Applications

4 units, 3 hours lecture, 3 hours laboratory

Prerequisite: EHMT 11 and Chem 30A

Acceptable for credit: CSU

Overview of hazardous waste regulation: Generator compliance, site investigation and remediation, permitting, enforcement and liability; laboratory exercises on application of regulations at the technician level. 0303.01

## 15. Safety and Emergency Response

4 units, 3 hours lecture, 3 hours laboratory

Prerequisite: EHMT 13

Satisfies the requirements for generalized employee training under OSHA.

Acceptable for credit: CSU

Principles and practices of safety and emergency response to chemical and physical exposures in industrial and field settings: Hazard analysis, contingency planning, house-keeping and safety practices. 0303.01

## 16. Hazardous Materials Management

### Applications

4 units, 3 hours lecture, 3 hours laboratory

Prerequisite: EHMT 11 and EHMT 13 and Chem 30B

Acceptable for credit: CSU

Requirements and applications of federal, state, and local laws and regulations relating to hazardous materials: Compliance with Department of Transportation, OSHA Hazard Communication, SARA Title III, Community Right-To-Know, Underground Tank, Asbestos, Proposition 65, and Air Toxics Regulations. 0303.01

## 48NA-TZ. +Selected Topics in Environmental Hazardous Materials Technology

.5-9 units

See section on Selected Topics. 0303.01

# ENVIRONMENTAL MANAGEMENT & RESTORATION TECHNOLOGY (EMART)

This program is designed to prepare students for employment in the fields of environmental assessment, monitoring, management and restoration. Graduates will be employed by private enterprises (a wide variety of industries and consulting firms), environmental organizations, and public agencies (parks, forests, wildlands, urban and regional planning agencies, etc.). They will be hired to assess and monitor environmental quality, help prepare environmental impact reports, assist planners and managers and perform environmental restoration work in urban/suburban, rural, and wildland settings.

The AS degree in **Environmental Management and Restoration Technology** will be awarded upon satisfactory completion of the Major course requirements and the General Education requirements. A **Certificate** will be awarded upon satisfactory completion of the major course requirements. Two specialized **Certificates of Achievement** are also offered in **Ecological Restoration** and **Geographic Information Systems/Global**

**Positioning Systems (GIS/GPS)**. Consult with the Natural Sciences Department Chairperson to discuss program options (Associate degree, certificate, transfer to a four-year institution) or see a counselor.

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## DEGREE MAJOR & CERTIFICATE

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### Degree Major/Certificate Requirements:

BIOL 15	Environmental Biology	3
BIOL 29	Biology of the Living World	4
CIS 205	Computer Literacy	1
EMART 44	Environmental Impact Reports	3
ENVST 11	Introduction to Sustainable Environmental Systems (3)	
	or	
BIOL 13	Principles of Ecology (3)	3
ENVST 12	Urban Ecology	2
ENVST 15	Environmental Law	3
ENVST 16	Environmental Careers	1
ENVST 28	Environmental Field Methods	3-5
FORST 10	Forest and Wildland Resource Conservation	3
GEOG 1	Physical Geography (3)	
	or	
GEOL	Any Geology course of 3 or more units (3)	3
And:	Any Environmental Field Studies Course	2
<b>Plus 4 units selected from the following list:</b>		
ENVST 22	Restoration Landscaping (2)	
EMART 23A	Restoration and Monitoring of Watercourses: General Aspects (2)	
EMART 23B	Restoration and Monitoring of Watercourses: Hydrology and Erosion Control (2)	
EMART 23C	Restoration and Monitoring of Watercourses: Water Chemistry (2)	
	Total required units:	<u>4</u> 35-37

### Recommended:

CHEM 30A	Introductory Inorganic Chemistry (4)
POSCI 1	Government and Politics in the United States (3)

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## ECOLOGICAL RESTORATION

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This program emphasizes "how to do" ecological restoration work. For greatest employability, this certificate can be completed along with any certificate from the Landscape Horticulture program.

