



## Academic Departments and Programs



# Accounting

Mihaylo College of Business and Economics

## DEPARTMENT CHAIR

Betty Chavis

## DEPARTMENT OFFICE

Steven G. Mihaylo Hall 4313  
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[business.fullerton.edu/accounting](http://business.fullerton.edu/accounting)

## PROGRAMS OFFERED

Bachelor of Arts in Business  
Administration  
Concentration in Accounting  
Joint Emphasis in Accounting  
and Finance  
Joint Emphasis in Accounting  
and Information Systems  
Master of Science in Accountancy  
Master of Science in Taxation  
Master of Business Administration  
Concentration in Accounting

## FACULTY

Fatima Alali, Sumantra Chakravarty,  
Betty Chavis, Lisa Eiler, Paul Foote,  
Jianxin Gong, Mahamood Hassan,  
Glenn Hatton, A. Jay Hirsch, Randy  
Hoffman, Wei Jiang, Vijay Karan,  
Walied Keshk, K. J. Kim, Hung-  
Yuan Lu, Andrew Luzi, Vivek Mande,  
Robert Miller, Jose Miranda-Lopez,  
Christopher Petruzzi, Mohsen Sharifi,  
Myungsoo Son, Isho Tama-Sweet, Kim  
Tarantino, I-Ling Wang

## INTRODUCTION

Accounting is often referred to as “the language of business.” Very generally, the accounting process is concerned with recording, classifying, reporting and interpreting the economic data of an organization. These data are important to users, who may include managers, investors and other interested groups. Accounting helps in decision-making processes by showing how resources have been used and where commitments have been made, by judging performance, showing the implications of following different courses of action, determining the effects of taxation and providing a level of assurance to investors. Reliable information in a dynamic business environment is necessary for sound decisions concerning the allocation of scarce resources. Thus, accounting plays a very significant role in our social and economic systems.

Programs in accounting are designed for students interested in careers in public accounting, corporate financial management, industry, government or service organizations, and for students who intend to work for advanced degrees in accounting in preparation for teaching and research.

Cal State Fullerton has the only accounting program in Orange County separately accredited by the AACSB International at the undergraduate and graduate level. This assures a rigorous program, a well-qualified faculty, high standards for students and access to an extensive library system and computing facilities.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing degrees in accountancy, business administration and taxation:

### Problem solving and critical thinking skills

- Effectively use quantitative/analytical, problem-solving and critical thinking skills in a business situation

### Interpersonal relations

- Motivate self and others to achieve group and organizational goals
- Diagnose and resolve conflict in group and organizational settings

### Ethical awareness

- Demonstrate an awareness of ethical issues and responsibilities

### Functional knowledge

- Understand and appreciate the principles and roles of each of the major business disciplines and the interrelationships of these disciplines within a strategic framework

### Multicultural awareness

- Appreciate diversity and understand how workforce and market diversity challenge, benefit and influence the activities of the organization



### Information technology skills

- Use information technology to support business analysis and operations

### Global awareness

- Understand the impact of the global economy and business environment

### Economic and legal environment knowledge

- Demonstrate knowledge about the economic and legal environments in which business operates

### Communications skills

- Demonstrate knowledge and skills to communicate effectively about business issues using written and oral communications

### Teacher Credential Program Information

The Department of Accounting offers courses that may be included in the Single Subject Waiver Program in Business. Further information on the requirements for teaching credentials is contained in the Teacher Credential Programs section of this catalog.

## BACHELOR OF ARTS IN BUSINESS ADMINISTRATION

See “Business Administration Degrees, Accounting Concentration.”

## MASTER OF SCIENCE IN ACCOUNTANCY (30 UNITS)

The curriculum for a master’s degree in accountancy is designed for students with an undergraduate degree in business administration with a concentration in accounting. In addition to nine units of required accounting courses, there are nine units of accounting electives, nine units in an area other than accounting, and a terminal research-project course. Students not holding an undergraduate degree in accounting or business are welcome to apply but will have additional requirements to satisfy as described below in the Curriculum section.

Most graduate courses in the Mihaylo College of Business and Economics require “classified MCBE status” and are open only to students with classified standing in the MBA, M.S. in Accountancy, M.S. in Taxation, M.S. in Information Systems, or M.A. in Economics programs.

### Admission Requirements

Admission is competitive. Students must meet the CSU requirements for admission to a master’s degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants will be evaluated based on the following:

1. satisfactory score on the Graduate Management Admission Test (GMAT). Students must score in the top 50 percent on the verbal, quantitative and analytical writing areas;

2. a bachelor’s degree with a major in business administration and a concentration in accounting (equivalent to the degree and concentration as offered at CSUF) with at least an overall cumulative GPA of 3.0 (B). The degree must include calculus and software applications equivalent to passing MATH 135 and ISDS 265 with a “C” (2.0) or better. Courses in the major are to be no more than seven years old, and courses in the accounting concentration no more than five years old. Courses in the major (including the accounting concentration) must have at least a 3.0 (B) GPA, and courses with grades lower than “C” (2.0) must be repeated. Applicants who have a bachelor’s degree in a field other than Business Administration with a concentration in accounting may be considered for admission. If admitted, such students will be required to complete additional courses or demonstrate proficiency as described in the next section (Curriculum);
3. a minimum score of 570 on the paper exam, or 90 on the internet based (iBT) TOEFL is required (for international students); and
4. a recommendation from the Accountancy Admissions Committee based upon a review of the above requirements, the student’s “Statement of Purpose” and prior work experience.

Additional coursework may be required of admitted students who holistically satisfy the criteria but are weak in one of the above areas.

### M.S. Accountancy Curriculum

Students admitted without a bachelor’s degree in Business Administration (with a concentration in accounting) will be required to satisfy the following requirements either prior to or during their residency at CSUF.

1. All students admitted with a business degree with a concentration other than accounting must complete the following accounting prerequisite courses: ACCT 301A, 301B, 302, 307 and 308. These accounting prerequisite courses must be completed with at least a 3.0 (B) GPA, with a “C” (2.0) or better for each individual course. Courses with grades lower than “C” must be repeated. These requirements are in addition to the Study Plan as described below.
2. All students admitted with a bachelor’s degree in a field other than Business Administration will be required to take (or demonstrate proficiency in) the following courses/academic topics either prior to or during their residency at CSUF: MATH 135 and ISDS 265; business foundation courses (ACCT 510, ECON 515, and MGMT 339); and accounting prerequisite courses (ACCT 301A, 301B, 302, 307, and 308). These courses must be completed with at least a 3.0 (B) GPA, with a “C” (2.0) or better for each individual course. Courses with grades lower than ‘C’ must be repeated. These requirements are in addition to the Study Plan as described next.

## Study Plan

At least 24 of the 30 units required for the degree must be at the 500 level. A 3.0 (B) GPA is required in study plan courses. Any study plan course with a grade lower than "C" (2.0) must be repeated.

### *Required Courses (9 units)*

ACCT 502 Seminar in Accounting Theory (3)

ACCT 505 Seminar in Auditing (3)

OR ACCT 521 Seminar in Management Control Systems (3)

ACCT 506 Seminar in Professional Accounting Communications (3)

### *Electives in Accounting (9 units)\*\**

Selected in consultation with and approved by the student's program adviser. At least one course, but not more than two, must be tax-related (denoted by an asterisk in the list below) for a maximum of six units in tax-related courses.

ACCT 503, 505, 507, 508\*, 518, 521, 572\*, 573\*, 574\*, 575\*, 576\*, 577\*, 578\*, 580\*

### *Other Electives (9 units)*

Selected at the 500-level in Economics, Finance, Information Systems/Decision Science, Management or Marketing, and approved by the student's adviser. Accounting courses may not be used to satisfy this requirement.

### *Terminal Evaluation (3 units)*

ACCT 597 Project (3)

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\* Tax Course

\*\* Only with approval of adviser/chair may courses at the 400-level be used to count toward these 9 units – up to a maximum of two 400-level courses.

## MASTER OF BUSINESS ADMINISTRATION

See "Business Administration Degrees, MBA."

## MASTER OF SCIENCE IN TAXATION (30 UNITS)

The curriculum for a master's degree in taxation is designed for students with an undergraduate degree in business administration or accounting. Students not holding such degrees are welcome to apply but will have to satisfy additional requirements as described below in the Curriculum section.

Most graduate courses in the Mihaylo College of Business and Economics require "classified MCBE status" and are open only to students with classified standing in the MBA, M.S. in Accountancy, M.S. in Taxation, M.S. in Information Systems, or M.A. in Economics programs.

### Admission Requirements

Admission is competitive. Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants will be evaluated based on the following:

1. satisfactory score on the Graduate Management Admission Test (GMAT). Students must score in the top 50 percent on the verbal, quantitative and analytical writing areas;
2. a bachelor's degree with a major in business administration equivalent to the degree as offered at CSUF with at least an over-all cumulative GPA of 3.0 (B) and ACCT 308 (or an equivalent course or work experience). The degree must include calculus and software applications equivalent to passing MATH 135 and ISDS 265 with a "C" (2.0) or better. Courses in the major are to be no more than seven years old. Courses in the major must have at least a 3.0 (B) GPA, and courses with grades lower than "C" (2.0) must be repeated.  
  
Applicants with a bachelor's degree in a field other than Business Administration may be considered for admission. If admitted, such students will be required to complete additional courses or demonstrate proficiency as described in the next section (Curriculum);
3. a minimum score of 570 on the paper exam, 230 on the computer-based, or 90 on the internet based (iBT) TOEFL is required (for international students); and
4. a recommendation from the MS Taxation Admission Committee based upon a review of the above requirements, the student's "Statement of Purpose," and prior work experience.

Additional coursework may be required of admitted students who holistically satisfy the criteria but are weak in one of the above areas.

## M.S. Taxation Curriculum

Students admitted with a bachelor's degree in a field other than business administration and without equivalent prior coursework will be required to complete MATH 135, ISDS 265 and ACCT 308, with a "C" (2.0) or better; and also the following business foundation courses: ACCT 510; ECON 515, FIN 320 or 517, and MGMT 515. These courses must be completed with at least a 3.0 ("B") GPA, with a "C" (2.0) or better for each course. These requirements are in addition to the Study Plan as described next.

### Study Plan

At least 21 of the 30 units required for the degree must be at the 500 level. A 3.0 (B) GPA is required in study plan courses and over-all applicable coursework. Any study plan course with a grade lower than "C" (2.0) must be repeated with at least a "C" (2.0).

### *Required Tax Course (9 units)*

ACCT 470 Tax Research, Practice and Procedures (3)

ACCT 572 Seminar in Taxation of Corporations and Shareholders (3)

ACCT 578 Seminar in Taxation of Partnerships (3)

### *Electives in Taxation and Related Fields (9 units)*

Selected in consultation with, and approved by, the student's program adviser. Available courses include but are not limited to:

ACCT 408, 508, 573, 574, 575, 576, 577, 580

### *Other Electives (9 units)*

Selected in consultation with, and approved by, the student's adviser.

One course (3 units) in either economics or political science and two courses (6 units) in either business or non-business fields.

### *Terminal Evaluation (3 units)*

ACCT 597 Project (3)

## **ACCOUNTING COURSES**

Courses are designated as ACCT in the class schedule.

### **201A Financial Accounting (3)**

Accounting concepts and techniques essential to the administration of a business enterprise: analyzing and recording financial transactions; accounting valuation and allocation practices; preparation, analysis and interpretation of financial statements; international accounting issues.

### **201B Managerial Accounting (3)**

Prerequisite: ACCT 201A with a "C" (2.0) or better. Introduction to managerial accounting; product costing; budgetary control and responsibility accounting; analysis and techniques for aiding management planning and control decisions; basic income tax concepts for planning business transactions.

### **301A Intermediate Accounting (3)**

Prerequisites: ACCT 201B and completion of all lower-division business administration core courses with a "C" (2.0) or better in each course. Corequisite: BUAD 301. Accounting theory; preparation of income statements, balance sheets and statements of accounting theory; preparation of income statement, balance sheets and statements of cash flows, and comprehensive income; IFRS (International Financial Reporting Standards); present value concepts; assets, liabilities and stockholders' equity; revenue recognition and investments.

### **301B Intermediate Accounting (3)**

Prerequisites: "C" (2.0) or better in ACCT 301A and BUAD 301. Accounting theory; IFRS (International Financial Reporting Standards); present value concepts; assets, liabilities and stockholder equity; pensions; leases; earnings per share; financial statement analysis; accounting changes and error analysis.

### **302 Cost Accounting (3)**

Prerequisites: ACCT 201B and completion of all lower-division business administration core courses, each with a "C" (2.0) or better. Corequisite: BUAD 301. Accounting information for management of manufacturing and service enterprises; cost records; cost behavior and allocation; product costing and inventory valuation; flexible budgeting; standard costs; responsibility accounting; cost planning and control; and operating decision analysis.

### **307 Accounting Information Systems (3)**

Prerequisites: ACCT 201B and completion of all lower-division business administration core courses, each with a "C" (2.0) or better. Corequisite: BUAD 301. Organization and implementation of information technology for the collection, organization, and presentation of accounting information with an emphasis on enterprise resource planning systems.

### **308 Concepts of Federal Income Tax Accounting (3)**

Prerequisites: ACCT 201B and completion of all lower-division business administration core courses, each with a "C" (2.0) or better in each course. Corequisite: BUAD 301. Federal income taxation relating to federal tax system; federal income taxation relating to individuals, corporations, partnerships, fiduciaries, and Federal estate and gift taxes.

### **401 Advanced Accounting (3)**

Prerequisites: ACCT 301B with a "C" (2.0) or better, BUAD 301. Business combinations; meaning, usefulness and methodology of consolidated financial statements; investments in non-subsidiary affiliates and corporate joint ventures; consolidated financial statements for overseas units of U.S.-based multinational companies; translations of foreign currencies, derivatives.

### **402 Auditing (3)**

Prerequisites: ACCT 301B, 302, 307, each with a "C" (2.0) or better, and BUAD 301. Auditing standards and procedures used by financial and operational auditors. Management information and computer systems, internal control, audit evidence, professional responsibilities and legal liabilities, standards of reporting financial information.

### **403 Accounting for Governmental and Nonprofit Entities (3)**

Prerequisites: ACCT 301B with a "C" (2.0) or better, BUAD 301. Fund accounting as applied to governmental and nonprofit entities; state and federal governments, municipalities, hospitals and universities. Budgets, tax levies, revenues and appropriations, expenditures and encumbrances, various types of funds, and accounting statements.

### **405 Forensic Accounting (3)**

Prerequisites: ACCT 307 and 301B with a "C" (2.0) or better. Methods to prevent and detect fraud. Current cases dealing with accounting fraud, and appropriate methods to prevent or detect fraudulent behavior.

### **408 Problems in Taxation (3)**

Prerequisites: ACCT 308 with a "C" (2.0) or better and BUAD 301. Federal income tax as it applies to corporations, partnerships, fiduciaries, and federal estate and gift taxes as they apply to taxable transfers.

**420 Advanced Cost Accounting (3)**

Prerequisite: ACCT 302 with a "C" (2.0) or better. Advanced topics in accounting; strategic profitability analysis; cost allocation and resources; quality and Just-In Time Inventory; and investment decisions and management control.

**422 Internal Audit and Control (3)**

Prerequisite: senior standing for accounting majors; departmental permission for other undergraduates and all graduate students. Survey of internal auditing principles and concepts. Intended for students who are interested in internal auditing.

**445 Valuation Concepts and Topics for Accountants (3)**

Prerequisite: ACCT 301B with a "C" (2.0) or better. Conceptual framework for valuation. Application of framework in a number of settings likely to be encountered as accounting professionals.

**460 Seminar in Financial Statement Analysis (3)**

Prerequisite: ACCT 301B with a "C" (2.0) or better. Analysis of demand and supply forces underlying the provision of financial statements; distributional, cross-sectional and time series properties of financial statement numbers; financial decision-making processes and the uses of financial statement information for decision making.

**463 Financial Controls for Entrepreneurs (3)**

Prerequisites: entrepreneurship concentration only; ACCT 201B, FIN 320. Accounting system design for new ventures, including budgeting, purchasing, collections, payroll taxes, safeguards against error and embezzlement, financial reports, cash management, and banking relationships. Casework, research and fieldwork with selected local businesses. Not applicable for graduate degree credit.

**470 Tax Research, Practice and Procedures (3)**

Prerequisites: ACCT 308 with a "C" (2.0) or better, BUAD 301. Methodology of tax research, including case studies; the management of a tax practice; administration procedures governing tax controversies; rights and obligations of taxpayers and tax practitioners.

**495 Internship (1-3)**

Prerequisites: ACCT 301A, 302, BUAD 301, each with a "C" (2.0) or better; a concentration in accounting, consent of the department internship adviser, 2.5 GPA and one semester in residence at the university. Planned and supervised work experience. May be repeated for credit up to a total of six units. Credit/No Credit only.

**499 Independent Study (1-3)**

Prerequisites: BUAD 301, senior standing and approval of department chair. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

**502 Seminar in Accounting Theory (3)**

Prerequisites: ACCT 301B, classified MCBE status. Effects of professional, governmental, business and social forces on the evolution of accounting theory.

**503 Seminar in Contemporary Accounting Problems (3)**

Prerequisite: classified MCBE status. Current issues in financial reporting, including pronouncements by the Financial Accounting Standards Board and the Securities and Exchange Commission. Topics will change as new issues in accounting emerge.

**505 Seminar in Auditing (3)**

Prerequisites: ACCT 402, classified MCBE status. Auditing theory and practices; professional ethics; auditing standards; Securities and Exchange Commission and stock exchange regulations; auditor's legal liability; statement trends and techniques.