### Certificate of Achievement Requirements:

ENVST 11	Introduction to Sustainable Environmental Systems (3)	
	or	
BIOL 13	Principles of Ecology (3)	3
ENVST 22	Restoration Landscaping	2
ENVST 25	Wetlands Restoration	3
COPEP 476F	Occ. Work Experience in Environmental Management/Restoration Technology (1-4)	1
<b>Select one course from the following list:</b>		
GEOG 1	Physical Geography (3)	
GEOL 1	Introduction to Physical Geology (4)	
GEOL 12	Environmental Geology (3)	3-4

**Select one course from the following list:**

EMART 23A	Restoration and Monitoring of Watercourses: General Aspects (2)	
EMART 23B	Restoration and Monitoring of Watercourses: Hydrology and Erosion Control (2)	
EMART 23C	Restoration and Monitoring of Watercourses: Water Chemistry (2)	2

**Plus one field studies course from the following list:**

BIOL 101	Mono Lake and Yosemite Natural History (.5-2.5)	
BIOL 102	Death Valley Natural History (.5-2)	
BIOL 103	Yosemite Winter Ecology (.5-2)	
BIOL 104	Grand Canyon Natural History (.5-3)	
BIOL 105	Pinnacles Natural History (.5-1.5)	
BIOL 106	Point Reyes Natural History (.5-1.5)	
BIOL 107	Natural History of Lassen Volcanic National Park (.5-1.5)	
BIOL 108	Natural History of Sequoia and Kings Canyon National Parks (.5-2.5)	
ENVST 28	Environmental Field Methods (3-5)	
GEOL 21	Bay Area Field Studies (1-2)	<u>2</u>
	Total required units:	16-17

**Recommended:**

ENVST 13A	Introduction to Geographic Information Systems/Global Positioning Systems (.5-3)	
ENVST 13B	Advanced Topics in Geographic Information Systems/Global Positioning Systems (3)	

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## GEOGRAPHIC INFORMATION SYSTEMS/GLOBAL POSITIONING SYSTEMS (GIS/GPS)

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This program is designed to provide preparation for employment in any field in which there are data to be mapped and interpreted. Graduates will be employed by private enterprises (a wide variety of industries and consulting firms), environmental organizations, and public agencies (parks, forests, wildlands, urban and regional planning agencies, etc.). GIS is the new "basic skill" much in demand – accessing GIS databases, and mapping and manipulating data.

**Certificate of Achievement Requirements:**

CIS	One Introductory Computer Programming Course: (CIS 6 or 10 or 12 or 24, etc.) (4-5)*	4
MATH 13	Introduction to Statistics*	4
GEOG 1	Physical Geography	3
ENVST 13A	Introduction to Geographic Information Systems/Global Positioning Systems (.5-3)	3
ENVST 13B	Advanced Topics in Geographic Information Systems/Global Positioning Systems	<u>3</u>
	Total required units:	17

**Recommended:**

COPEP 476E	Occ. Work Experience in Environmental Management and Restoration Technology (1-4)	
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\*It is recommended that these courses be taken first in the sequence.

### 10A-D. +Special Projects in Ecological Design, Installation and Maintenance

*.5-3 units each level, .5-2.5 hours lecture, 0-1.5 hours laboratory  
Acceptable for credit: CSU*

*Course study under this section may be repeated three times.*  
Environmental management, restoration and maintenance practices for buildings, watersheds, and landscapes at public sites: The collaborative planning process and history of ecological planning; ecological assessment and development of timelines, work plans and budgets for site projects; landscape restoration, installation and maintenance; green building design and construction; and site project evaluation and monitoring. 0303.02

### 23A. +Restoration and Monitoring of Watercourses: General Aspects

*2 units, 2 hours lecture*

*Acceptable for credit: CSU*

Principles and practices in the restoration and monitoring of watercourses: Physical and biological characteristics of streams; techniques in erosion control and bioengineering. 0303.02

### 23B. +Restoration and Monitoring of Watercourses: Hydrology and Erosion Control

*2 units, 2 hours lecture*

*Acceptable for credit: CSU*

Principles and practices in the restoration and monitoring of watercourses: Introduction to aquatic biology, water chemistry, and groundwater; emphasis on techniques of erosion control in streams and ponds. 0303.02

### 23C. +Restoration and Monitoring of Watercourses: Water Chemistry

*2 units, 2 hours lecture*

*Acceptable for credit: CSU*

Principles and practices in the restoration and monitoring of watercourses: Emphasis on chemistry, pollution sources and possible mitigation techniques; water chemistry monitoring techniques. 0303.02

### 24A-24F. +From Tree to Sea: A Bay Area Environmental Cross Section

*.5-3 units, .5-3 hours lecture*

*(.5 units, .5 hours lecture each module)*

*Modular course*

*Course meets the environmental field studies requirement for environmental majors. Environmental majors must complete all six modules for the maximum 3 units.*

*Acceptable for credit: CSU*

Introduction to the San Francisco Bay watershed environment and nearby sites: Field study of ecosystems of the bay, hills, forest lands, creeks and wetlands; sampling of water quality and marine life; and explorations of sustainable cultural and economic uses of the bay environment. 0303.02

**41. +Urban and Regional Planning***3 units, 3 hours lecture**Acceptable for credit: CSU*

A survey of planning in the urban and regional context and an overview of the problems of cities, suburbs, and rural areas. 0303.02

**44. +Environmental Impact Reports***3 units, 3 hours lecture**Acceptable for credit: CSU*

Methods of analysis useful in environmental impact reporting, emphasizing effective writing, and review and report management. 0303.02

**46. +Introduction to Environmental Planning***3 units, 3 hours lecture**Acceptable for credit: CSU*

A survey of the history, theory, philosophy, techniques and applications of landscape architecture in the design of outdoor spaces in land areas. 0303.02

**48NA-TZ. +Selected Topics in Environmental Management and Restoration Technology***.5-9 units*

See section on Selected Topics. 0303.02

**49. +Independent Study in Environmental Management and Restoration Technology***.5-5 units**Course study under this section may be repeated three times.*

See section on Independent Study. 0303.02

# ENVIRONMENTAL STUDIES

(ENVST)

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## HUMAN ECOLOGY

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The **Human Ecology** program is a two-year, largely social-science based environmental major. It is designed to give students a very broad background in environmental subjects, with heavy emphasis on the human perspective. Students who have a strong interest in the environment and are planning to transfer to a four-year institution to pursue a bachelor's degree in the social sciences, liberal arts, or humanities will find this program to be good preparation.

The **AA degree in Human Ecology** will be awarded upon satisfactory completion of the Major course requirements and the General Education requirements.

**Degree Major Requirements:**

ANTHR 3	Introduction to Social and Cultural Anthropology	3
BIOL 29	Biology of the Living World (4) or	
BIOL 10	Introduction to Biology (4)	4
CIS 205	Computer Literacy	1
ENVST 11	Introduction to Sustainable Environmental Systems (3) or	
BIOL 13	Principles of Ecology (3)	3
ENVST 12	Urban Ecology	2
ENVST 14	Environmental Economics	3
ENVST 15	Environmental Law	3
ENVST 16	Environmental Careers	1
GEOG 1	Physical Geography (3) or	
GEOL	Any Geology course of 3 or more units (3)	3
MATH 13	Introduction to Statistics	4
POSCI 1	Government and Politics in the United States	3
<b>Select one course from the following:</b>		
HIST 7A	History of the United States to 1877 (3)	
HIST 7B	History of the United States Since 1865 (3)	
HIST 14	San Francisco Bay Area from Discovery to Present (3)	
HIST 19	History of California (3)	3
<b>Select one course from the following:</b>		
PSYCH 1A	Introduction to General Psychology (3)	
PSYCH 6	Social Psychology (3)	
PSYCH 33	Personal and Social Adjustment (3)	3
Total required units:		36

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**11. +Introduction to Sustainable Environmental Systems***3 units, 3 hours lecture**Acceptable for credit: CSU, UC*