**506 Seminar in Professional Accounting Communications (3)**

Prerequisite: classified MCBE status. Compilation and composition of accounting reports and client presentations relating to accountants' working papers, client engagement letters, management advisory reports and prospectuses.

**507 Seminar in Accounting Information Systems (3)**

Prerequisites: ACCT 307 or equivalent; classified MCBE status. Case studies of computer-based accounting systems used by organizations such as universities, banks, industrial corporations and CPA firms. Accounting information, reports and internal controls.

**508 Seminar in Tax Planning (3)**

Prerequisites: ACCT 308; classified MCBE status. Substantive provisions of federal law; tax planning from a corporate viewpoint; case studies of the effect of federal tax law on business decisions.

**509 Accounting for Information Technology (3)**

Prerequisite: classified MCBE standing. Information processing procedures to support financial and managerial accounting processes, concepts and standards; preparation of financial statements and management reports; use of financial information for management decision making.

**510 Financial Accounting (3)**

Prerequisite: classified MCBE status. Accumulation, organization and interpretation of financial and quantitative data relevant to the activities of corporate business enterprises; analysis of financial reports; current regulatory reporting requirements with attention to business ethics and an understanding of global reporting issues.

**511 Seminar in Managerial Accounting (3)**

Prerequisites: ACCT 201B or 510; classified MCBE status. Design and development of cost accounting systems; contemporary cost management concepts; measurement, analysis and use of accounting information for management decisions, with attention to ethical, global and environmental issues in today's corporate governance. Measurement, analysis and use of information contained in standard and various other cost systems for industry sectors such as manufacturing, distribution, service and retail.

**518 Seminar in International Accounting (3)**

Prerequisites: ACCT 201B or 510; classified MCBE status. Comparative analysis of accounting principles and practices outside the United States; international financial accounting standards; current problems of international financial reporting, accounting planning and control for international operations; multinational companies.

**521 Seminar in Management Control Systems (3)**

Prerequisites: ACCT 302 or 511; classified MCBE status. Integrative aspects of accounting, financial and quantitative data for managerial decision-making; long-term, short-term profit planning; budgetary control; cost analysis; financial analysis and planning; taxation; and transfer pricing.

**572 Seminar in Taxation of Corporations and Shareholders (3)**

Prerequisites: ACCT 308, classified MCBE status. Federal taxation relating to corporations; organizing, distributions, liquidations and reorganizations.

**573 Seminar in Taxation of Property Transactions (3)**

Prerequisites: ACCT 308, classified MCBE status. Federal taxation relating to sales, exchanges and other transfers.

**574 Seminar in Taxation of International Business Operations (3)**

Prerequisites: ACCT 308, classified MCBE status. Federal taxation relating to U.S. citizens and corporations with foreign source income and of foreign persons with U.S. source income; planning for foreign operations.

**575 Seminar in Estate, Gift, Inheritance Taxes and Estate Planning (3)**

Prerequisites: ACCT 308, classified MCBE status. Federal and California death taxes and the planning of personal estates.

**576 Seminar in State and Local Taxation (3)**

Prerequisites: ACCT 308, classified MCBE status. Application of interstate income allocations; multi-state tax compact; separate apportionment accounting; foreign country sourced income. California taxes as applied to businesses and individuals.

**577 Seminar in Taxation of Employee Compensation (3)**

Prerequisites: ACCT 308, classified MCBE status. Federal taxation relating to employee compensation including pensions and profit sharing, stock options, ESOPs, IRAs, Keoghs, maximum tax 5-year averaging, death benefits, group term life, etc.

**578 Seminar in Taxation of Partnerships (3)**

Prerequisites: ACCT 308, classified MCBE status. Federal taxation relating to partnerships, estates, trusts and other special entities.

**580 Seminar in Taxation of S Corporations, LLCs and LPPs (3)**

Prerequisite: ACCT 308. Tax consequences of electing and operating as a subchapter S corporation, including entity level taxes, distributions and computation of basis. Terminating the S corporation election and liquidations.

**597 Project (3)**

Prerequisite: classified MCBE status. Directed independent inquiry. Not open to students on academic probation.

**599 Independent Graduate Research (1-3)**

Prerequisites: classified MCBE status, approval of department chair and Associate Dean. May be repeated for credit. Not open to students on academic probation.





# African American Studies

College of Humanities and Social Sciences

## DEPARTMENT CHAIR

Alexandro José Gradilla

## DEPARTMENT OFFICE/WEBSITE

Humanities 314  
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## PROGRAMS OFFERED

Bachelor of Arts in Ethnic Studies  
Option in African American Studies  
Minor in African American Studies

## FACULTY

Stan Breckenridge, Julie Stokes, Lezlee  
Hinesmon-Matthews, Kendall Radcliffe

## INTRODUCTION

African American Studies is a multidisciplinary approach to understanding the black experience in a global context. In addition to degree programs in African American Studies, the department provides coursework in Ethnic Studies (e.g., Intracultural Socialization). Our faculty areas of expertise are diverse and include political science, history, urban planning, psychology, sociology and literature.

African American studies majors and minors go on to pursue graduate degrees in the humanities, social sciences and sciences. Our graduates make career choices that reflect a commitment to leadership and development. These areas include law, medicine, civil service, research, education and a number of other professional occupations.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and learning outcomes have been established for students pursuing a degree in African American Studies:

### Knowledge

- Describe and characterize the history and experiences of enslavement, colonialism, democratic ideals, and societal realities that foster inclusion and/or marginalization of racial and ethnic groups, particularly African Americans
- Identify economic, political and social challenges impacting ethnic groups, particularly African American
- Provide casual explanations, including racism, to explain the problems of marginalized racial and ethnic groups, particularly African Americans
- Determine the nature and extent of information needed to critically evaluate information sources used in responding to the identified challenges facing African Americans and minority communities

### Critical Thinking

- Demonstrate knowledge and application of theory, research and contexts of development when analyzing experiences of ethnic groups, particularly African Americans

### Critical Writing

- Perform independent research using qualitative and quantitative research methods and communicate information and interpretations orally and in writing

### Leadership

- Engage technology and multimedia in the communicating of written and oral presentations
- Engage in self-assessments, reflecting on the influence of diversity in one's life and society and on social responsibility for participating in creating economic, political, and social change



## **Social/Global Awareness**

- Exposure to issues of culture, ethnicity and gender
- Examine and critically assess normative standards of governing social relations, practices, and institutions, including a wide range of human activities dependent upon value judgments

## **BACHELOR OF ARTS IN ETHNIC STUDIES (120 UNITS)**

The Bachelor of Arts in Ethnic Studies includes courses for the option, General Education, all-university requirements and free electives.

## **OPTION IN AFRICAN AMERICAN STUDIES (30 UNITS)**

### **Lower-Division Courses (6 units)**

AFAM 101 Introduction to Ethnic Studies (3) and/or  
AFAM 107 Introduction to Afro-American Studies (3) and/or  
AFAM 190 Survey of American History with Emphasis on  
Ethnic Minorities (3)

### **Upper-Division Courses (24 units minimum)**

*Core Courses (15 units required), selected from the following:*

AFAM 304 The Black Family (3)  
AFAM 311 Intracultural Socialization Patterns (3)  
AFAM 317 Black Politics (3)  
AFAM 320 Black Political Thought (3)  
AFAM 322 Psychology of African Americans (3)  
AFAM 324 Afro-American Literature (3)  
AFAM 335 History of Racism (3)  
AFAM 346 African Experience (3)  
AFAM 381 African Literature (3)

*Upper-Division Electives (9 units minimum)*

Select three additional AFAM courses in consultation with departmental adviser.

### **Upper-Division Writing Requirement (3 units)**

AFAM 307 Research and Writing in Ethnic Studies (3)  
OR ENGL 301 Advanced College Writing (3)

## **MINOR IN AFRICAN AMERICAN STUDIES (21 UNITS)**

### **Lower-Division Courses (6 units)**

AFAM 101 Introduction to Ethnic Studies (3) and/or  
AFAM 107 Introduction to Afro-American Studies (3) and/or  
AFAM 190 Survey of American History with Emphasis on  
Ethnic Minorities (3)

### **Upper-Division Courses (15 units)**

Select 15 units of coursework in consultation with academic adviser.

## **AFRICAN AMERICAN STUDIES COURSES**

Courses are designated as AFAM in the class schedule.

### **101 Introduction to Ethnic Studies (3)**

Prerequisite: completion of General Education (G.E.) Category D.1. Perspective through which people of color have come to see themselves in terms of their own heroes, culture and contributions to societies in which they live, and world society in general. (Same as ASAM/CHIC/WMST 101)

### **107 Introduction to Afro-American Studies (3)**

Prerequisite: completion of G.E. Category D.1. Aims and objectives of African American studies. Basic terms and references that give substance to African American studies.

### **108 Linguistics and Minority Dialects (3)**

(Same as LING 108)

### **190 Survey of American History with Emphasis on Ethnic Minorities (3)**

(Same as ASAM/CHIC/HIST 190)

### **210 Introduction To Hip Hop (3)**

Origins and influences of hip hop on culture, fashion, movies, television, advertising, attitude, music, dancing and slang among African Americans. The impact of the hip hop culture phenomenon on American and global societies.

### **301 African-American Culture (3)**

African cultural characteristics in the New World and contemporary events, including art, ideas, dance and literature.

### **304 The Black Family (3)**

Prerequisite: SOCI 101 or completion of G.E. Category D.1. American social conditions that shaped the black family from the African cultural patterns to the family that exists today. Roles of poverty, racism and discrimination. (Same as SOCI 304)

### **306 American Indian Women (3)**

Prerequisite: completion of G.E. Category D.1. Female role in American Indian tribal lifestyles. Labor divisions, leadership, political and social activities from a number of tribes. Historical and contemporary issues as they affect American Indian women. (Same as WMST 306)

### **307 Research and Writing in Ethnic Studies (3)**

(Same as ASAM 307)

### **308 African American Males in American Social Systems (3)**

Prerequisite: completion of G.E. Category D.1. Critical examination of the significant life experiences of African American males. Emphasizes family, community, school and broader social systems that affect African American males' functioning within legal, educational, economic and social environments.

**310 Black Women in America (3)**

Prerequisite: completion of G.E. Category D.1. Issues in the study of black women in America, including social, political, economic and intellectual development. Historical and contemporary issues as they affect black American women. (Same as WMST 310)

**311 Intracultural Socialization Patterns (3)**

Prerequisite: completion of G.E. Category D.1. Patterns of role learning as they vary within subpopulations; changes over time in the values, attitudes and goals of the general culture and of subcultures; stereotypes and realities; understanding and dealing with cultural variation, as well as cultural "norms." One or more sections offered online. (Same as HUSR 311)

**314 Pan-African Dance and Movement (3)**

Prerequisite: completion of G.E. Category C.1. or C.2. Theory and practice of movement of African and Haitian peoples. Movement (dance) as quasi-language in perpetuating the lifestyle of African cultures and cultures of African descent.

**317 Black Politics (3)**

Prerequisite: POSC 100. Blacks' struggle for political equality and relief from political oppression. Public policies concerning blacks' freedoms, liberties and property rights. (Same as POSC 317)

**320 Black Political Thought (3)**

Prerequisite: completion of the G.E. Category C.2. Black American intellectual from slavery to contemporary times, with special emphasis on black contributions to American political and social thought, as well as their contributions in America's social development.

**321 Grassroots Planning and Community Development Planning In Minority Communities (3)**

Planning and community development trends in minority communities in urban, suburban and rural areas. Theoretical perspectives and practices embraced by grassroots planners. Public and private sector approaches. Topics include neighborhood planning, community development, economic development and grassroots organizing.

**322 Psychology of African Americans (3)**

Prerequisite: completion of G.E. Category D.1. Uses psychological principles and practices to guide students' comprehension of life as an African American. Introduction to a holistic perspective that expands ways of conceptualizing psychology from an African American world view. (Same as PSYC 322)

**324 African-American Literature (3)**

Prerequisite: completion of G.E. Category C.2. Literary contributions by major black American authors. Contemporary black writers and the recurring themes of protest and quest for identity. Not available for graduate degree credit. (Same ENGL 324)

**325 African-American Religions and Spirituality (3)**

Prerequisite: completion of G.E. Category D.1. African-American belief systems and denominations. Folk beliefs among Blacks, African-American religious groups, and the role of the Black Church in politics and social change in the Black community. (Same as CPRL 325)

**335 History of Racism (3)**

Prerequisite: completion of G.E. Category D.1. Historical roots and current expressions of racism. How racism manifests itself through individual, social, political, economic and religious institutions and proposes methods of combating it.

**337 American Indian Religions and Philosophy (3)**

Prerequisite: completion of the G.E. Category C.2. American Indian religious and philosophic perspectives. Religious interpretations and thought in various facets of belief, ranging from traditional Indian religion to Christianity. Highlights contemporary religious activities. Not available for graduate degree credit. (Same as CPRL 337)

**346 The African Experience (3)**

Prerequisite: completion of G.E. Category D.1. African history from the origin of the black man and traditional African civilization through the African diaspora to the institutional realities of Africa today. Not available for credit to students who have completed HIST 355.

**356 African-American Music Appreciation (3)**

Prerequisite: junior/senior standing. Black music in America; the sociological conditions that help produce various forms of black music. One or more sections offered online. (Same as MUS 356)

**357 Blacks in the Performing Arts (3)**

Prerequisite: completion of G.E. Category C.1. African-American culture through the performing arts. Examines Blacks in the entertainment industry as a means of understanding and revealing important aspects of African-American culture. (Same as MUS/THTR 357)

**370 Development of African American Children and Youth (3)**

(Same as CAS 370)

**381 African Literature (3)**

(Same as ENGL/CPLT 381)

**405 Hollywood v. History: An Interpretive History of Blacks through Film (3)**

Prerequisite: AFAM 107. Critical study of black images in motion pictures, past and present. Explores the tension between historical Black consciousness, authenticity, imitation and alternative adaptation.

**430 A Social Psychological Study in Ethnic Minority Behavior (3)**

Prerequisites: AFAM 101 or 107; or PSYC 101. Central role of culture, race and ethnicity in the human condition. Social psychological theory and research provides the context of the course. Cultural pluralism and diversity. Course offered online. (Same as PSYC 430)

**458A West Africa and the African Diaspora (3)**

(Same as HIST 458A)

**458B Southern Africa in the 20th Century (3)**

(Same as HIST 458B)

**458C African History Since 1935 (3)**

(Same as HIST 458C)

**485 Schools, Education and Ethnic Minority Groups (3)**

Prerequisite: completion of G.E. Category D.5. Ways in which the constraints of formal schooling affect the behaviors and attitudes of ethnic minority group members. Role of the community and family in school readiness and the psychological consequences of schooling. One or more sections offered online.

**490 Ethnic Studies Senior Seminar (3)**

Prerequisites: completion of G.E. Categories C.2, D.1, D.5, E; completion of African American Studies core requirements. Required senior seminar for Ethnic Studies majors with an option in African American, Asian American or Chicana/o Studies.

**499 Independent Study (1-3)**

Prerequisites: junior/senior standing and acceptance of the subject by department chair and instructor directing the study.



# American Studies

College of Humanities and Social Sciences

## DEPARTMENT CHAIR

Leila Zenderland

## DEPARTMENT OFFICE/WEBSITE

University Hall 313  
657-278-2441  
amst.fullerton.edu

## PROGRAMS OFFERED

Bachelor of Arts in American Studies  
Minor in American Studies  
Master of Arts in American Studies

## FACULTY

Erica Ball, Jesse Battan, Adam Golub,  
John Ibson, Carrie Lane, Elaine  
Lewinnek, Karen Lystra, Terri Snyder,  
Michael Steiner, Pamela Steinle, Susie  
Woo, Leila Zenderland

## INTRODUCTION

American Studies gives students a thorough understanding of the past and present nature of American culture and society. Three central features of our approach are: (1) an emphasis on the analysis of culture – that shared system of beliefs, behaviors, symbols and material objects through which Americans give meaning to their lives; (2) examination of dominant culture patterns, as well as the diversity of cultures in America; and (3) an interdisciplinary perspective that uses both the social sciences and humanities.