An interdisciplinary study of the impact of human civilization on the earth's major ecological systems: Issues examined in historic, contemporary, and future settings, including both Western and non-Western contexts. Material presented from a theoretical point of view, with a focus on core concepts and methods related to ecology, sustainability, human population, natural resources, wastes and pollution; reflects how human economic, political, and ethical behaviors are inextricably interwoven with the environment. Presentation of environmental career options; designed for students of all disciplines. 0302.00

AA/AS area 2; CSU area D; IGETC area 4

**12. +Urban Ecology***2 units, 2 hours lecture**Acceptable for credit: CSU, UC*

Investigation of selected urban environmental issues: Their relationship to social problems, urban and natural resource policy issues, and critical natural processes supporting urban systems; research of urban environmental impacts; survey of ongoing urban ecological restoration projects and grassroots movements. 0302.00

### 13A. +Introduction to Geographic Information Systems/Global Positioning Systems (GIS/GPS)

*.5-3 units*

*Module 1: .5-1 unit, 1.5-3 hours lecture for 6 weeks*

*Module 2: 2 units, 3 hours lecture for 12 weeks*

*Acceptable for credit: CSU*

**Module 1:** Introduction to the principles and use of Global Positioning Systems (GPS).

**Module 2:** Overview of computerized map-making, database information management, and associated computer technology: Basics of Geographic Information Systems and survey of common GIS software. 2206.10

### 13B. +Advanced Topics in Geographic Information Systems/Global Positioning Systems (GIS/GPS)

*3 units, 3 hours lecture*

*Recommended preparation: Envst 13A*

*Acceptable for credit: CSU*

Basics of cartography, database information management, and computer-associated technology: Creation and customization of data, theme creation, address geocoding, software customization, interfacing with GPS equipment, and theory and use of differential GPS. 2206.10

### 14. +Environmental Economics

*3 units, 3 hours lecture*

*Recommended for environmental sciences majors.*

*Acceptable for credit: CSU, UC*

Introduction to the economic analysis of environmental issues for students who are not majors in economics: Includes basic economic theory. 0302.00

### 15. +Environmental Law

*3 units, 3 hours lecture*

*Acceptable for credit: CSU, UC*

Introduction to the major environmental laws of California and the United States: The process and politics of creation of environmental laws and regulations, current legislative trends, and need for additional laws; some case histories examined. 0302.00

### 16. +Environmental Careers

*1 unit, 1 hour lecture*

*Acceptable for credit: CSU*

Career development strategies and exploration of what is available in emerging environmental fields. 0302.00

### 22. +Restoration Landscaping

*2 units, 2 hours lecture*

*Acceptable for credit: CSU*

Survey of principles, techniques, and their applications to the practice of restoration landscaping: Emphasis on the use of drought-tolerant native grasses, shrubs, and wildflowers in the urban/suburban environment, as well as in parks and other wildlands. 0302.00

### 25. +Wetlands Restoration

*3 units, 3 hours lecture*

*Acceptable for credit: CSU*

Principles and practices in the development and restoration of wetlands: Seasonal wetlands, fresh and salt-water marshlands, and field lectures in a variety of wetland environments. 0302.00

### 28. Environmental Field Methods

*3-5 units, 2-3 hours lecture, 3-9 hours laboratory*

*Recommended preparation: College-level biology course and Math 203 are strongly recommended*

*Acceptable for credit: CSU*

Exploration of a diversity of environments in the East Bay, emphasizing the field study methods and techniques appropriate to each environment: Special emphasis on the Merritt College campus and its environs, contributing to a long-term study and production of a general plan for the ecological restoration of the Merritt campus. 0302.00

### 48NA-TZ. +Selected Topics in Environmental Studies

*.5-5 units*

See section on Selected Topics. 0302.00

### 49. +Independent Study in Environmental Studies

*.5-5 units*

*Course study under this section may be repeated three times.*

See section on Independent Study. 0302.00

### 60A-H. +Natural History of the Bay Area

The following course is offered under this rubric.

#### 60A. +Natural History of the Bay Area: The State Parks, Part I

*.5-7 units, .5-7 hours lecture*

*Also offered as Biol 60A. Not open for credit to students who have completed or are currently enrolled in Biol 60A.*

*Acceptable for credit: CSU*

Survey of the natural history of the Bay Area: Climate, geology, geologic history, geomorphology, flora and fauna of selected Bay Area State Parks including Eastshore, Butano, Sugarloaf Ridge, and Henry W. Coe State Parks. 0302.00

**62A-H. +Natural History of California**

The following courses are offered under this rubric.

**62A. +Natural History of Joshua Tree National Park**

*.5-4 units, .5-4 hours lecture*

*Also offered as Biol 62A. Not open for credit to students who have completed or are currently enrolled in Biol 62A.*

*Acceptable for credit: CSU*

Introduction to the climate, geology, geologic history, geomorphology, plants, animals and their interactions in the Mojave and Sonoran Deserts of Joshua Tree National Park, California; history, archeology and current conservation issues will also be considered. 0302.00

**62B. +Natural History of the Redwood Forest**

*.5-2 units, .5-2 hours lecture*

*Also offered as Biol 62B. Not open for credit to students who have completed or are currently enrolled in Biol 62B.*

*Acceptable for credit: CSU*

Introduction to the climate, geology, geologic history, geomorphology, plants, animals and their interactions in the Redwood Region of California; history, archeology and current conservation issues in the Redwood Region will also be considered. 0302.00

**62C. +Natural History of Point Lobos and the Big Sur Coast**

*.5-1.5 units, .5-1.5 hours lecture*

*Also offered as Biol 62C. Not open for credit to students who have completed or are currently enrolled in Biol 62C.*

*Acceptable for credit: CSU*

Introduction to the climate, geology, geologic history, geomorphology, plants, animals and their interactions in the Point Lobos and Big Sur Region of California; history, archeology and current conservation issues in the region will also be considered: Adaptations to the Central California coastal environment by organisms such as California gray whales, sea otters, coast redwoods and the endemic Santa Lucia fir, among others, will be emphasized. 0302.00

**62D. +Natural History of Devil's Postpile and the Eastern Sierra**

*.5-2.5 units, .5-2.5 hours lecture*

*Also offered as Biol 62D. Not open for credit to students who have completed or are currently enrolled in Biol 62D.*

*Acceptable for credit: CSU*

Introduction to the climate, geology, geologic history, geomorphology, plants, animals and their interactions in the Devil's Postpile and the Eastern Sierra Region of California; history, archeology and current conservation issues in the region will also be considered: The Devil's Postpile/Mammoth Lakes Sierra, one of the most scenic and pristine regions of the High Sierra, and its multifaceted natural history, glaciated landscapes and montane plant and animal species will be emphasized. 0302.00

**62E. +Natural History of the Sutter Buttes**

*.5-1.5 units, .5-1.5 hours lecture*

*Also offered as Biol 62E. Not open for credit to students who have completed or are currently enrolled in Biol 62E.*

*Acceptable for credit: CSU*

Introduction to the natural history of the Sutter Buttes: Its unique geography (the only mountains in the middle of California's Central Valley), geology, geologic history, geomorphology, and the ecology of its blue oak woodlands; includes specially-arranged guided field sessions to the Buttes themselves, which are not open to the general public. 0302.00

**63A-H. +Wildlife of North America**

The following course is offered under this rubric.

**63A. +Ecology, Evolution and Future of the Wolves of Yellowstone**

*.5-3.5 units, .5-3.5 hours lecture*

*Also offered as Biol 63A. Not open for credit to students who have completed or are currently enrolled in Biol 63A.*

*Acceptable for credit: CSU*

Introduction to the evolution of the carnivores and the dog family: Relationship of canids, particularly the wolf, to their prey and the role they have played in the evolution of large herbivores of the Northern Hemisphere; emphasis on the interrelationships between the wolf, elk, and other ungulates of the Yellowstone ecosystem, and reintroduction of the wolf to the park amid controversy; field studies and observations of wolves and their prey in their natural environment in Yellowstone. 0302.00

**64A-H. +Natural History of Western North America**

There are currently no courses offered under this rubric.