Besides providing a rich liberal arts education, training in the major develops skills in writing and analysis, and strengthens the ability to recognize connections among complex materials and diverse phenomena. American studies graduates enter careers in business, communications, government service, law, social services and teaching. The major is also a fine background for graduate work in the field or in related fields.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

### Bachelor's Degree

The following learning goals and learning outcomes have been established for students pursuing a bachelor's degree in American Studies:

#### *Interdisciplinary Sensibility*

- Develop a rigorous concept of culture and cultural process as well as an interdisciplinary sensibility, becoming aware of connections among the social sciences and the humanities
- Develop an interdisciplinary interpretive framework for studying American culture, cultural diversity, and cultural processes in ways that will enable students to solve practical and theoretical problems
- Have a working knowledge of the history of the field of American studies—its theories, methods, and intellectual justifications

#### *Cultural Diversity*

- Gain a thorough understanding of cultural diversity by examining the creative tension between unity and multiplicity in American experiences
- Identify a variety of examples of cultural diversity and commonality in America's past and present, demonstrating an awareness of the similarities, differences and relationships among the multitude of American groups
- Explain how categories of difference — including race, ethnicity, class, gender, and sexuality — are culturally constructed and vary according to historical, regional and social contexts
- Understand and demonstrate how cultural beliefs and practices have played a role in both the exercise of and resistance to power throughout American history
- Understand and interpret the ways in which culture creates meaning and guides behavior



### *Interpreting American Culture*

- Critically analyze and interpret a spectrum of cultural documents and expressive forms, ranging from popular to folk to elite expressions, from mass media to material culture
- Employ both historical and contemporary perspectives in order to situate these documents in relevant individual and social as well as local, national and global contexts

### *Research, Writing and Expressive Skills*

- Learn research, writing and expressive skills to see connections among complex materials and to clearly communicate an understanding of the underlying meanings and causes of cultural/historical events
- Design and carry out an original interdisciplinary research project on American culture
- Discover primary and secondary sources (hard copy as well as digital) using the library's resources
- Analyze and synthesize material from primary and secondary sources in order to create a coherent argument based on evidence
- Develop an original thesis and support that thesis through the thoughtful use of a variety of properly cited sources
- Communicate their research findings through clear, well-organized written and oral presentations
- Develop critical thinking, writing and interpretive skills

### *Social Issues and Cultural Contexts*

- Become informed and engaged American citizens, able to situate current political and social issues within their historical and cultural contexts
- Understand the historical origins and cultural significance of current movements for social change
- Situate the historical and contemporary study of American culture in a global context, demonstrating an understanding of the ways American culture has been shaped by diaspora, colonialism and globalization

## **Master's Degree**

The following learning goals and learning outcomes have been established for students pursuing a master's degree in American Studies:

### *Interdisciplinary Sensibility*

- Develop a rigorous concept of culture and cultural process, as well as an interdisciplinary sensibility, demonstrating an advanced understanding of connections among the social sciences and the humanities
- Develop an advanced interdisciplinary interpretive framework for studying American culture, cultural diversity and cultural processes in ways that will enable students to solve practical and theoretical problems

- Have an advanced knowledge of the history of the field of American Studies – and of at least one outside disciplinary field
- Develop an advanced understanding of the theoretical and methodological approaches used in American Studies and interdisciplinary scholarship

### *Cultural Diversity*

- Gain a thorough understanding of cultural diversity by examining the creative tension between unity and multiplicity in American experiences
- Identify a variety of examples of cultural diversity and commonality in America's past and present, demonstrating an advanced understanding of the similarities, differences and relationships among the multitude of American groups
- Explain how categories of difference – including race, ethnicity, class, gender and sexuality – are culturally constructed and vary according to historical, regional and social contexts
- Understand and demonstrate how cultural beliefs and practices have played a role in both the exercise of and resistance to power throughout American history
- Articulate a critical awareness of the conceptual approaches to the study of cultural diversity

### *Interpreting American Culture*

- Understand and interpret the ways in which culture creates meaning and guides behavior
- Critically analyze and interpret a spectrum of cultural documents and expressive forms, ranging from popular to folk to elite expressions; from mass media to material culture
- Employ both historical and contemporary perspectives in order to situate these documents in relevant individual and social, as well as local, national and global contexts
- Develop an advanced understanding of the theoretical approaches to the study of culture

### *Research, Writing and Expressive Skills*

- Demonstrate advanced research, writing and expressive skills to see connections among complex materials and to clearly communicate an understanding of the underlying meanings and causes of cultural/historical events
- Design and carry out original interdisciplinary research projects on American culture
- Discover primary and secondary sources (hard copy, as well as digital) using the library's resources
- Analyze and synthesize material from primary and secondary sources in order to create a coherent argument based on evidence
- Develop an original thesis and support that thesis through the thoughtful use of a variety of properly cited sources
- Communicate research findings through clear, well-organized written and oral presentations

- Develop advanced critical thinking, writing and interpretive skills
- Develop the ability to adhere to scholarly conventions in research, writing and documentation

#### *Social Issues and Cultural Contexts*

- Become informed and engaged American citizens able to situate current political and social issues within their historical and cultural contexts
- Develop an advanced understanding of the historical origins and cultural significance of current movements for social change
- Situate the historical and contemporary study of American culture in a global context, demonstrating an understanding of the ways American culture has been shaped by Diaspora, colonialism and globalization

### **TEACHING CREDENTIAL**

Because American Studies is interdisciplinary, the major may be effectively combined with subject matter studies necessary for either the multiple subject teaching credential (K-8) or single subject credential (7-12) in History/Social Science. Undergraduates are encouraged to work with the Center for Careers in Teaching (657-278-7130) as early as possible in their academic careers to plan efficient course selections for general education, the major and electives. With careful planning, it may be possible to enter the credential program in the senior year of the bachelor's degree. Postgraduate students should contact the Admission to Teacher Education office in the College of Education (657-278-3352) to obtain information on attending an overview presentation.

### **BACHELOR OF ARTS IN AMERICAN STUDIES (120 UNITS)**

The Bachelor of Arts in American Studies requires 36 units in the major: 12 units in the core program and 24 units of electives following either Plan A or B.

#### **Core Courses (12 units)**

AMST 201 Introduction to American Studies (3)  
 AMST 301 American Character (3)  
 AMST 350 Seminar in Theory and Method of American Studies (3)  
 AMST 401T Proseminar in American Studies (3)

#### **Electives (24 upper-division units)**

Elective coursework must be approved by the major adviser following either Plan A or B:

##### *Plan A*

Students may take all eight electives in American Studies courses or they may include up to four courses from no more than two other departments, such as African American studies, anthropology, Asian American studies, Chicana/o studies, communications, criminal justice, English, history, geography, political science, psychology or sociology.

##### *Plan B*

Coursework pursuing a particular theme or subject, such as: law and society, sex roles, the visual arts, ethnicity, urbanization, regionalism, the child and the family, or popular culture.

### **DOUBLE MAJOR IN AMERICAN STUDIES**

A double major in American Studies is often simple to arrange, since it allows for up to 12 units of coursework in the department of the other major to be used to complete the requirements of our major.

### **MINOR IN AMERICAN STUDIES (21 UNITS)**

The minor in American Studies requires: AMST 201, 301 or 345, and 401T, plus 12 units of electives. Six units may be lower-division and three units may be taken in a related department upon approval of an American Studies Department adviser.

### **MASTER OF ARTS IN AMERICAN STUDIES (30 UNITS)**

The M.A. in American Studies program is interdisciplinary, requiring graduate students to integrate knowledge from the humanities and social sciences. Particular areas of faculty specialization within the department include: gender and sexuality; race, class and ethnicity; literature, film, art and architecture as cultural expression; American regions; popular culture; cultural radicalism; ethnography; globalization; and the environment.

#### **Application Deadlines**

Applications are accepted only for the fall semester. Online applications must be completed by March 1 for the following fall semester (see [csumentor.edu](http://csumentor.edu)); mailed applications must be post-marked by the same date. However, deadlines may be changed based upon enrollment projections.

#### **Admission to Graduate Standing – Conditionally Classified**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants must: (1) hold a bachelor's degree with a major, or its equivalent, in American studies or in an appropriate discipline of the humanities or social sciences; (2) have a grade-point average of at least 3.2 in upper-division major courses; and (3) submit two satisfactory letters of recommendation from instructors in upper-division major courses.

Students whose undergraduate program indicates certain limited subject, grade or breadth deficiencies may be considered for admission, at the discretion of the graduate adviser, with approval of the department's graduate committee. In such cases, a student must make up deficiencies, in consultation with the graduate adviser, and must complete all required courses with at least a "B" (3.0) average before classified graduate standing may be considered.

#### **Graduate Standing – Classified**

Students will be classified upon fulfillment of the above prerequisites and after development of an approved study plan.

## STUDY PLAN

### American Studies (21 units)

#### *Required courses*

AMST 501 Theory and Methods (3)

AMST 502T Seminar: Selected Topics (3) (May be repeated for credit with different topic)

#### *Electives*

Additional upper-division or graduate level coursework in American studies (12)

*Choose one of the following:*

AMST 598 Thesis (3) should be taken in the semester immediately preceding graduation from the program

An additional American Studies graduate level elective, i.e., AMST 599 or 502T, plus successful completion of a three-part take home comprehensive examination based on the department's core reading list

### Other Disciplines (6 units)

Graduate-level seminars in anthropology, art, communications, comparative literature, English, geography, history, political science or sociology. Pedagogical and productions skill seminars are excluded. Students should select outside discipline seminars in consultation with the graduate advisor.

### Elective Skill (3 units)

A student must demonstrate proficiency in a methodological skill appropriate to his or her scholarly interests. In consultation with an adviser, the student will select the skill to be developed. Proficiency in a foreign language or quantitative methods, or an internship in a related area, would, for example, be appropriate. If prerequisite work is necessary before a student can develop proficiency through three units of coursework, that preliminary work will not be counted toward the 30 units required for the M.A. degree.

For further information, consult graduate program adviser.

## AMERICAN STUDIES COURSES

Courses are designated as AMST in the class schedule.

### 101 Introduction to American Culture Studies (3)

Concepts of interdisciplinary culture studies, focusing on analysis of cultural change in complex, literate society, American culture, including cross-cultural comparisons. Popular culture, subcultures, regionalism, myths and symbols, and culture and personality. One or more sections offered online.

### 201 Introduction to American Studies (3)

With the concept of culture as a unifying principle, focus is on four separate time periods in order to provide the framework for an understanding of American civilization. Several different kinds of documents will be used to illustrate the nature and advantages of an interdisciplinary approach.

### 300 Introduction to American Popular Culture (3)

Prerequisite: completion of General Education (G.E.) Category D.1. Historical exploration of popular culture in America as it both reflects and contributes to the search for meaning in everyday life. Heroes, myths of success, symbols of power, images of romance, consumerism, race and sexual identity. One or more sections offered online.

### 301 American Character (3)

Prerequisite: completion of the G.E. Category D.1. Cultural environment and personality. Extent to which there have been and continue to be distinctly American patterns of belief and behavior. Similarities, as well as class, ethnic, sex and regional differences among Americans. One or more sections offered online.

### 312 Multicultural Identities and Women's Experience (3)

Diversity of women's experiences, focusing on both historical and contemporary analysis of African American, Asian American, Latina and white ethnic women. Course materials include autobiography, fiction, visual and popular arts, and feminist cultural criticism. (Same as WMST 312)

### 318 Hollywood and America: Using Film as a Cultural Document (3)

Hollywood as a cultural institution. Concentrating on films of selected periods, the course analyzes Hollywood's ability to create and transmit symbols and myths, and legitimize new values and patterns of behavior.

### 320 Women in American Society (3)

Socio-cultural history of women and women's movements in American society. Emphasizes 19th and 20th centuries. Cultural models of American womanhood – maternal, domestic, sexual, social – their development and recent changes.

### 345 The American Dream (3)

Interdisciplinary analysis, in settings both historical and contemporary, of the myth and reality surrounding the notion of America as a land of unparalleled and unlimited possibilities, especially in the achievement of personal material success.

### 346 American Culture Through Spectator Sports (3)

Shifting meaning of organized sports in changing American society. Includes analysis of sports rituals, symbols and heroes. Cultural significance of amateur and professional football, baseball and basketball.

### 350 Seminar in Theory and Method of American Studies (3)

Prerequisites: AMST 201, 301. Understanding and appreciation of methodology, theories of society and images of humanity as they affect American studies contributions to scholarship. Fulfills course requirement of the university upper-division baccalaureate writing requirement for American studies majors.

**377 Prejudice and American Culture (3)**

Prerequisite: junior or senior standing. Concepts and methods of American culture studies as tools for better understanding the origins and appeal of intolerance, past and present. Particular focus on racism, ethnic and religious bias, sexism and homophobia.

**395 California Cultures (3)**

Prerequisite: completion of G.E. Category D.1. How various cultures – Native American, European, Latino, Asian, African-American – have interacted in California's past and present. Cultural diversity in frontiers and borderlands; shifting meanings of gender; function of regional and racial myths.

**401T Proseminar in American Studies (3)**

Prerequisites: AMST 201, 301. Relationship between theory and application. Analytic readings and research. Check the class schedule for topics being considered. May be repeated for credit.

**402 Religion and American Culture (3)**

Prerequisite: junior or senior standing. Interdisciplinary analysis of the religious dimensions of American core culture from colonial settlement to the present. Puritanism; rationalization, secularization and feminization; the conversion experience, revivalism and revitalization; fundamentalism and modernism; and civil religion.

**404 Americans and Nature (3)**

Prerequisite: AMST 201 or completion of G.E. Category D.3. Examines shifting attitudes toward the natural environment among a range of Americans over time, from native inhabitants and early colonists to rural and urban dwellers today. Topics include agrarian expansion, industrialization, transcendentalism, tourism, humans' roles in "natural" disasters and the history of environmental activism.

**405 Images of Crime and Violence in American Culture (3)**

Prerequisite: AMST 201 or completion of G.E. Category D.3. Cultural analysis of meanings ascribed to law and order, authority, violence and punishment in the American past and present. Examined in selected symbols, images, traditions and realities.

**407 American Humor (3)**

Prerequisite: AMST 201 or completion of G.E. Category D.3. Cultural significance of various types of American humor in past and present settings. How humor reinforces existing culture and also serves as an index and agent of cultural change. Humor's relationship to ethnicity, region, social class and sex.

**409 Consumer Culture (3)**

Prerequisite: completion of G.E. Category D.3. Consumerism in America, from the Boston Tea Party to today, from an interdisciplinary perspective using literature, music, clothing, advertisements and consumer-based social movements to analyze the power of consumer culture.

**410 The Office: White-Collar Work in American Culture (3)**

Prerequisite: AMST 201 or completion on G.E. Category D.3. Interdisciplinary exploration of history and culture of white-collar work through film, television, novels, ethnographies and historical works. Topics include: work and identity; gender, race and corporate hierarchy; work/life balance; corporate ethics; flexible work arrangements; and layoffs.

**413 The Shifting Role and Image of the American Male (3)**

Effect of economic, social, political and cultural changes on American males. Emphasizes 19th and 20th centuries.

**416 Southern California Culture: A Study of American Regionalism (3)**

Regionalism as a concept and as a fact of American life. Theories of regionalism measured against a study of Southern California and one other distinct American region.

**419 Love in America (3)**

Prerequisite: junior or senior standing. Changes in the emotional lives of American men and women from the 17th century to the present. Enduring and innovative views on the nature of love and the cultural forces that shape its "legitimate" and "illegitimate" expression.

**420 Childhood and Family in American Culture (3)**

Historical and contemporary culture study of childhood and family in America. Idea of childhood, changing concepts of child-rearing, growing up in the American past, the impact of modernization, mother and home as dominant cultural symbols.

**423 The Search for Community (3)**

Prerequisite: junior or senior standing. Historical transformation and modern reformulation of community in America. Relationship of the individual to the larger social group. Freedom, need to belong, alienation and search for identity.

**433 Visual Arts in Contemporary America (3)**

Prerequisite: AMST 201 or completion of G.E. Category D.3. Visual phenomena in America as they reveal changes in recent American culture. The "high" arts (painting, sculpture) as contrasted with the "low" arts (advertising, television); the artist as innovator; alienation; the business world; and American values in art.

**438 American Minds: Images of Sickness and Health (3)**

Prerequisite: junior or senior standing. Historically explores cultural changes in American images of the healthy mind. Medical and legal views of insanity, Freud's impact on American thought, literary treatments of madness, and psychological themes in American popular culture.

**439 American Photographs as Cultural Evidence (3)**

Prerequisites: junior or senior standing and AMST 201. Cultural work of American photography, from the mid-19th century to the present. How photographs – especially the vernacular or everyday variety – have both reflected and shaped American beliefs, symbols and values.



#### **440 American Folk Culture (3)**

Prerequisite: junior or senior standing. American culture from the perspectives of particular folk groups and through the eyes of the “common” person, past and present. Interpretation of artifacts and oral traditions; relationships between regional, ethnic, and folk identity; modernization and folk consciousness.

#### **442 Television and American Culture (3)**

Prerequisite: completion of G.E. Category D.3. American television as an interactive form of cultural expression, both product and producer of cultural knowledge. Structure and content of television genres, and social-historical context of television’s development and use, audience response, habits and environments of viewing.

#### **444 The Built Environment (3)**

Prerequisite: junior or senior standing. How Americans have shaped and structured space from the 17th century to the present. Relationship between space, place, architecture and material culture; the interpretation of cultural landscapes and architectural styles; the changing meanings of the American home.

#### **445 Cold War and American Culture (3)**

Prerequisite: completion of G.E. Category D.3. The Cold War’s impact on American society and culture. Nuclear fear, McCarthyism, gender roles, family life, material culture, and the impact of containment, brinkmanship and détente.

#### **447 Race and American Popular Culture (3)**

Prerequisite: AMST 201 or completion of G.E. Category D.3. Examines literature, theater, sport, music and film, and asks: how has popular culture contributed to and challenged the social construction of race and ethnicity in the United States?

#### **449 The American West in Symbol and Myth (3)**

Prerequisite: AMST 201 or completion of G.E. Category D.3. Meaning of the West to American culture through analysis of cultural documents, such as explorer and captivity narratives, fiction, art and film. Perception of wilderness, Indians, frontiersmen and role of the West in creating a sexist national mythology.

#### **460 Bohemians and Beats: Cultural Radicalism in America (3)**

Prerequisite: AMST 201 or completion of the G.E. Category D.3. Ideas, activities and legacies of the creators of a “countercultural” tradition in the 19th and 20th centuries. Their critique of modern civilization, as well as their projects for self-transformation, social change and cultural renewal.

#### **465 The Culture of the American South (3)**

Prerequisite: AMST 201 or completion of G.E. Category D.3. Distinctive cultural patterns in the American South, past and present. Southern concepts of work and leisure; race and gender roles; political and religious controversies; literature and folklore; and the South as portrayed in the media.

#### **468 Culture in Turmoil: 1960s America (3)**

Prerequisite: junior or senior standing. Origins, manifestations and continuing significance of the turbulence in American culture associated with the 1960s. Accelerated changes that occurred (or seemed to occur) in cultural meanings of authority, achievement, patriotism, sexuality, technology and consciousness.

#### **473 Sexual Orientations and American Culture (3)**

Prerequisites: junior or senior standing, AMST 201. Cultural construction of the very idea of a sexual orientation. Shifting meanings of erotic attraction and involvement in America, especially regarding people of the same sex, from the colonial period to the present.

#### **476 The Cultures of Early America (3)**

Prerequisite: AMST 201 or completion of G.E. Category D.3. Explores America’s various cultures and, through an analysis of visual, material and print culture, investigates the beliefs, ideologies and institutions through which early Americans created their worlds. Examines contemporary public memory of early America.

#### **488 Race, Sex and American Urban Culture (3)**

Prerequisite: AMST 201 or completion of G.E. Category D.3. Major urban spaces at key moments in the 19th and 20th centuries; ways that anxieties about race, gender, youth and sexuality have come to be identified with urban spaces and modern city life.

#### **499 Independent Study (1-3)**

Supervised research projects in American studies to be taken with the consent of instructor and department chair. May be repeated for credit.

#### **501 Theory and Methods (3)**

The American Studies movement. Its conceptual and methodological development. The way this development was affected by and in turn reflected larger trends in the culture itself.

#### **502T Seminar: Selected Topics (3)**

A particular problem or topic as a case study in the use of interdisciplinary methods in American studies. May be repeated for credit.

#### **596 American Studies Teaching Tutorial (3)**

Prerequisite: AMST 501. Preparation for community college or university teaching. Small group discussion, lecture-discussion, examinations, teaching strategies. Enrollment requires approval of American Studies graduate coordinator. Course may be repeated for credit, but may only count once on a graduate study plan.

#### **598 Thesis (3)**

Prerequisites: graduate standing in American studies and consent of graduate coordinator. Writing a thesis based on original research and its analysis and evaluation.

#### **599 Independent Graduate Research (1-3)**

Prerequisites: graduate standing in American studies and consent of graduate coordinator. May be repeated for credit.



# Anthropology

College of Humanities and Social Sciences

## ACTING DEPARTMENT CHAIR

Mitch Avila

## DEPARTMENT OFFICE/WEBSITE

McCarthy Hall 426  
657-278-3626  
anthro.fullerton.edu

## PROGRAMS OFFERED

Bachelor of Arts in Anthropology  
Minor in Anthropology  
Master of Arts in Anthropology

## FACULTY

John Bock, Brenda Bowser, Robey Callahan, Barbra Erickson, Peter Fashing, Tricia Gabany-Guerrero, Steven James, Sara Johnson, Edward Knell, Joseph Nevadomsky, Nga Nguyen, Susan Parman, John Patton, Elizabeth Pillsworth, Karen Stocker, Carl Wendt

## INTRODUCTION

Anthropology is the scientific and humanistic study of humans, our ancestors and our nonhuman primate relatives. Anthropologists are interested in a wide range of human activities, including communication and language, economics, political organization, religion, the arts, philosophy, education, health and nutritional practices, social organization, marriage, child rearing and development, science and technology. Anthropology fosters the study of people from all over the world as they live now, and in the prehistoric and historic past. A major goal of anthropology is to understand people living in relationship with their environment. Through an integrative analysis of evolution, adaptation and variation in terms of biology, culture, language and behavior, anthropologists understand the totality of the human experience. In our department, the four subfields of anthropology emphasize: application of evolutionary theory to understanding behavioral and physiological interaction with their ecological, social and cultural contexts; cultural practices and beliefs; development and use of language and symbols; and evidence regarding these areas from past times. Faculty also focus on areas such as primate conservation, cultural resource management and applied anthropology.

The major in Anthropology is designed to prepare students for advanced degrees in Anthropology, as well as for positions in the private and public sector. Social service, marketing research, museum work, health professions, cultural resources management, primate conservation and international development are some of the areas that offer many opportunities for anthropology graduates.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and learning outcomes have been established for students pursuing a degree in Anthropology:

### Information, Communication and Leadership Skills

- Identify and access information resources and technology to research current issues in all four subfields of anthropology
- Produce written communication that is characterized by clarity, insight, the proper citation of sources and strict adherence to the basic rules of grammar, syntax and spelling
- Produce written communication that interprets information in an effective manner
- Demonstrate leadership and teamwork in a diverse environment

### Interpret, Analyze and Synthesize

- Apply the holistic and comparative perspective inherent in anthropological knowledge to real world problems
- Apply the principles of neo-Darwinism and evolutionary ecology to understand adaptation, variation, and evolution in the human lineage

- Discriminate among anthropological theories on a continuum from universalism to relativism
- Analyze the elements of cultural identity for a specific group
- Interpret past human activity using anthropological theory and the principles of archeological fieldwork
- Evaluate the effect of ecological conditions on human behavior and adaptation as well as the impact of human activity on the environment

#### **Ethics**

- Understand and apply professional and ethical standards in research design and implementation

#### **Research Skills and Knowledge**

- Develop research question or problem statement within a theoretical framework
- Compare and select appropriate research design and methods
- Identify appropriate sampling frame
- Perform data collection and analysis both quantitative and qualitative specific to all four subfields of anthropology

#### **International Aspects of Anthropology**

Anthropology is inherently international in scope, drawing on worldwide, cross-cultural comparisons for understanding culture and what it means to be human. We offer an inter-disciplinary perspective to promote an understanding of globalization and transnationalism. The department encourages study in different cultures and will provide, where appropriate, academic credit for participation in academic programs and supervised research abroad.

### **BACHELOR OF ARTS IN ANTHROPOLOGY (120 UNITS)**

The Bachelor of Arts in Anthropology requires 45 units for the major, consisting of core courses, upper-division courses and elective coursework. A “C” (2.0) average and a “C-” (1.7) or better is required in all courses applied to the major. ANTH 480 and 481 fulfill the university’s upper-division writing requirement for Anthropology, and each must be passed with a “C” (2.0) or better.

#### **Core Courses (15 units)**

ANTH 101 Introduction to Biological Anthropology (3)  
 ANTH 102 Introduction to Cultural Anthropology (3)  
 ANTH 103 Introduction to Archaeology (3)  
 ANTH 480 History of Anthropology (3)  
 ANTH 481 Contemporary Anthropology (3)

#### **Upper-Division Courses (9-30 units)**

Any 400-level course in anthropology is an upper-division course that may be applied to the major.

#### **Electives (0-21 units)**

Any 100- or 300-level course in anthropology may be used by majors as electives.

Under certain circumstances, with the approval of the adviser or department chair, up to six units may be accepted from related disciplines.

*Note:* Upper-division, 400-level courses are intended for junior, senior and graduate students. Courses under Electives in Anthropology are 100- or 300-level and may be taken by all students.

### **MINOR IN ANTHROPOLOGY (21 UNITS)**

#### **Core Courses (15 units)**

ANTH 101 Introduction to Biological Anthropology (3)  
 ANTH 102 Introduction to Cultural Anthropology (3)  
 ANTH 103 Introduction to Archaeology (3)  
 ANTH 480 History of Anthropology (3)  
 ANTH 481 Contemporary Anthropology (3)

#### **Additional Courses (6 units)**

Six units of 300- or 400-level courses in anthropology

### **MASTER OF ARTS IN ANTHROPOLOGY (30 UNITS)**

The program offers advanced study of general anthropology, while simultaneously encouraging specialization in one (or more) of the anthropological subdisciplines: archaeology; cultural anthropology; anthropological linguistics; and evolutionary anthropology. Opportunities for field and laboratory research, and other related learning experiences permit students to enlarge upon formal classroom training and work independently with original data. Students may pursue a thesis or project of either a traditional or more exploratory character. Efforts are made to assist individuals to plan programs that will meet their individual needs and interests.

#### **Application Deadlines and Procedure**

There are two steps in the application process: (1) apply online to the university (see [csumentor.edu](http://csumentor.edu)); and (2) apply to the department, in care of the Graduate Program Adviser (see [anthro.fullerton.edu/Grad.htm](http://anthro.fullerton.edu/Grad.htm)). Arrange to have two letters of recommendation sent to the Graduate Program Adviser. Please check with the graduate adviser for department deadlines.

#### **Prerequisites**

Students must meet the CSU requirements for admission to a master’s degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, admission to conditionally classified standing is contingent upon evaluation and acceptance by the Graduate Affairs Committee.

The Department of Anthropology requires a grade-point average of 3.0 in all undergraduate coursework in anthropology. Students with limited subject or grade deficiencies may be considered for admission to the program if they agree to complete, with at least a "B" (3.0) average, additional courses selected by the Graduate Study Committee. Subject deficiencies must be met prior to candidacy. Students entering the MA program from other fields or other departments of anthropology should discuss appropriate course substitution with the graduate adviser. The department does not permit substitutions for the core courses.

### Classification

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, will be granted classified graduate standing upon the development of an approved study plan:

- A bachelor's degree with a minimum of 27 units in anthropology, including the following courses or their equivalents

*Core Courses (15 units)*

ANTH 101, 102, 103, 480 and 481

*Additional upper-division courses (12 units)*

Reading courses and special examinations may be substituted for the additional upper-division coursework in Anthropology.

- A GPA of "B" (3.0) for all work taken in Anthropology
- Classification review administered by the graduate adviser

### Study Plan

ANTH 511 Theory and Method in Biological Anthropology (3)

ANTH 512 Theory and Method in Archaeology (3)

ANTH 513 Theory and Method in Cultural/Linguistic Anthropology (3)

ANTH 597 Project (6) or ANTH 598 Thesis (6)

ANTH 504T Graduate seminars in Anthropology, minimum of three (9 units)

Electives – two courses (6 units). Electives may be additional 504T seminars, ANTH 599 Independent Study or 400-level courses.

For continuation in the program, a "B" (3.0) average, with no grade below "C" (2.0) must be maintained for all work in the study plan.

Students must remain continuously enrolled, either by enrolling in at least one Anthropology course each semester or by enrolling in Graduate Studies 700. Students may request a waiver of this requirement for one or two semesters if professional purposes require absence from campus. A student who is not continuously enrolled will be required to apply for readmission to the program.

A thesis or a project, including an oral examination, must be completed for the degree.

The progress of graduate students will be reviewed prior to classification and again before advancement to candidacy. Students must demonstrate competence in a foreign language or quantitative methods.

For further information, consult the Anthropology graduate program adviser. See also the Department of Anthropology's website ([anthro.fullerton.edu](http://anthro.fullerton.edu)).

## ANTHROPOLOGY COURSES

Courses are designated as ANTH in the class schedule.

### 100 Non-Western Cultures and the Western Tradition (3)

Changing views of people, nature and culture in Western civilization as related to the impact of non-Western influences, including the use and interpretation of data on non-Western peoples and cultures. One or more sections offered online.

### 101 Introduction to Biological Anthropology (3)

Humans as biological organisms from an evolutionary perspective. Concepts, methods, findings and issues in the study of the Order primates, including the relationships among fossil monkeys, apes and humans, and the significance of genetic diversity in modern populations.

### 102 Introduction to Cultural Anthropology (3)

Nature of culture and its significance. Similarities and differences in human cultures. Analyses of family, economy, subsistence, religion, art and other aspects of culture in diverse societies. Central problems of cultural comparison and interpretation. One or more sections offered online.

### 103 Introduction to Archaeology (3)

Relationship of archaeology, culture history and process, field methods and analysis of archaeological data; uses and abuses of archaeology. One or more sections offered online.

### 105 Introduction to Anthropology (3)

Introduction to basic aspects of anthropology's sub-fields (biological anthropology, archaeological anthropology, cultural anthropology and linguistic anthropology), and to an anthropological view of the world, which is grounded in a respect for cultural differences.

### 300 Language and Culture (3)

Prerequisite: completion of General Education (G.E.) Category D.1. Language as a factor in culture. Trends in the study of language and culture. One or more sections offered online.

### 301 Primate Behavior (3)

Prerequisite: ANTH 101,102, PSYC 101 or completion of G.E. Category B.2. Anthropological study of the behavior of primates, including monkeys and apes with data collection in the wild and the laboratory; review and discussion of behavioral characteristics that are part of the primate heritage of humankind. One or more sections offered online.

### 304 Traditional Cultures of the World (3)

Prerequisite: completion of G.E. Category C.2. Comparative, worldwide survey of traditional, selected and well-studied ways of life using ethnographic writings and films. Examines diverse ways of life, with an emphasis on small-scale societies. One or more sections offered online.



**305 Anthropology of Religion (3)**

Prerequisite: completion of G.E. Category C.2. Beliefs and practices in the full human variation of religious phenomena, with an emphasis on primitive religions. Forms, functions, structures, symbolism, and history and evolution of religious systems. One or more sections offered as televised course. (Same as CPRL 305)

**306 Culture and Art (3)**

Prerequisite: completion of G.E. Category C.2. Metaphysical and mystical systems underlying the “grammars” of the art, myths and rituals of various nonliterate and literate peoples and their development into creative experiences.

**308 Culture and Aging: Anthropological Gerontology (3)**

Prerequisite: completion of G.E. Category D.1. Anthropological discourse on diverse cultural conceptions of aging as they relate to gender, class, ethnic and religious categories. Cross-cultural comparison of culturally patterned time-table of life-cycle and age-grades for understanding the universals and variability in human aging.

**310 Urban Anthropology (3)**

Prerequisite: ANTH 102. Cross-cultural investigation of similarities and differences in urbanism with an emphasis on current theoretical and methodological perspectives in the study of urban social and cultural forms and processes.

**311 Culture and Communication (3)**

Prerequisite: completion of G.E. Category C.2. How meanings are created, exchanged and interpreted in both traditional and modern cultures through language, myth and religion, art and architecture, and other means of communication.

**313 Culture and Personality: Psychological Anthropology (3)**

Prerequisite: completion of G.E. Category D.1. Relationship of culture to the individual. Child-training in non-western cultures. Survey of concepts, studies and research techniques in psychological anthropology.

**315 Culture and Nutrition (3)**

Prerequisite: ANTH 101, 102 or equivalent. Interrelationships among human nutrition, basic food resources, individual development and socio-cultural organization; assessment of student's nutritional status, beliefs and practices relative to other cultures. One or more sections offered online.

**316 Anthropology of Sex and Gender (3)**

Prerequisite: completion of G.E. Category D.1. Human sex and gender roles in cross-cultural perspective and the role that gender plays in human social organization. Topics include cultural construction of gender; homosexuality, rights of women, evolution and gender. One or more sections offered online. (Same as WMST 316)

**320 Cultures of Europe (3)**

Prerequisite: completion of G.E. Category D.1. Cultural survey of Europe, focusing on the peasant, national and pan-European traditions of Europe. Diverse anthropological approaches are used to examine changing boundaries of European identity from prehistory to the present “European Union.” One or more sections offered online.

**321 Peoples of Native North America (3)**

Prerequisite: completion of G.E. Category D.1. Native peoples of North America; origins, languages, culture areas, cultural history; the impact of European contacts.

**322 Human Behavioral Ecology (3)**

Prerequisite: completion of G.E. Category B.2. Using modern evolutionary theory, students will examine human biological and cultural diversity through an analysis of comparative socioecology. Topics covered include reproduction and marriage, the family, childhood, population growth, and conservation. Computer labs utilizing eHRAF. One or more sections offered online. (Same as BIOL 322)

**325 Peoples of South America (3)**

Prerequisite: completion of G.E. Category D.1. Cultural survey of South America. Representative cultural areas before and after contacts with Western countries.

**327 Origins of Civilizations (3)**

Prerequisite: completion of G.E. Category B.1 or B.2. Development of civilization in the Old and New Worlds in primary centers such as Mesopotamia, Egypt, the Indus Valley, China, Mesoamerica and Peru, and secondary centers such as the Aegean and Europe. One or more sections offered online.

**328 Peoples of Africa (3)**

Prerequisite: completion of G.E. Category D.1. Cultural survey of Africa. Description of selected cultures and aspects of culture before and after contact with non-Africans.

**329 Peoples of the Caribbean (3)**

Prerequisite: completion of G.E. Category D.1. Various ethnic groups of the Caribbean, focusing on the description and interpretation of African, European, Asian and Amerindian cultural elements.

**332 Women in Cross-Cultural Perspective (3)**

Prerequisite: completion of G.E. Category B.2. or D.1. Cross-cultural comparison of beliefs, values, expectations and socially defined roles for women in diverse societies. Changing role of women in industrial societies.

**333 Anthropology of Childhood (3)**

Prerequisite: completion of G.E. Category B.2 or D.1. Using a biocultural perspective, examines the form and experiences of childhood using a comparative, evolutionary, cross-cultural approach. Topics: work and play; evolutionary and cultural influences on children's development trajectories; role of children. Computer labs with eHRAF.

### **340 Peoples of Asia (3)**

Prerequisites: completion of G.E. Categories B.2. and D.1. Asian civilizations and cultural traditions: personality configurations in different culture areas; structure of Asian civilizations; and peasant, tribal and ethnic groups of Asia. One or more sections offered online.

### **342 Anthropology and Health (3)**

Prerequisites: completion of G.E. Category B.2 and D.1. Uses an evolutionary, comparative, and cross-cultural perspective to understand the process and conception of health in different times, places and societies. Topics include evolutionary medicine, health beliefs, health ecology, culture and health. One or more sections offered online. Computer labs utilizing eHRAF.