**70A-H. +Natural History of Rivers**

The following courses are offered under this rubric.

**70A. +Natural History of the Green River**

*.5-6 units, .5-6 hours lecture*

*Also offered as Biol 70A. Not open for credit to students who have completed or are currently enrolled in Biol 70A.*

*Acceptable for credit: CSU*

Introduction to the dynamics of the Green River in Wyoming and Utah as well as to the natural history of the canyons and valleys through which it flows: Basic hydraulic phenomena as well as the finer craft and art of navigating the river in river rafts and kayaks; includes classroom sessions followed by a float trip on the Green River in Dinosaur National Monument. 0302.00

**70B. +Natural History of the Rogue River***.5-5 units, .5-5 hours lecture**Also offered as Biol 70B. Not open for credit to students who have completed or are currently enrolled in Biol 70B.**Acceptable for credit: CSU*

Introduction to the dynamics of the Rogue River system in Oregon as well as to the natural history of the canyons and valleys through which it flows: Basic hydraulic phenomena as well as the finer craft and art of navigating the river in river rafts and kayaks; classroom sessions followed by a float trip on the river. 0302.00

**76A-D. +Native Americans and the Bay Area Environment***.5-5 units each level, .5-5 hours lecture**Also offered as Natam 76A-D. Not open for credit to students who have completed/are currently enrolled in Natam 76A-D.**Acceptable for credit: CSU**Course study under this section may be repeated three times.*

Prehistoric, historic and contemporary Native American relationships to the Bay Area region and Native philosophical perspectives on human/land relationships: Introduction to tribal groups, link between origin stories and the natural environment and the moral/spiritual foundation for land use, resource utilization, impact of Spanish and Anglo settlers on the land and Native peoples. Emphasis on:

**76A:** Pre-European Contact.**76B:** Mission Period.**76C:** Rancho and Anglo Period.**76D:** Contemporary Period. 0302.00

AA/AS area 2, 5 (if course taken for 3 or more units)

**78A-H. +American Indians and the Ecology of North America**

The following courses are offered under this rubric.

**78A. +American Indians and the Ecology of Hopi/Navajo Land***.5-6.5 units, .5-6.5 hours lecture**Also offered as Natam 78A. Not open for credit to students who have completed or are currently enrolled in Natam 78A.**Acceptable for credit: CSU*

Study of the Colorado Plateau in the Four Corners region and the Hopi and the Navajo: Basic ecological principles; unique geology, landforms, and plant and animal life, along with Hopi/Navajo adaptations to the dry semi-desert region; pre- and post-contact comparisons, ancient Hopi presence and arrival of the relative newcomer Navajos, effects of European contact on both cultures; and current land-use conflicts. 0302.00

AA/AS area 2, 5 (if course taken for 3 or more units)

**78B. +Lewis and Clark Expedition: Ecology and Indians, Part I***.5-7 units, .5-7 hours lecture**Also offered as Natam 78B. Not open for credit to students who have completed or are currently enrolled in Natam 78B.**Acceptable for credit: CSU*

Course traces the first half of the route of Lewis and Clark's Corps of Discovery in 1804-06: The journey from the Missouri/Mississippi River confluence to the Continental Divide, with an emphasis on the ecology and the Indians along the path of their journey. 0302.00

AA/AS area 2, 5 (if course taken for 3 or more units)

**80A-H. +Birds of Central California and the Bay Area**

The following courses are offered under this rubric.