### **343 Human Osteology (3)**

Prerequisite: ANTH 101 or equivalent. Techniques in basic identification of human skeletal remains. Aging, sexing, racing and stature reconstruction. For those interested in archaeology, hominid evolution and/or forensic science. One or more sections offered online. (2 hours lecture, 3 hours laboratory)

### **344 Human Evolution (3)**

Prerequisite: ANTH 101 or completion of G.E. Category B.2. Advanced primate evolution; the origin of *Homo sapiens* as evidenced in the fossil record and through biochemical and molecular studies. Evolutionary theory and problems in human evolution. One or more sections offered online. (2 hours lecture, 3 hours laboratory)

### **345 Peoples of the Middle East and North Africa (3)**

Prerequisite: completion of G.E. Category D.1. Interrelationship between culture, economy, political structure and belief system of selected cultures in the Middle East and North Africa.

### **347 Peoples of the Pacific (3)**

Prerequisite: completion of G.E. Category D.1. Indigenous peoples and cultures of the Pacific Islands, including Tahiti, Hawaii and Australia. Forces and processes contributing to social change in island communities and current problems being faced by them. One or more sections offered online.

### **350 Culture and Education (3)**

Prerequisite: completion of G.E. Category D.1. Transmission of values, implicit cultural assumptions and the patterning of education in cross-cultural perspective. American culture and development problems.

### **360 Contemporary American Culture (3)**

Prerequisite: completion of G.E. Category D.1. Application of anthropological methods, categories of analysis and types of interpretation to American culture. Survey and critique of selected community studies and other kinds of relevant research.

### **370 Anthropology of Non-Western Films (3)**

Prerequisite: ANTH 100, 102 or 304. Comparative analytical study of commercial and non-commercial films and videos made by non-western people. Films and videos considered as cultural artifacts that are particularly revealing of the ways people conceive of themselves and their cultures.

### **380 The Ancient Maya (3)**

Prerequisites: ANTH 102, 103. Archaeology and ethnohistory of the Maya area of Southern Mesoamerica. Problems of initial settlement of the area and the "rise" and dynamics of ancient Maya civilization.

### **381 The Aztecs and Their Predecessors (3)**

Prerequisites: ANTH 102, 103. Archaeological survey of principal Mesoamerica pre-Columbian cultures north and west of the Maya area. Aztecs and their predecessors, religion, art, architecture, intellectual achievements and the Olmec heritage. One or more sections offered online.

### **382 Archaeology of the Southwest (3)**

Prerequisite: ANTH 103. Archaeological ruins of the American Southwest – remains of ancient pueblos and cliff dwellings. Prehistory, ethnohistory and ethnographic record of ancient and contemporary Native American peoples of the Southwest over the past 11,000 years.

### **383 Prehistoric North America (3)**

Prerequisite: ANTH 103. Change, development and diversity of adaptations of North American Indian cultures prior to European colonization. Uses archaeological data to describe and explain long-term processes of cultural change during ancient times in North America. One or more sections offered online.

### **400 Qualitative Methods in Anthropology (3)**

Prerequisite: ANTH 102. Qualitative methods used in the systematic analysis of culture; diverse methodologies used in various frameworks, including, but not limited to, semiotic, phenomenological and interpretive anthropology.

### **401 Ethnographic Field Methods (3)**

Prerequisites: ANTH 102 and six additional units of anthropology. Anthropological field research by students on various problems using participant observation techniques.

### **402 Museum Science (3)**

Prerequisite: ANTH 101, 102 or 103. Methods, principles and techniques used in natural history, and small scientific and historical museums. Subjects covered include scope of exhibit and research collections, care and repair of specimens, acquisitions, storage and preparation of presentations in anthropological, historical, biological and paleontological museums.

### **403 Archaeological Fieldwork (3)**

Prerequisites: ANTH 102 or 103 and consent of instructor. Excavation of a local archaeological site. Archaeological mapping, photography and recording. Laboratory methods of cataloging, preservation, description and interpretation of archaeological materials. Saturday field sessions. May be repeated once for credit as an elective. (1 hour lecture, 6 hours laboratory)

### **404 Analytical Methods in Archaeology (3)**

Prerequisites: ANTH 103, 403. Employment of physical data-collecting techniques (e.g., photographic, paleomagnetic) in the field and the analysis of artifact collections and data from previous field operations in the laboratory. May be repeated once for credit as an elective. (1 hour lecture, 6 hours laboratory)

### **406 Descriptive Linguistics (3)**

(Same as LING 406)

### **407 Anthropological Video Production (3)**

Prerequisites: six upper-division units of anthropology. Planning, shooting and editing videotapes relating to all sub-disciplines of anthropology. (1 hour lecture; 6 hours laboratory activities, demonstrations, and fieldwork)

### **408 Ethnogerontology (3)**

Prerequisite: ANTH 102. Methods of ethnoscience and interpretive semiotics for analyzing cultural knowledge and domains pertaining to aging. Training in ethnographic cultural analysis of aging for the production of ethnographies that focus on the symbols, taxonomies, paradigms, and themes of aging.

### **409 Applied Anthropology (3)**

Prerequisite: ANTH 102. Uses of anthropological skills and sensitivities in approaching contemporary human problems. Cultural change, organizational development, program planning and evaluation, the consultant's role and professional ethics.

### **410 Anthropology of Organizations (3)**

Prerequisite: ANTH 102. Cross-cultural examination of the diverse ways humans organize themselves in groups. Topics include voluntary and non-voluntary associations, gender- and age-based organizations, religious groups, environmental groups, health care organization and business organizations.

### **412 Culture Change (3)**

Prerequisite: ANTH 102. Interrelations between cultural, social and psychological processes in the dynamics of culture growth and change. Impact of western technology on tribal and peasant societies. Anthropological contributions to the planning of directed sociocultural change in selected areas.

### **414 Economic Anthropology (3)**

Prerequisite: ANTH 102. Ethnology and ethnography of economic life, principally in non-Western societies; operation of systems of production and distribution within diverse cultural contexts. One or more sections offered online.

### **415 Anthropology of Tourism (3)**

Prerequisite: ANTH 102. Tourism and travel as cultural practices. Domestic and international tourism; perspective of hosts and travelers; global economy and tourism; souvenirs, artifacts and symbolic landscapes; tourism as pilgrimage.

### **416 Anthropological Linguistics (3)**

Nature and functions of language; language structure and change; classification of languages; use of linguistic evidence in anthropology. (Same as LING 416)

### **417 Life Quests (3)**

Prerequisite: ANTH 102. Contemporary ways to wisdom and humanness in cross-cultural and historical perspectives. New and comparative approaches to understanding the life cycle, development and fulfillment of individual personalities.

### **418 GIS and Archaeology (3)**

Prerequisites: ANTH 103 or equivalent course and junior or senior standing. Introduction to the use of Geographic Information Systems as they apply to the study of archaeology. Spatial analysis of past cultural remains from anthropological perspectives. One or more sections offered online.

### **419 Anthropology of Risk (3)**

Prerequisites: ANTH 101, 102, 103 and junior or senior standing. Ecological context of risk, cultural and behavioral responses to resource insecurity, the culture construction of risk, health outcomes in relation to risk-prone and risk-averse behavior, and social differentiation and risk.

### **420 Visual Anthropology (3)**

Prerequisite: ANTH 100, 101, 102, 103 or equivalent. Development of the field of visual anthropology and the changing and diverse approaches to the use of visual media in representing and interpreting other cultures.

### **427 Archaeology of Settlement Patterns (3)**

Prerequisite: ANTH 103. Introduction to settlement pattern studies in archaeology. Dispersion of aggregates and households within communities, and communities within regions, as a way to study political, social and economic organization in past societies.

### **430 Archaeology of Household Space (3)**

Prerequisite: ANTH 103. Households, domestic architecture and use of space in the archaeological and ethnographic record from diverse theoretical and methodological perspectives. Topics include cultural difference in residential dwellings, use of space, residence patterns, households, gender and ritual spaces.

### **435 Anthropology of Death and Mortuary Practices (3)**

Prerequisite: ANTH 102 or completion of G.E. Category C.2. Cultural practices relating to death. Burial practices, beliefs about the afterlife and memorialization of the dead in diverse cultural contexts, both contemporary and ancient. Integrates archaeological, linguistic, cultural and biological data in a holistic approach.

**441 Human Variation (3)**

Prerequisites: ANTH 343, and 301, 322 or 344. Processes underlying and the theories for the existence of the present variation between and within human populations. Genetics of human populations and the significance of racial classifications. (2 hours lecture, 3 hours laboratory)

**442 Medical Anthropology (3)**

Prerequisite: ANTH 342. Human health and disease and their relationship to cultural practices, beliefs and environmental factors; histories of various diseases as factors of cultural change; health care delivery systems. One or more sections offered online.

**443 Advanced Topics in Human Osteology (3)**

Prerequisites: ANTH 343, and 301, 322 or 344. Analytical methods stressing morphological examination of human bone in a laboratory setting (determination of human, prehistoric; analysis of fragmented and commingled remains; basic identification and report writing; pathological conditions). For those interested in archaeology, hominid evolution and/or forensic science.

**445 Quantitative Methods in Anthropology (3)**

Prerequisites: Anthropology major or minor and junior or senior standing. Develops skills and knowledge in the application of quantitative methods in anthropological research. Students learn an integrated approach to research design, data collection, data management, and data analysis through hands-on training.

**451 Advanced Human Evolution (3)**

Prerequisite: ANTH 322, 344 or BIOL 274. Uses life history theory to examine evolutionary ecology of human behavior. Topics include the human life course, resource acquisition, parenting and fertility. Computer labs utilizing eHRAF. (Same as BIOL 451)

**452 Human Fossil Record (3)**

Prerequisite: ANTH 301, 322 or 344. In-depth and detailed analysis of fossil evidence for human evolution using fossil cast material and computer aided virtual models. Modern evolutionary theory used to interpret the fossil evidence and understand hominin phylogeny.

**453 Human Evolutionary Anatomy (3)**

Prerequisite: ANTH 301, 322 or 344. Uses an evolutionary framework to conduct in-depth and detailed examination of the structure and function of human anatomical systems, their interaction, and their evolutionary histories and how those histories affect health in modern populations.

**454 Primate Conservation (3)**

Prerequisite: ANTH 301, 322 or 344. Uses behavioral ecology and life history theory to understand issues surrounding conservation of non-human primates. Develop theoretical background crucial to understanding the population dynamics and ecological principles driving primate conservation strategies.

**455 Behavioral Observation (3)**

Prerequisite: ANTH 301 or completion of G.E. Category B.5. Prepares students to conduct advanced behavioral observation research from an anthropological perspective. Research design, data collection techniques, ethical and other considerations unique to varied data collection settings, computerized resources and literature resources. Incorporates service learning.

**456 Hormones and Behavior (3)**

Prerequisite: ANTH 101, 301, BIOL 171 or completion of G.E. Category B.5. How hormones influence the development and activation of behavior, and how behaviors, in turn, regulate neural and endocrine physiology. Integrates evolutionary, developmental and clinical perspectives gleaned from studies of humans, nonhuman primates and other animals. (Same as BIOL 456)

**460 Public Archaeology (3)**

Prerequisite: ANTH 103. Analyzes new archaeological methods, current research specializations, and responsibilities of archaeologists, including Cultural Resource Management (CRM). Review of local, state and federal legislation affecting the protection and preservation of archaeological sites and other cultural resources.

**461 California Archaeology (3)**

Prerequisite: ANTH 103. Evolution and development of native California tribes over a 13,000-year time span based on archaeological and anthropological data. Follows a temporal and regional approach covering prehistory, ethnography and early history of native California cultures.

**463 Archaeofaunal Analysis (3)**

Prerequisites: ANTH 103. Method, theory and lab work in analyses of archaeofaunal remains recovered from archaeological sites and reconstruction of prehistoric subsistence patterns and paleoenvironments based on faunal remains. Topics include vertebrate skeletal identification, taphonomy, subsistence studies and quantification.

**470 Survey of Anthropological Films (3)**

Prerequisites: ANTH 100, 101, 102 or 103; 420 recommended. Survey and analysis of the uses of film and video in anthropological research, teaching, theory, methodology. Films are studied for their anthropological content, and as artifacts of western culture, which reveal significant aspects of that culture.

**476 Archaeological Investigations (3)**

Prerequisite: ANTH 102 or 103. Methodology and practice of archaeological fieldwork. May be repeated for credit. (1 hour lecture, 6 hours laboratory)

**480 History of Anthropology (3)**

Prerequisites: ANTH 101, 102, 103. Principal contributions of anthropologists 1850-1950; evolutionary, diffusionist, historical, particularist, configurationalist, and culture and personality approaches in anthropology. One or more sections offered online.



**481 Contemporary Anthropology (3)**

Prerequisites: ANTH 101, 102, 103. Anthropologists from 1950-present; neoevolutionist, sociological, structuralist, psychological and symbolic approaches. One or more sections offered online.

**482 Globalization and Culture Change (3)**

Prerequisite: ANTH 102 or completion of G.E. Category D.1. Interrelations between global, cultural and social processes that affect culture change, including transnationalism, migration, technology, media (including social media), tourism, development and other factors related to globalization. Anthropological contributions to theory and practice through selected examples in applied anthropology.

**490T Undergraduate Seminar in Anthropology (3)**

Prerequisite: consent of instructor. Topics in anthropology. May be repeated for credit.

**491 Internship in Anthropology (3)**

Prerequisites: 18 upper-division units in anthropology and/or related fields. Career opportunities. On-the-job training under faculty supervision in museum, industry or governmental service. One or more papers required. May be repeated for credit for a total of six units.

**497 Cultural Investigations (3)**

Prerequisites: ANTH 102 and 401 or equivalent. Methodology and practice of cultural fieldwork. May be repeated for credit. (1 hour lecture, 6 hours laboratory)

**498 Museum Practicum (3)**

Prerequisites: at least 15 units of anthropology and consent of instructor. Practical experience in museum operations, using the facilities of the Anthropology Museum. Topics include exhibit preparation, membership and funding operations, catalogue preparation and outreach activities. May be repeated for credit for a maximum of six units.

**499 Independent Study (1-3)**

Prerequisites: at least 15 units of anthropology and consent of adviser. Individual research project involving library or fieldwork. Conferences with the adviser as necessary. Results in one or more papers. May be repeated for credit.

**504T Seminar: Selected Topics in Anthropology (3)**

Prerequisites: completion of undergraduate major in anthropology and/or graduate standing or consent of instructor. Topic chosen and a general outline of the seminar are circulated prior to registration. May be repeated.

**507 Grammatical Analysis (3)**

(Same as LING 507)

**510 Research Design in Anthropology (3)**

Prerequisite: graduate standing. Principles of anthropological research. Develop skills in designing a research project; literature search and review; application of quantitative, qualitative and mixed methods; understanding ethical considerations in anthropology; identifying funding opportunities; proposal preparation; and oral presentation.

**511 Theory and Method in Biological Anthropology (3)**

Prerequisites: ANTH 510 and completion of undergraduate major in anthropology and/or graduate standing. Basic theoretical positions and methodological spectrum in biological anthropology.

**512 Theory and Method in Archaeology (3)**

Prerequisites: ANTH 510 and completion of undergraduate major in anthropology and/or graduate standing. Basic theoretical positions and methodological spectrum in archaeological anthropology.

**513 Theory and Method in Cultural/Linguistic Anthropology (3)**

Prerequisites: ANTH 510 and completion of undergraduate major in anthropology and/or graduate standing. Basic theoretical positions and methodological spectrum in cultural and linguistic anthropology.

**597 Project (3,6)**

Prerequisites: graduate standing and consent of project adviser. Completion of a project derived from original field or laboratory research, and/or from library study. Project could also be a museum exhibit, field report or other project. A copy of the approved written component of the project must be filed in the department through the department graduate program adviser. May be repeated for credit to a maximum of six units.

**598 Thesis (3,6)**

Prerequisites: graduate standing and consent of thesis adviser. Completion of a thesis derived from original field or laboratory research, and/or from library study. A copy of the approved thesis must be submitted to the department through the department graduate program adviser, and a copy of the thesis must be approved by the University Graduate Studies Office for submission to the bookstore for binding and microfilming. May be repeated for credit to a maximum of six units.

**599 Independent Graduate Research (1-3)**

Prerequisite: consent of adviser. Individual research involving fieldwork, laboratory, or library study, and conferences with a project adviser as necessary, and resulting in one or more papers. May be repeated for credit.



## DEPARTMENT CHAIR

Dana Lamb

## DEPARTMENT OFFICE/WEBSITE

Visual Arts 102  
657-278-3471  
fullerton.edu/arts/art

## PROGRAMS OFFERED

Bachelor of Arts in Art

Art History  
General Studio Art  
Teaching

Bachelor of Fine Arts in Art

Ceramics  
Crafts  
Creative Photography  
Drawing and Painting  
Entertainment Art/Animation  
Graphic Design  
Illustration

Sculpture

Minor in Art

Master of Arts in Art

Drawing and Painting  
Sculpture  
Crafts (including Ceramics, Glass,  
Wood, Jewelry/Metalsmithing)  
Design (including Graphic Design,  
Illustration, Exhibition Design,  
Creative Photography)

Art History

Master of Fine Arts in Art

Drawing and Painting  
Sculpture  
Ceramics (including Glass)  
Crafts (including Jewelry/  
Metalsmithing and Woodworking)  
Design (including Graphic Design,  
Illustration and Exhibition Design)  
Creative Photography  
Certificate in Museum Studies

## INTRODUCTION

Accredited by the National Association of Schools of Art and Design since 1974, the Department of Art offers programs that include the scholarly fields of art history, theory, analysis and criticism; the studio fields of drawing and painting, entertainment art/animation, sculpture, crafts (including jewelry, wood and metal), ceramics (including glass), graphic design, creative photography, illustration and exhibition design; and the single subject teaching field of art education.