**80A. +Raptors of Central California and the Bay Area***.5-2.5 units, .5-2.5 hours lecture**Also offered as Biol 80A. Not open for credit to students who have completed or are currently enrolled in Biol 80A.**Acceptable for credit: CSU*

Introduction to the basic biology of birds with an emphasis on hawks, eagles, falcons, kites, owls, vultures and other raptors of Central California and the Bay Area: Identification, classification, evolution, migration and ecology of the raptors. Field sessions in outstanding fall migration and overwintering areas present these birds in their natural habitats. 0302.00

**80B. +Bird Singing: The Ecology of Bird Songs and Identification by Ear***.5-2.5 units, .5-2.5 hours lecture**Also offered as Biol 80B. Not open for credit to students who have completed or are currently enrolled in Biol 80B.**Acceptable for credit: CSU*

Introduction to the identification, classification, and ecology of birds in terms of how they communicate and use their songs: Emphasis on Central California and Bay Area birds, with special attention paid to birds such as passerines, hummingbirds, and parrots that memorize and learn their songs; concepts relating to how birds sing, learn their songs, mimic one another, and play duets together. 0302.00

**80C. +Fundamentals of Ornithology and Birding in Central California and the Bay Area***.5-7 units, .5-7 hours lecture**Also offered as Biol 80C. Not open for credit to students who have completed or are currently enrolled in Biol 80C.**Acceptable for credit: CSU*

Fundamentals of ornithology: Emphasis on habitats from the pelagic to the High Sierra and the birds found there. 0302.00

**248NA-TZ. +Selected Topics in Environmental Studies***.5-5 units*

See section on Selected Topics. 0302.00

# ENVIRONMENTAL TECHNOLOGY

(ENVTE)

**48NA-TZ. +Selected Topics in Environmental Technology***.5-9 units*

See section on Selected Topics. 0303.00

**248NA-TZ. +Selected Topics in Environmental Technology***.5-9 units*

See section on Selected Topics. 0303.00

# ETHNIC STUDIES

(ETHST)

See listings under **African-American Studies, Asian and Asian-American Studies, Mexican and Latin-American Studies, and Native American Studies.**

# FIRE SCIENCE

(FISCI)

**48NA-TZ. +Selected Topics in Fire Science***.5-9 units*

See section on Selected Topics. 2133.00

**201. +Fire Service Organization***3 units, 3 hours lecture*

Introduction to fire service organization and careers in the fire protection field: Fire technology and history of fire service, organization and function of public and private protection services, fire department as part of local government, laws and regulations affecting fire service, fire service nomenclature, specific fire protection, fire loss analysis, basic fire chemistry and physics, introduction to fire strategy and tactics, and Incident Command System. 2133.50

**202. +Fundamentals of Fire Prevention***3 units, 3 hours lecture*

Fundamentals of fire prevention: History and philosophy of fire prevention, organization and operation of fire prevention organizations, use of fire codes, identification and correction of fire hazards, the relationship of fire prevention to built-in fire protection systems, fire investigation, and fire safety education. 2133.50

**203. +Building Construction for Fire Protection***3 units, 3 hours lecture*

Fundamentals of building construction that relate to fire and life safety: Elements of construction and design of structures as key factors in building inspections, pre-planning of fire operations, and operations at fire and building-collapse emergencies; development and evolution of building and fire codes and study of past fires and building collapses in residential, commercial, and industrial occupancies. 2133.50

**204. +Fire Behavior and Combustion***3 units, 3 hours lecture***Recommended preparation: Math 250 or 251D or 253**

Theory and fundamentals of how and why fires start, spread, and are controlled: In-depth study of fire chemistry and physics, fire characteristics of materials, extinguishing agents, and fire-control techniques. 2133.50

**205. +Fire Protection Equipment and Systems***3 units, 3 hours lecture*

Fundamentals of design and operation of fire detection and alarm systems: Heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, portable fire extinguishers, and design and installation requirements. 2133.50

**206. +Fire Fighter Safety and Public Education***3 units, 3 hours lecture*

Fundamentals of assessing fire dangers and the handling of common fire situations in the home and in the workplace: Common fire and health hazards, risk abatement and preparation for unforeseen fire emergencies, and roles and responsibilities in educating the public on fire safety. 2133.50