Curricular plans for the Bachelor of Arts and the Bachelor of Fine Arts have been developed to meet the individual needs and interests of students in art.

The general objectives of the programs are to provide a comprehensive learning environment that contributes conceptually and technically to the development of the art historian, the visual artist and the art teacher. Specifically, the programs provide opportunities for students to: (1) develop a knowledge and understanding of fundamental visual experience and concepts basic to many forms and fields of art; (2) develop a critical appreciation of historical and contemporary art forms as they relate to individual and social needs and values; (3) creatively express one's personal experience and thought with visual skill and clarity; (4) develop knowledge and skills necessary to pursue graduate studies in visual arts, or to teach art; and (5) develop the understanding and expertise applicable to professional practice.

## FACULTY

Joseph Biel, Bryan Cantley, Kyung Sun Cho, Cliff Cramp, James Dahl, Andrew Dickson, John T. Drew, Joe Forkan, Charles Grieb, Christian Hill, Arnold Holland, Elizabeth Holster, Jim Jenkins, Jade Jewett, Larry Johnson, Linda Kroff, Donald Lagerberg, Dana Lamb, John Leighton, Sergio Lizarraga, Elisa Mandell, Mike McGee, Theron Moore, Nobuhito Nishigawara, Julie Orser, Joanna Roche, Christopher Slogar, Christina Smith, Hala Swearingen, Chen Wang, Lawrence Yun.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

### Bachelor of Arts in Art

The following goals and learning outcomes have been established for students pursuing a Bachelor of Arts degree in Art:

#### *Knowledge and Understanding*

- Will have acquired fundamental visual experiences and concepts basic to many forms and fields of art, animation and design

#### *Research*

- Be able to access historical and contemporary information about the fine and applied arts through advanced technologies

### *Appreciation*

- Develop a critical appreciation of historical and contemporary art, animation, and design forms as they relate to individual and social needs and values including such issues as culture, ethnicity and gender

### *Critical Thinking and Creative Expression*

- Be capable of creatively expressing one's personal experience and thought with visual skill and clarity

### *Potential*

- Develop knowledge and skills necessary to pursue graduate studies in the visual arts, or to teach art

### *Communication*

- Exercise professional standards of oral and written communication

### *Professionalism and Ethics*

- Integrate knowledge of the arts with the development of values and professional ethics

## **Bachelor of Fine Arts in Art**

The following goals and learning outcomes have been established for students pursuing a Bachelor of Fine Arts degree in Art:

### *Problem Solving and Critical Thinking*

- Develop expertise applicable to professional practice affording one the ability to recognize, analyze and solve complex visual problems as evidenced within a portfolio of art, animation and design

### *Professional Practices, Collaboration, and Leadership*

- Develop an understanding of basic business practices and the ability to work productively in teams

### *Knowledge and Understanding*

- Will have acquired fundamental visual experiences and concepts basic to many forms and fields of art, animation and design

### *Research*

- Be able to access historical and contemporary information about the fine and applied arts through advanced technologies

### *Appreciation*

- Develop a critical appreciation of historical and contemporary art, animation, and design forms as they relate to individual and social needs and values including such issues as culture, ethnicity and gender

### *Critical Thinking and Creative Expression*

- Be capable of creatively expressing one's personal experience and thought with visual skill and clarity

### *Potential*

- Develop knowledge and skills necessary to pursue graduate studies in the visual arts or to teach art

### *Communication*

- Exercise professional standards of oral and written communication

### *Professionalism and Ethics*

- Integrate knowledge of the arts with the development of values and professional ethics

## **Master of Arts in Art**

The following goals and learning outcomes have been established for students pursuing an Master of Arts degree in Art:

### *Practitioners and Scholars*

- Develop a personal art/design philosophy
- Become creatively, intellectually, technically and technologically prepared for post-graduate study and/or career aspirations
- Become competent and reflective practitioners in their discipline
- Exercise professional standards of oral and written communication
- Present a cogent thesis and/or exhibition of their graduate art or design project

## **Master of Fine Arts in Art**

The following goals and learning outcomes have been established for students pursuing a Master of Fine Arts degree in Art:

### *Practitioners and Scholars*

- Develop a personal art/design philosophy
- Become creatively, intellectually, technically and technologically prepared for post-graduate study and/or career aspirations
- Become competent and reflective practitioners in their discipline
- Exercise professional standards of oral and written communication
- Present a cogent thesis and/or exhibition of their graduate art or design project

## **BACHELOR OF ARTS IN ART (120 UNITS)**

The Bachelor of Arts degree offers concentrations in Art History, General Studio Art and Teaching. The program objectives are to provide correlative experiences, information and theory.

In addition to the requirements listed below for the major, students must meet the other university requirements for a Bachelor of Arts degree. Students in the Teaching Concentration must also meet specific requirements for the desired teaching credential.

All art majors must take ART 300 and pass the university's Examination in Writing Proficiency (EWP) after achieving junior standing (60 units). Testing dates for the EWP are available from the Testing Center or the Academic Advisement Center.

To earn a Bachelor of Arts in Art students must achieve a "C" (2.0) or better in all art courses required for the degree.

## ART HISTORY CONCENTRATION

The Art History concentration emphasizes art history, theory and appreciation, and is particularly recommended for students who wish to pursue graduate studies in art history or museum studies.

### Preparation for the major (21 units)

ART 201A,B Art and Civilization (3,3)

### Lower-division studio courses (3,3)

Approved electives in art, American studies, anthropology, history, literature, music, philosophy or theatre (3,3,3)

### Major requirements (33 units)

ART 300 Writing in the Visual Arts (3)

ART 480T Selected Topics in Art History (3)

ART 481 Seminar in Art History (3)

Approved upper-division elective (3)

### Upper-division art history (21)

## GENERAL STUDIO ART CONCENTRATION

The General Studio Art concentration is a varied curriculum that provides a broad education in the visual arts.

### Lower Division (27 units)

ART 103 Two-Dimensional Design (3)

ART 104 Three-Dimensional Design (3)

ART 107A,B Beginning Drawing and Painting (3,3)

ART 117 Life Drawing (3)

ART 201A,B Art and Civilization (3,3)

Art Electives (3,3)

Select at least two courses from two of the following areas: graphic design; entertainment art/animation; illustration; printmaking; creative photography; sculpture; ceramics; crafts; drawing and painting.

### Upper Division (27 units)

ART 300 Writing in the Visual Arts (3)

Art History (3,3)

#### *Studio Area (12 units)*

Select one course from each of the following: drawing and painting; sculpture, creative photography, printmaking; crafts and ceramics; graphic design, illustration, entertainment art/animation.

#### *Electives (3,3)*

Choose two courses from at least two different categories of the following: drawing and painting; printmaking; creative photography; sculpture; crafts; glass; ceramics; graphic design; illustration; exhibition design; art education; entertainment art/animation.

## TEACHING CONCENTRATION

The Teaching Concentration prepares students to meet the requirements for admission to the Credential Program teaching art, grades K-12. Students are encouraged to work with the department adviser and/or the Center for Careers in Teaching (657-278-7130) as early as possible in their academic careers to plan efficient course selections for general education, major and electives.

### Single Subject Instruction

(Qualifies for Teaching Art in Grades K-12)

### Preparation for the major (30 units)

ART 103 Two-Dimensional Design (3)

ART 104 Three-Dimensional Design (3)

ART 106A Beginning Ceramics (3)

ART 107A,B Beginning Drawing and Painting (3,3)

ART 117 Life Drawing (3)

ART 201A,B Art and Civilization (3,3)

ART 205A Beginning Crafts (3)

ART 207A Drawing and Painting (3)

### Major requirements (24 units)

Select Drawing and Painting, Crafts, or Creative Photography and Computer Design Emphasis.

#### *Drawing and Painting Emphasis*

ART 300, 307A, 310A, 312, 317A, 347A, 363B, 441

#### *Crafts Emphasis*

ART 300, 305A, 306A,B, 312, 315A, 363B, 441

#### *Creative Photography and Computer Design Emphasis*

ART 300, 338A,B, 363B, 441, 478

Select one course from the following:

ART 483E, 483F

### Credential Requirements

The B.A. in Art (Teaching Concentration) may be effectively combined with subject matter studies necessary for either the multiple subject teaching credential (K-8) or single subject credential (7-12) in art. Undergraduates are encouraged to work with the faculty adviser in art and the Center for Careers in Teaching (657-278-7130) as early as possible in their academic careers to plan efficient course selections for general education, the concentration and electives. With careful planning it may be possible to take certain education courses in the senior year of the bachelor's degree. Postgraduate students should contact the Admission to Teacher Education office in the College of Education (657-278-3352) for information on attending an overview presentation.



## General Program Requirements

1. Students will be advised by a faculty adviser in art education;
2. fulfill credential requirements listed in the credential program section of the catalog (see "Teacher Education" or "Credentials" in the index);
3. meet the requirements listed under the Teaching Concentration;
4. apply and be admitted to a credential program prior to enrollment in ARTE 442, professional education courses and student teaching. Contact the Admission to Teaching Education office in the College of Education;
5. be accepted for teacher education and student teaching based on candidate quotas, portfolio review and evidence of success in completed university coursework;
6. be recommended by the faculty adviser in art education;
7. complete Secondary Education prerequisites 310 and 320 or equivalents prior to applying to the teacher education program for the Single Subject credential;
8. pass C-BEST exam prior to admission to the credential program;
9. complete Secondary Education prerequisites 330, 340 and 404/407 before extern semester; and
10. have a G.P.A. of 2.89 overall, 3.0 in major.

## Single Subject Credential Preparation

*First semester (extern): 15 units*

*Second semester (intern): 15 units*

Upon completion of above program, the student is eligible for a partial or preliminary credential. A clear credential requires nine additional units of state-mandated courses within a specified period of time.

## Multiple Subject Credential Preparation

The following three courses are recommended for all students intending to teach in elementary schools in multiple subject classrooms.

ART 380 Art and Child Development (3)

MUS 333 Music and Child Development (3)

THTR 402A or B Dramatic Activities for Children (3)

The following additional courses are strongly recommended for students who wish to expand their knowledge in any or all of the arts:

ART 101, 103, 104, 106A, 107A, 201A,B, 310A,B, 330, 380, 441

DANC 101, 112, 122, 132, 142, 323A,B, 422

MUS 111, 281B,P,S,W, 283

THTR 100, 263A,B, 276, 277, 370A,B, 402A,B, 403A,B

## BACHELOR OF FINE ARTS IN ART (132 UNITS)

The Bachelor of Fine Arts degree is a professional program providing directed studies in eight studio concentrations within the visual arts. The program is designed for students seeking in-depth preparation for specialized goals selected from one of the following areas: ceramics, crafts, creative photography, drawing and painting, entertainment art/animation, graphic design, illustration and sculpture. The program develops the understanding and advanced specialized skills applicable to professional practice and to meet entrance requirements to graduate school.

## Admission Requirements

Upon admission to the University as an art major, students are placed in the Bachelor of Arts category, whether entering as a freshman or transferring from a community college. Upon proof of completion of the 12 lower-division studio units listed below with a "B" (3.0) or better grade-point average, students may contact the Art Department for changing their academic objective to the Bachelor of Fine Arts in Art.

ART 103 Two-Dimensional Design (3)

ART 104 Three-Dimensional Design (3)

ART 107A Beginning Drawing (3)

ART 107B Beginning Painting (3)

## Program Requirements

The program requires a minimum of 81 units in art: The 12 units of studio art "Admission Requirements" plus 12 units of Art History and 57 units of art. The major is divided into 21 units of lower-division preparation and 48 upper-division units. In addition to the minimum 69-unit requirement for the B.F.A. degree, students must meet the other university requirements for a bachelor's degree (see the University Catalog and Class Schedule).

To earn a Bachelor of Fine Arts in Art, students must achieve a "C" (2.0) or better in all art courses required for the degree.

In addition to ART 300 Writing in the Visual Arts (\*below), students must also take and pass the Examination in Writing Proficiency (EWP).

## CERAMICS CONCENTRATION

### Preparation (21 units)

ART 106A,B Beginning Ceramics (3,3)

ART 117 Life Drawing (3)

ART 201A,B Art and Civilization (3,3)

Lower-division studio electives (3,3)

### Concentration (48 units)

ART 300 Writing in the Visual Arts\* (3)

ART 306A,B Advanced Ceramics (3,3)

ART 326A,B Ceramic Sculpture (3,3)

ART 424A,B Glass Blowing (3,3)

ART 484A,484B or C Special Studies in Ceramics and Glass (3,3,3)

Upper-division art history electives (3,3)

Upper-division studio art electives (3,3,3,3)

### **CRAFTS CONCENTRATION**

#### **Preparation (21 units)**

ART 123 Descriptive Drawing (3)

ART 201A,B Art and Civilization (3,3)

ART 205A,B Beginning Crafts (3,3)

Lower-division studio electives (3,3)

#### **Concentration (48 units)**

ART 300 Writing in the Visual Arts\* (3)

ART 305A,B Advanced Crafts (3,3)

*Select 12 units from:*

ART 306A,B, 315A,B, 330, 364A, 364B, 485A,B,C, or F, 495

Upper-division art history electives (3,3)

Upper-division studio art electives (3,3,3,3)

### **CREATIVE PHOTOGRAPHY CONCENTRATION**

#### **Preparation (21 units)**

ART 117 Life Drawing (3)

ART 201A,B Art and Civilization (3,3)

ART 238 Photo Visual Concepts (3)

ART 247 Introduction to Linoleum and Woodcut Prints (3)

Lower-division studio electives (3,3)

#### **Concentration (48 units)**

ART 300 Writing in the Visual Arts\* (3)

ART 338A,B Creative Photography (3,3)

ART 348 Artists' Books (3)

ART 410 The Digital Studio (3)

ART 418 Seminar in Creative Photography (3)

ART 439 Creative Photo Studio Projects (3)

ART 478 Studio Expanded: Other Genre (3)

ART 489 Special Studies, Creative Photo (3,3)

Upper-division art history electives (3,3)

Upper-division studio art electives (3,3,3,3)

### **DRAWING AND PAINTING CONCENTRATION**

#### **Preparation (21 units)**

ART 117 Life Drawing (3)

ART 201A,B Art and Civilization (3,3)

ART 207A,B Drawing and Painting (3,3)

Lower-division studio electives (3,3)

### **Concentration (48 units)**

ART 300 Writing in the Visual Arts\* (3)

ART 307A,B Drawing and Painting (3,3)

ART 317A,B Life Studies, Drawing and Painting (3,3)

ART 487A Special Studies, Painting (3)

ART 487B Life Studies, Drawing and/or Painting (3)

*Select nine units from the following:*

ART 487A,B and/or C (3,3,3)

Upper-division art history electives (3,3)

Upper-division studio art electives (3,3,3,3)

### **ENTERTAINMENT ART/ANIMATION CONCENTRATION**

#### **Preparation (21 units)**

ART 117 Life Drawing (3)

ART 201A,B Art and Civilization (3,3)

ART 217 Life Drawing for Animation (3)

ART 253 Introduction to Traditional Animation (3)

ART 255 Introduction to 3D Computer Animation (3)

Lower-division Studio Electives (3)

#### **Concentration (48 units)**

ART 300 Writing in the Visual Arts\* (3)

ART 317A Life Studies, Drawing and Painting (3)

ART 337 Animal and Wildlife Drawing (3)

ART 353A Drawing for Animation (3)

ART 353B Animation (3)

ART 487E Special Studies in Entertainment Art/Animation (3)

*Select nine units from:*

ART 317B, 317C, 318A, 353A, 353B, 355, 367, 373, 483B, 483C, 483I, 487E, 487S, 495

*Select three units from:*

ART 483B, 483C, 487E, 487S

Upper-division art history electives (3,3)

Upper-division studio art electives (3,3,3,3)

### **GRAPHIC DESIGN CONCENTRATION**

#### **Preparation (21 units)**

ART 117 Life Drawing (3)

ART 201A,B Art and Civilization (3,3)

ART 223A,B Lettering and Typography (3,3)

ART 223C Typography into Graphic Design (3)

Lower-division studio electives (3)

**Concentration (48 units)**

ART 300 Writing in the Visual Arts\* (3)  
 ART 323A,B Graphic Design (3,3)  
 ART 338A Creative Photography (3)  
 ART 363A,B Illustration (3,3)  
 ART 483A Special Studies in Graphic Design (3,3)  
 ART 483E Computer Assisted Graphics (3)  
 ART 483F Design for Interactive Art (3)  
 ART 495 Internship (3)  
 Upper-division art history electives (3,3)  
 Upper-division studio art electives (3,3,3)

**ILLUSTRATION CONCENTRATION****Preparation (21 units)**

ART 117 Life Drawing (3)  
 ART 123 Descriptive Drawing (3)  
 ART 201A,B Art and Civilization (3,3)  
 ART 223A Lettering and Typography (3)  
 Lower-division studio electives (3,3)

**Concentration (48 units)**

ART 300 Writing in the Visual Arts\* (3)  
 ART 317A,B Life Studies, Drawing and Painting (3,3)  
 ART 318A Drawing and Painting the Head and Hands (3)  
 ART 323A Graphic Design (3)  
 ART 363A,B Illustration (3,3)  
 ART 483C Special Studies in Illustration (3,3)  
 ART 495 Internship in Art (3)  
 Upper-division art history electives (3,3)  
 Upper-division studio art electives (3,3,3)

**SCULPTURE CONCENTRATION****Preparation (21 units)**

ART 117 Life Drawing (3)  
 ART 201A,B Art and Civilization (3,3)  
 ART 216A,B Beginning Sculpture (3,3)  
 Lower-division studio electives (3,3)

**Concentration (48 units)**

ART 300 Writing in the Visual Arts\* (3)  
 ART 316A,B Sculpture (3,3)  
 ART 317A,B or C Life Studies, Drawing and Painting;  
 Sculpting Life Forms (3,3)  
 ART 326A Ceramic Sculpture (3)  
 ART 336 Moldmaking and Cast Sculpture (3)  
 ART 346 Kinetic Sculpture (3)

ART 486A Modeling and Fabrication (3,3)

Upper-division art history (3,3)\*

Upper-division studio art electives (3,3,3,3)\*

**ELECTIVES FOR ALL CONCENTRATIONS**

Following are lists of lower-division Studio electives, upper-division Studio Art electives, and upper-division Art History electives, which may be used in any of the preceding concentrations.

**Lower-Division Studio Electives**

ART 106A,B, 117, 123, 205A,B, 207A,B, 216A,B, 217, 223A,B, 223C, 238, 247, 253, 255, 263

**Upper-Division Studio Art Electives**

ART 305A,B, 306A,B, 307A,B, 310A,B, 315A,B, 316A,B, 317A,B, 317C, 318A, 318B, 323A,B, 324, 326A,B, 330, 336, 337, 338A,B, 346, 347A, 347B, 348, 353A, 353B, 355, 357, 363A,B, 363C, 364A, 364B, 367, 373, 380, 410, 424A,B, 439, 448, 453A,B, 478, 483A, 483B, 483C, 483D, 483E, 483F, 483G, 483H, 483I, 484A, 484B, 484C, 485A, 485B, 485C, 485F, 486A, 486B, 487A, 487B, 487C, 487D, 487E, 487S, 489, 495, 499

**Upper-Division Art History Electives**

ART 301, 302, 311, 312, 320, 401, 413, 431, 460, 461, 462, 463, 464, 465, 466, 470, 472, 475, 480T, 481

**MINOR IN ART (24 UNITS)**

A "C" (2.0) or better is required for a minor in art; a minimum of 12 units in upper-division courses in residence. A basic course in each of the following areas is required: art history, theory, analysis and criticism; design; drawing and painting; and crafts.

Recommended courses to meet the "basic courses" requirement are: ART 201A or B; 103 or 104; 107A or B; 106A or 205A or B; 216A. Completing these courses will provide a reasonable foundation for entry into upper-division courses. Students planning to qualify for a standard teaching credential specializing in elementary or secondary teaching with art as a minor must obtain approval from the Art Department.

**MASTER OF ARTS IN ART (30 UNITS)**

This program provides a balance of study and practice for those who wish a career in the visual arts, or who want to prepare for further graduate work in the field. The program offers the following areas of concentration: drawing and painting (including printmaking); sculpture; crafts (including ceramics, wood, glass, jewelry/metalsmithing); design (including graphic design, illustration, exhibition design, creative photography); and art history.

**Application Deadlines**

The Art Department has a supplemental application process required for all prospective graduate students. See [fullerton.edu/arts/art](http://fullerton.edu/arts/art) for further information.

## Admission Requirements

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants must meet the following:

### Classified standing

1. A baccalaureate degree in art with the same concentration as the graduate degree objective from an accredited institution, or 24 upper-division units in art of which 12 units must be in a concentration completed with a "B" (3.0) or better in all courses. Applicants are advised that most upper-division courses require lower-division prerequisites. A faculty adviser should be consulted with regard to recommended courses;
2. pass a semiannual comprehensive review. This comprehensive review is an evaluation of the candidate by a committee comprising faculty teaching in the area of concentration. The committee reviews the student's creative work, statement of purpose, academic and other relevant qualifications; assigned research papers are required of art history applicants in lieu of a portfolio. Procedures, dates and appointment times are available through the art department graduate secretary;
3. form a graduate committee; and
4. develop an approved study plan.

*Note:* A reading knowledge of a foreign language is required before advancement to candidacy in the Art History program.

### Conditionally classified standing

The same requirement as 1, above, plus:

- Studio program – Participation in comprehensive portfolio review with a recommendation by the committee of conditional acceptance.
- Art History program – Satisfactory review of research papers by art history faculty
- Enrollment is allowed in graduate-level courses with the exception of ART 500A,B; 511; 512; 597 and 598
- Passing the comprehensive review will be required for classified standing

### Study Plan

The study plan requires approval by the student's graduate committee, 15 units must be 500-level courses. The plan must be completed with "C" (2.0) or better, a "B" (3.0) average, and "B" (3.0) or better in all courses in the area of concentration. The 30 units are distributed as follows:

### Core courses (9 units)

#### *Studio program*

ART 500A Graduate Seminar in Major Field (3)\*

ART 500B Graduate Seminar in Major Field (3)\*

#### *Art history program*

ART 511 Seminar on the Content and Method of Art History (3)\*

ART 512 Seminar on Selected Topics in Art History (3)\*

400-level course in art history, theory, analysis or criticism on the recommendation of the major adviser.

### Concentration (12 units)

500-and/or 400-level courses in an area of concentration (minimum of six units at 500-Level)

### Additional coursework (3-6 units)

Courses in the area of concentration or approved electives

### Project/Thesis

ART 597 Project (3) for studio; or ART 598 Thesis (6) for art history

Every graduate student is required to demonstrate writing ability commensurate with the baccalaureate degree. Two graduate seminars are certified to fulfill this university requirement.

The Department of Art requires the studio candidate for the Master of Arts in Art to exhibit the project in one of the department's graduate galleries. The art history candidate is required to submit a written thesis based on a specific topic of research.

For further information, consult the graduate program adviser and read the University Graduate Regulations section of this catalog.

## MASTER OF FINE ARTS IN ART (60 UNITS)

The Master of Fine Arts in Art features a rigorous studio program for the serious, responsible and talented student. The curriculum and faculty challenge students to focus on the goal of becoming professional artists.

The M.F.A. program provides in-depth study within an approved study plan in the following areas of concentration: design (including graphic design, illustration, and exhibition design); ceramics (including glass); crafts (including jewelry/metalsmithing and woodworking); sculpture; drawing and painting; and creative photography.

### Admission Requirements

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants must meet the following:

### Classified standing

1. Baccalaureate degree in art with the same concentration as the graduate degree objective from an accredited institution, or 24 upper-division units in art, 18 of which must be in the concentration completed with a "B" (3.0) or better in all courses. Applicants are advised that most upper-division courses require lower-division prerequisites;



2. pass the semianual comprehensive portfolio review. The comprehensive portfolio review is an evaluation of the candidate by a committee comprising faculty teaching in the area of concentration. The committee reviews the student's creative work, statement of purpose, academic and other relevant qualifications. Procedures, dates and appointment times are available through the Art Department Graduate Office. If the student's portfolio is not adequate, the applicant may still be recommended for conditionally classified standing by the faculty comprehensive review committee. However, the comprehensive portfolio review must be repeated;
3. form a graduate committee; and
4. develop an approved study plan.

### Conditionally classified standing

Conditionally classified students may enroll in graduate courses with the exception of ART 500A,B; 511, 512, 597; and 598. The comprehensive portfolio review must be repeated and passed to be recommended for classification.

### Application Deadlines

The Art Department also has a supplemental application process. See [fullerton.edu/arts/art](http://fullerton.edu/arts/art) for further information.

### Study Plan

The study plan must be completed with a "C" (2.0) or better in a courses, an overall "B" (3.0) average or better and "B" (3.0) or better in the concentration. Every graduate student is required to demonstrate writing ability commensurate with the baccalaureate. Two graduate seminars are certified to fulfill this university requirement. The 60-unit study plan is distributed as follows:

#### *Areas (60 units total)*

Theory, Criticism: ART 500A, 500B (6)

Art History (9)

Studio Area of Concentration (24)

Studio Electives in Art (12)

#### *Capstone Experience*

Independent Study – Research (3)

Studio Project (6)

Master of Fine Arts Project

The M.F.A. project exhibition constitutes a professional one-person art exhibit. It is installed in one of the department's graduate galleries and announced for public view by the student as the final phase of the M.F.A. program requirements.

## POSTBACCALAUREATE UNCLASSIFIED

Students who do not have the prerequisites to qualify for the graduate program may apply to the university as a postbaccalaureate-unclassified student. Typically, students in this category have a bachelor's degree in art but need to meet the prerequisites for a different concentration; or did not major in art and must complete courses for the 24 upper-division art unit requirement. To qualify for admission, an applicant must hold a baccalaureate degree from an accredited institution, have attained a grade-point average of at least 2.5 in the last 60 units attempted and have been in good standing at the last college attended. Admission with postbaccalaureate standing does not constitute admission to the art graduate program or graduate degree curricula.

## CERTIFICATE IN MUSEUM STUDIES (24 UNITS)

Courses leading to the certificate are designed to educate students in museum practices in preparation for entry into the museum profession. The curriculum includes instruction in the historical development and philosophical basis of collections, exhibitions and their design, and curatorship. A museum internship is required. The certificate in museum studies may be undertaken as a self-contained program or in conjunction with the Master of Arts in Art degree or the Master of Fine Arts in Art degree or, by special permission, with other graduate degrees in the university. (For an M.A. or M.F.A. in Art degree with an exhibition design emphasis, see M.A. and M.F.A. emphases under the design concentration.)

### Prerequisites

- B.A. in Art or other major by special permission
- 12 units in upper-division art history
- 6 units in design and exhibition design
- 3 units of advanced writing (COMM 435 Editorial and Critical Writing; or COMM 362 Public Relations Writing; or ENGL 301 Advanced College Writing)
- 3 units of beginning accounting

### Study Plan

ART 464 Museum Conservation (3)

ART 481 Seminar in Art History (3)

ART 483D Exhibition Design (3)

ART 495 Internship in Art (3)

ART 501 Curatorship (3)

ART 503D Exhibition Design (3,3)

Course in museum education (3)

For further information, consult the Department of Art.

## ART COURSES

Courses are designated as ART in the class schedule.

### 101 Introduction to Art (3)

Historical and contemporary art forms of painting, sculpture, architecture and design. Field trips required. Not open to art majors for credit except by permission of Art Department. (3 hours lecture)

### 103 Two-Dimensional Design (3)

Art concepts, aesthetic elements and materials of two-dimensional design and visual organization. (6 hours activity)

### 104 Three-Dimensional Design (3)

Art concepts, aesthetic elements and materials of three-dimensional design and spatial organization. (6 hours activity)

### 106A Beginning Ceramics (3)

Form as related to ceramic materials, tools, processes. Kiln loading and firing, hand building, wheel throwing and raku. (9 hours laboratory)

### 106B Beginning Ceramics (3)

Prerequisite: ART 106A. Form as related to ceramics. Glaze batching and its application, and the presentation of ceramic technique. (9 hours laboratory)

### 107A Beginning Drawing (3)

Traditional and contemporary use of drawing materials integrated with visual experiences and art concepts. (6 hours activity)

### 107B Beginning Painting (3)

Traditional and contemporary use of painting materials integrated with visual experiences and art concepts. (6 hours activity)

### 117 Life Drawing (3)

Drawing the live model. (9 hours activity)

### 123 Descriptive Drawing (3)

Descriptive drawing, rendering techniques and theories representing forms of nature. (6 hours activity)

### 201A, B Art and Civilization (3,3)

Ideas, forms and styles of the visual arts as they developed in various cultures from prehistoric time to the present. (3 hours lecture)

### 205A Beginning Crafts (3)

Prerequisites: ART 103, 104. Pre- or corequisite: ART 104. Traditional and contemporary concepts and processes with emphasis on design principles in the development of aesthetic forms based on function. (9 hours laboratory)

### 205B Beginning Crafts (3)

Prerequisite: ART 205A. Development of esthetic forms based on function, with emphasis on design principles and the creative use of hand tools and power equipment. (9 hours laboratory)

### 207A,B Drawing and Painting (Experimental Methods and Materials) (3,3)

Prerequisites: ART 107A,B, 117 or equivalents. Traditional and contemporary methods and concepts. Image-making using various materials and approaches (representation and abstraction). (6 hours activity)

### 216A,B Beginning Sculpture (3,3)

Prerequisite: ART 104. Creative use of wood and metal, power equipment and hand tools. (9 hours laboratory)

### 217 Life Drawing for Animation (3)

Prerequisite: ART 117. Continuing course of the human figure. Develops animation student's skills of drawing from observation. May be repeated once for credit. (6 hours activity)

### 223A Lettering and Typography (3)

Prerequisite: ART 103. History, design and use of letter forms; the rendering and use of hand-lettered forms. (6 hours activity)

### 223B Lettering and Typography (3)

Prerequisites: ART 103 and 223A or equivalents. History, design and use of letter forms; techniques for rough and comprehensive layouts, and introduction to computer graphics. (6 hours activity)

### 223C Typography into Graphic Design (3)

Prerequisites: ART 103, 223A. Technology and its application to typographic and graphic design solutions. Conceptual understanding of current technology as medium and tool in the creative process. (6 hours activity)

### 224 Introduction to Glassblowing (3)

Prerequisite: ART 103 and/or 104. Introduces processes of art-making with hand blown glass as the medium. Historical and creative processes from concept to design to the execution of well-crafted glass projects.

### 238 Photo Visual Concepts (3)

Prerequisite: ART 103. Introductory photography course for art majors. Includes the study of photographic vision and design, visual conceptualization and examination of the qualities of light through the use of instant and automatic cameras. (9 hours laboratory)

### 247 Introduction to Linoleum and Woodcut Prints (3)

Prerequisites: ART 107A,B. Woodcut, linocut and monoprint as a medium of personal expression. (9 hours laboratory)

### 253 Introduction to Traditional Animation (3)

Prerequisites: ART 103, 104, 117, 217. Principles and practices of traditional animation techniques ranging from the fundamentals of squash, kinetics and acting. (6 hours activity)

### 255 Introduction to 3D Computer Animation (3)

Prerequisites: ART 103, 104, 107A,B. Introduction to the art of creating three-dimensional digital character animation. (9 hours activity)

### **263 Perspective Drawing (3)**

Prerequisites: ART 107A and 123 or equivalents. Introduction to linear perspective systems used to develop and place natural and fabricated forms in space on a two-dimensional surface. Integrated with methods and techniques of rendering light, shadow and reflection on varied subject matter, including the human figure. (6 hours activity)

### **300 Writing in the Visual Arts (3)**

Prerequisite: junior standing. Principles, practices and objectives of writing in the visual arts. Includes descriptive, analytical and expressive essays; project and grant proposals; artist's statements; resumes; and professional correspondence. Satisfies the classroom portion of the upper-division writing requirements for art majors.

### **301 Ancient Art (3)**

Developments in art from the Paleolithic to late antiquity.

### **302 Medieval Art (3)**

Developments in art from the late antiquity through the Gothic.

### **305A,B Advanced Crafts (3,3)**

Prerequisites: ART 205A,B. Advanced concepts and processes in the development of esthetic forms based on function, emphasizing individual growth and personal expression. (9 hours laboratory)

### **306A,B Advanced Ceramics (3,3)**

Prerequisites: ART 103, 104, 106A,B. Traditional and contemporary use of ceramic methods, materials and concepts. (9 hours laboratory)

### **307A,B Drawing and Painting (3,3)**

Prerequisites: ART 107A,B, 117, and 207A,B or equivalents. Concepts, materials and activities in drawing and painting, emphasizing individual skills, ideas and expression. (6 hours activity)

### **310A,B Watercolor (3,3)**

Prerequisites: ART 107A,B or equivalents. Watercolor media related to varied subject matter and design applications. Includes field trip activity. Provides skills and concepts useful for school art programs. (6 hours activity)

### **311 Foundations of Modern Art (3)**

Prerequisite: junior or senior standing. History of painting and sculpture from the French Revolution to the end of the 19th century.

### **312 Modern Art (3)**

Prerequisite: ART 101, 201A, or 201B, or junior or senior standing and Art major. History of painting, graphic arts and sculpture from late 19th century to World War II.

### **315A,B Jewelry (3,3)**

Prerequisites: ART 205A, 305A. Pre- or corequisite: ART 305A. Design and creation of jewelry. (9 hours laboratory)

### **316A,B Sculpture (3,3)**

Prerequisites: ART 104, 216A. Sculptural materials and processes. (9 hours laboratory)

### **317A Life Studies, Drawing (3)**

Prerequisites: three units lower-division life drawing. Drawing from the live model. Observation and anatomy. Concepts and techniques in drawing the figure. (9 hours laboratory)

### **317B Life Studies, Painting (3)**

Prerequisites: three units lower-division life drawing. Painting from the live model. Observation, structure and color. Concepts and techniques in painting the figure. (9 hours laboratory)

### **317C Sculpting Life Forms (3)**

Prerequisites: ART 103, 104, 117, 217; and 317A or 318A. Three-dimensional investigation of any life form, its characteristics and expressive possibilities. (9 hours laboratory)

### **318A Drawing and Painting the Head and Hands (3)**

Prerequisites: ART 107A,B, 117. Construction and anatomy of the human head and hands, and their principal use in drawing, painting and illustration. (9 hours laboratory)

### **318B Portraiture (3)**

Prerequisites: ART 107A,B. Comprehensive studies in composition, concept, content and execution of portraits. (9 hours laboratory)

### **320 History of Architecture Before the Modern Era (3)**

Selected monuments from Stonehenge through the late Baroque. Interrelationship between patronage, style, function, structural principles and technological developments.