**208. +Fire Fighter I Certification–Preparation A***4 units, 3 hours lecture, 4 hours laboratory***Prerequisite: Fisci 201, 202, 203, 204, and 205**

Introduction to the use of fire fighting equipment and rescue techniques: Personal protective equipment, lifting and hoisting equipment, ground ladders, hoses, nozzles, fittings, various rescue techniques; and manipulative training in ropes, ladders, hose and extrication equipment. 2133.50

**209. +Fire Fighter I Certification–Preparation B***4 units, 3 hours lecture, 4 hours laboratory**Prerequisite: Fisci 208*

Advanced manipulative and technical training in the use of fire fighting equipment, fire-attack procedures, and rescue operations: Hose and ladder evolutions; fire protection systems; basic salvage and overhaul techniques; forcible entry; wildland, interior, house and flammable liquid fire-attack procedures; and fire-control, ventilation, and extinguishment techniques for various situations. 2133.50

**210. Firefighter Academy***20 units, 17.14 hours lecture, 10.28 hours laboratory (300 term lecture and 180 term laboratory hours)**Prerequisite: EMT 210 or EMT certification**Meets Firefighter I, as well as Rescue Systems, Confined Space, and HAZ MAT FRO certification requirements.*

Manipulative and technical training in the use of firefighting equipment, fire attack procedures, and rescue operations: Hose and ladder evolutions, fire protection systems, basic salvage and overhaul techniques; forcible entry; wildland, interior, house and flammable liquid fire-attack procedures; and fire control, ventilation, and extinguishment techniques for various situations. 2133.50

**220. +Fire Investigation***3 units, 3 hours lecture**Prerequisite: Fisci 204**Recommended preparation: Math 250 or 251D or 253*

Theory and fundamentals of fire investigation and the processes and procedures involved: Legal search and seizure; burn-pattern analysis, collection of evidence, and ignition sources; fire investigations of structures, vehicles, and wildland; report writing; and testifying in court as a fire-cause and fire-origin expert. 2133.50

**221. +Aircraft Rescue & Firefighting Control V***1 unit, 10 term hours lecture, 30 term hours laboratory*

Basic training for the airport firefighter: Response to an incident, fire suppression and control and use of extinguishing agents; evacuation and rescue process, and post-emergency operations such as salvage and scene preservation. 2133.50

**222. +Confined Space Awareness and Rescue***.5 units, .5 hours lecture*

Basic training for the firefighter involving awareness of confined-space dangers and entry and rescue in confined spaces: CAL-OSHA codes governing confined spaces; confined-space identification and atmospheric and physical hazards; and equipment, techniques, procedures, and operational positions used in confined-space rescue operations. 2133.50

**248NA-TZ. +Selected Topics in Fire Science***.5-9 units*

See section on Selected Topics. 2133.00

# FOREIGN LANGUAGES

**(FLANG)**See listings under **Chinese, French, Spanish, and Swahili.**

# FORESTRY

**(FORST)****10. +Forest and Wildland Resource Conservation***3 units, 3 hours lecture**Acceptable for credit: CSU, UC*

Introduction to the science and management of forests and other wildland resources: Forest types, ecology, genetics, silvicultural systems, and sustainable management practices; and current and proposed policy and legislation. 0114.00

**48NA-TZ. +Selected Topics in Forestry***.5-5 unit*

See section on Selected Topics. 0114.00

# FRENCH

**(FREN)****1A. +Elementary French***5 units, 5 hours lecture**Course is equivalent to two years of high school study.**Acceptable for credit: CSU, UC**[CAN Fren 2]*

Study and practice in speaking, understanding, reading, and writing French, and aural-oral practice in language laboratory. 1102.00

AA/AS area 3; CSU area C2; IGETC Language

**48NA-TZ. +Selected Topics in French***.5-5 units*

See section on Selected Topics. 1102.00

**49. +Independent Study in French***.5-5 units**Course study under this section may be repeated three times.*

See section on Independent Study. 1102.00

**248NA-TZ. +Selected Topics in French***.5-5 units*

See section on Selected Topics. 1102.00