### **323A Graphic Design (3)**

Prerequisites: ART 223A,B,C or equivalents. Development and projection of ideas in relation to the technical, aesthetic and psychological aspects of advertising art. Intermediate use of computer graphics. (6 hours activity)

### **323B Graphic Design (3)**

Prerequisites: ART 223A,B,C and 323A, or equivalents, or consent of instructor. Development and projection of ideas in relation to the technical, aesthetic and psychological aspects of advertising art. Intermediate use of computer graphics. (6 hours activity)

### **324 Beginning Glass Casting (3)**

Prerequisites: ART 103, 104. Hot glass laboratory equipment and casting techniques. Introduction to hot pour, sand and kiln casting. (9 hours laboratory)

### **326A,B Ceramic Sculpture (3,3)**

Prerequisites: ART 103, 104, 117. Concepts, materials and investigation of sculptural forms, emphasizing individual growth. (9 hours laboratory)

### **330 Creative Papermaking (3)**

Prerequisites: ART 103, 104. Use of papers and fibers as an art form. (9 hours laboratory)

### **336 Moldmaking and Cast Sculpture (3)**

Prerequisite: ART 216A. Theories and techniques of rigid and flexible moldmaking incorporated with both cold material and hot metal casting processes. Recommended for concentrations in Entertainment Art/Animation, Ceramics and Crafts; required for Sculpture majors. (9 hours laboratory)

### **337 Animal and Wildlife Drawing (3)**

Prerequisites: ART 107A,B, 117, 317A. Principles and practices of drawing animals, including construction, anatomy, texture, movement and expression. Fundamentals, historical information and critiques are covered in the classroom; field studies are conducted at various zoos and wildlife habitats. (6 hours activity)

### **338A Creative Photography (3)**

Prerequisite: ART 103 or equivalent. Photographic media in personal expression. Historical attitudes and processes; new materials and contemporary aesthetic trends. Field trips required. (9 hours laboratory)

### **338B Creative Photography (3)**

Prerequisite: ART 338A. Photographic medium as personal expression. Historical and contemporary aesthetic issues. Exploration of black and white, color and digital media. Field trips required. (9 hours laboratory)

### **346 Kinetic Sculpture (3)**

Prerequisite: ART 216A or 216B. Kinetic sculpture is sculpture in motion. Theory and practice of creating sculpture that uses both motorized and nonmotorized means of activation. History of the medium and basic fabrication techniques. (9 hours laboratory)

### **347A Printmaking Etching (3)**

Prerequisites: ART 107A,B, 117, 247. Concept development, exploration and materials involved in printmaking techniques. Includes etching and aquatint. (9 hours laboratory)

### **347B Printmaking Lithography (3)**

Prerequisites: ART 107A,B, 117, 247. Concept development, exploration and materials involved in lithography. (9 hours laboratory)

### **348 Artists' Books (3)**

Prerequisites: ART 103, 107A or 247. Personal vision and concepts applied to the book form as art; the history and aesthetics of artists' books. (6 hours activity)

### **353A Animation Preproduction (3)**

Prerequisites: ART 117, 253. The animation filmmaking preproduction process through the creation of a preproduction package for an animated film. Writing a story, developing and designing characters, storyboard creation, slugging, storyreel construction, dialogue animation/test animation and layout design. (9 hours laboratory)

### **353B Animation Production (3)**

Prerequisite: ART 353A. The animation filmmaking production process. Animated short films with a sound track will be produced based upon a preproduction package created in ART 353A. Using the art of animation to create an entertaining, character-driven, animated film. May be repeated once for credit. (9 hours laboratory)

### **355 3D Computer Animation (3)**

Prerequisite: ART 255. Intermediate and advanced instruction in the art of creating three-dimensional digital character animation. May be repeated once for credit. (9 hours laboratory)

### **357 Woodcuts and Monotypes (3)**

Prerequisites: ART 107A,B or equivalents. Woodcut and monotype as a means of personal expression. Traditional, as well as contemporary materials and trends. May be repeated once for credit. (9 hours laboratory)

### **363A Illustration (3)**

Prerequisites: ART 103, 107A,B, 117. Story, book, magazine and film illustration. May be repeated once for credit. (6 hours activity)

### **363B Illustration (3)**

Prerequisite: ART 363A. Computer aided illustration. May be repeated once for credit. (6 hours activity)

### **363C Digital Narrative Illustration (3)**

Prerequisite: ART 363B. Narrative illustration using advanced digital painting programs and techniques. Theory of illustration concepts, composition and current trends in illustration as it relates to digital media. May be repeated once for credit. (6 hours activity)

### **364A Stained Glass (3)**

Prerequisites: ART 103, 104. Architectural and autonomous stained glass design and craftsmanship. (6 hours activity)

### **364B Stained Glass/Kiln Working (3)**

Prerequisite: ART 364A. Flat glass fusing and slumping. Designs are fused together in kilns and slumped over or into molds to create sculptural relief and low vessel forms. (6 hours activity)

### **367 Elements of Sequential Art (3)**

Prerequisite: ART 317A. Theory and practice of pictorial narrative in film storyboard and graphic novel. Character and scenic design; story sketch, "breakdown" and production design. Considerations: plot, scene, exposition, transition and continuity. Individual and team projects. May be repeated once for credit. (6 hours activity)

### **373 Cartooning and Caricature (3)**

Prerequisites: ART 107A,B, 117. Principles and practices of cartooning and caricature construction, anatomy and expression. Historical overview of the field with an emphasis on professional applications and the impact of computer graphics. (6 hours activity)



### **380 Art and Child Development (3)**

Prerequisite: completion of General Education Category C.1. Art concepts, materials and processes as they relate to child development. (6 hours activity)

### **383 Package Design (3)**

Prerequisites: ART 223C, 323A,B and a working knowledge of the Macintosh computer. Principles and practices of design in relationship to package design. Conceptual development. May be repeated once for credit as upper-division elective.

### **401 History of Women Artists (3)**

Prerequisite: ART 201B. Study of art made by women in the context of major art historical developments from the 10th century to the present. Analysis of images of women and the evolution of gender stereotypes in art. (3 hours lecture)

### **410 The Digital Studio (3)**

Prerequisite: any 300-level art studio class. Digital imaging as a medium of visual expression. Computer applications for creating and manipulating images are fundamental for the contemporary visual artist. May be repeated once for credit. (6 hours laboratory)

### **413 History of Contemporary Art (3)**

Prerequisite: ART 312 recommended. Historical perspective of contemporary art beginning with major developments in Europe and the United States in the 1950s. New materials, new exhibition methods, and in particular, the major conceptual issues raised by individual artists and groups.

### **418 Seminar in Creative Photography (3)**

Prerequisite: any 300-level art course. Introduces studio art majors to photographic and media criticism and theory. Provides studio artists with necessary theoretical background and context for creating and understanding their work in current media culture.

### **424A,B Glass Blowing (3,3)**

Prerequisites: ART 103, 104, 324. Creating hand-blown glassware and sculpture from molten glass using traditional and contemporary tools and techniques. Each course may be repeated once for credit. (9 hours laboratory)

### **431 Renaissance Art (3)**

Prerequisite: ART 201B (art majors) or 101 (non-art majors). Painting, sculpture and architecture from the late 13th to 16th century in Italy.

### **439 Creative Photo Studio Projects (3)**

Prerequisites: ART 338A,B. Advanced technical class to perfect and refine photographic skills. Integrate technical skills with creative options. May be repeated for credit to a maximum of nine units. (6 hours activity)

### **441 Media Exploration for Teaching Art (3)**

Prerequisites: ART 103, 104, 107A,B, 205A. Art media used in K-12 school art programs today, focusing on secondary levels. Materials for art curriculum and lesson planning. Two- and three-dimensional media in subject matter applications. (6 hours activity)

### **448 Special Studies: Artists' Books and Art (3)**

Prerequisites: ART 103, 107A, or 347A or 348. Studio art course for advanced students who want to continue to explore the book form as it relates to their personal aesthetic goals. (6 hours activity)

### **453A,B Exhibition Design (3,3)**

Technical and aesthetic experience in problem-solving exhibition design concepts, evaluation and design analysis. Production of exhibitions in the University Art Gallery; their selection, design, installation, lighting and supportive interpretive material. (More than 9 hours laboratory)

### **460 Pre-Columbian Art (3)**

Prerequisites: ART 201A,B or consent of instructor. Art and architecture of Meso and South America from the early formative stage to the Spanish Conquest. Aesthetic achievement with varying contexts of pre-Columbian culture.

### **461 American Art: 20th Century (3)**

Painting and sculpture in America during the 20th century. Role of the visual arts in helping to define, reflect and challenge American values and institutions.

### **462 Latin American Art from 1800 to the 1950s (3)**

Prerequisite: ART 311 or 312. History of painting, sculpture and the graphic arts in Latin America. Changing relationship to European Modernism and major principles of Latin American cultural and political identity as expressed in art.

### **463 Native North American Art (3)**

Prerequisite: ART 201A. Art and architecture of the Native Peoples of North America from c. AD 1 to the present. Relation between art and culture.

### **464 Museum Conservation (3)**

Prerequisites: ART 453A and 6 units of art history or anthropology. Preservation of objects; the history, role and principles of conservation within a museum context. Three combined sessions at Conservation Center, LACMA; Huntington Library; J. Paul Getty Museum; and Museum of Cultural History, UCLA.

### **465 Art of Sub-Saharan Africa (3)**

Prerequisite: ART 201A. Art and architecture of sub-Saharan Africa from c. 300 BC to present. Relation between art and culture.

**466 Museum Education (3)**

Prerequisites: 6 units 300-400 Art History or equivalent. History of museum education, its philosophy and issues. Relationship with other museum departments, outreach programs, new technology. Events organization, writing interpretive materials, budgets and grants, conducting tours. Lectures, field trips and guest speakers.

**470 History and Aesthetics of Photography (3)**

Prerequisites: 201A,B. Photography from ancient optical observations through 19th century invention to 20th century acceptance as an art form. Aesthetic movement and influential innovators. Lectures, slides and class discussion.

**472 Native Arts of California and the Southwest (3)**

Prerequisites: ART 201A, 463. Native arts and architecture of California and the Southwest from c. 500 BC to present. Relation between art and culture.

**475 Professional Practices in the Arts (3)**

Prerequisite: Art major with junior or above standing. Practices unique to the visual arts, including an overview of changing concepts in the art market, traditional roles in cultural context, portfolio development, strategies for protecting ideas and avoiding abuses, and long-term professional development.

**478 Studio Expanded: Other Genre (3)**

Prerequisite: any 400-level studio art course or permission of instructor. Various methods of expanding traditional studio approaches through the investigation of installation, performance and video art. May be repeated for credit to a maximum of 12 units, but no more than 3 units in a single semester. (6 hours activity)

**479 Video: Aesthetics and Techniques (3)**

Prerequisites: 6 units of upper-division studio art courses. Video as a medium of visual expression. All aspects of fine art video: history, aesthetics, camera work, non-linear editing and post-production techniques. May be repeated for credit for a maximum of 12 units. (9 hours laboratory)

**480T Selected Topics in Art History (3)**

Prerequisites: ART 201A or B and consent of instructor. Detailed study of the work of individual artists, patronage in particular places, specific pictorial, sculptural and architectural programs or art history periods. Topics will be listed in the class schedule. Repeatable if topic is different.

**481 Seminar in Art History (3)**

Prerequisites: 6 units upper-division art history or equivalent. Study and evaluation in one area of art history and appreciation. May be repeated once for credit.

**483A Special Studies in Graphic Design (3)**

Prerequisites: ART 323A,B, 338A. ART 483E is recommended. Advanced use of computer graphics. Maximum of 12 units (repeatable as upper-division electives), but no more than 3 units in a single semester without permission of instructor. (6 hours activity)

**483B Visual Development and Background Painting (3)**

Prerequisites: ART 363A plus 3 upper-division units in area of emphasis or equivalent. Story concepts, research, design and media for rendering and painting background environments. Historical precedents, color theory, perspective, theatrical composition, painting and drawing media, and stylization for dramatic impact as it relates to visual development. Maximum of 12 units, but no more than 3 units in any one area in a single semester without permission of instructors. (6 hours activity)

**483C Special Studies in Illustration (3)**

Prerequisites: a minimum of six upper-division units in area of emphasis or equivalent. Maximum of 12 units, but no more than 3 units in any one area in a single semester without permission of instructors. (6 hours activity)

**483D Special Studies in Exhibition Design (3)**

Prerequisites: a minimum of six upper-division units in area of emphasis or equivalent. Maximum of 12 units, but no more than 3 units in any one area in a single semester without permission of instructors. (More than 9 hours laboratory)

**483E Computer Assisted Graphics (3)**

Prerequisites: ART 323A, 338A. Theory and practice of design using the computer. Numerous applications of the computer through lecture demonstration, studio/laboratory experience, guest speakers and field trips. Maximum of 12 units for credit (repeatable as upper-division electives), but no more than 3 units in a single semester without permission of instructors. (9 hours laboratory)

**483F Design for Interactive Art (3)**

Prerequisites: ART 323A,B, 483E. Creating interactive art and design projects. Concentration in the advanced visual organization systems of art and design and how to apply those techniques to an interactive computer environment. May be repeated once for credit as upper-division elective. (9 hours laboratory)

**483G Entertainment Graphics (3)**

Prerequisites: ART 323A,B, 483E. Structure, procedure and standards of the entertainment design field. Students will work on projects from a major entertainment design group, developing concepts and designs for comparison with professional solutions. May be repeated once for credit as upper-division elective. (6 hours laboratory)

**483H Landscape Painting and Location Drawing (3)**

Prerequisites: ART 363A and/or 307A. Theory and practice of representational art as applied to landscape as subject. Researching drawing and painting concepts and their historical precedents stressed in the studio and on location. May be repeated once for credit. (6 hours activity)

**483I Motion Graphics Design (3)**

Prerequisites: ART 483E (including completion of all 483E prerequisites) and instructor's consent; knowledge of film production/ editing helpful. Translation of traditional graphic design into time and motion-based design. Historical precedents, film nomenclature, storyboarding, software/hardware for the creation of film titles, station/program identification (logo/logotypes), promotion graphics. May be repeated once for credit. (9 hours laboratory)

**484 Special Studies in Ceramics and Glass (3)**

Prerequisites: a minimum of six upper-division units in ceramics. Maximum of 12 units in each area, but no more than three units in any one area in a single semester without permission of instructors. (9 hours laboratory)

**484A Ceramics (3)****484B Glass Blowing (3)****484C Glass Casting (3)****485 Special Studies in Crafts (3)**

Prerequisites: a minimum of six upper-division units in designated area or consent of instructor. Maximum of 12 units in each area, but no more than three units in any one area in a single semester. (9 hours laboratory)

**485A Jewelry (3)****485B General Crafts (3)****485C Metalsmithing (3)****485F Papermaking (3)****486 Special Studies in Sculpture (3)**

Prerequisites: ART 316A,B and consent of instructor. Maximum of 12 units, but no more than 3 units in a single semester. (9 hours laboratory)

**486A Modeling and Fabrication (3)****486B Casting (3)****487 Special Studies in Drawing and Painting and Printmaking (3)**

Prerequisites: a minimum of six upper-division units in drawing and painting. Maximum of 12 units in each area, but no more than three units in any one area in a single semester without permission of instructors.

**487A Senior Critique, Drawing and Painting (3)****487B Special Studies, Life Painting (3)****487C BFA Capstone, Drawing and Painting (3)****487D Special Studies, Printmaking (3)****487E Special Studies in Entertainment Art/Animation (3)**

Prerequisites: 12 units of upper-division courses, including ART 353B or 355 and consent of instructor. Capstone portfolio/reel building experience. Various, defined entertainment art/animation topics. Maximum of 12 units, but no more than three units in any one area in a single semester without permission of instructors. (9 hours laboratory)

**487S Special Studies in Sequential Art (3)**

Prerequisite: ART 367. Individual investigation and development of a specialized portfolio in one or more of the following: character design; story sketch and/or production design; storyboard; or graphic novel. Maximum of 12 units, but no more than three units in any one area in a single semester without permission of instructors. (6 hours activity)

**488T Selected Topics in Creative Photography (3)**

Prerequisite: ART 338A. Photography and other optical image-making practices in relation to specific conceptual or technical topics. Each semester's content is developed by the individual instructor and listed in the class schedule. May be repeated twice for credit. (6 hours activity)

**489 Special Studies in Creative Photography (3)**

Prerequisites: a minimum of six upper-division units in photography courses or equivalent. Photography as personal expression. Maximum of 12 units, but no more than three units in a single semester. (9 hours laboratory)

**495 Internship in Art (3)**

Prerequisite: senior standing as a declared B.F.A. in Art major. Work in a specific art field in business or industry. May be repeated once for credit.

**499 Independent Research (1-3)**

Open to advanced students in art with consent of department chair and written consent of instructor. May be repeated for credit to a maximum of nine units, but no more than six units in a single semester.

**500A Graduate Seminar in Major Field (3)**

Prerequisite: Classified Standing. Directed research in the area of major emphasis. Oral and written material on historical backgrounds and developments in art as they relate to individual intent as an artist and in support of the master's project (with 500B meets graduate-level writing requirement).

**500B Graduate Seminar in Major Field (3)**

Prerequisite: classified standing; 500A recommended. Problems and issues in art. Intellectual clarification and verbal articulation of individual intent as an artist. Oral and written material in support of the master's project (with 500A meets graduate-level writing requirement).

**500C Graphic Design Graduate Seminar (3)**

Prerequisites: classified standing (MFA) and ART 599. Directed preparatory written and visual research for the thesis. Taken with the chair or member of the student's committee.

**500D Graphic Design Thesis (3)**

Prerequisites: classified standing (MFA), ART 599, 500C, 597. Developing a written and visual thesis that either proves or disproves a hypothesis. Taken with the chair or member of the student's committee.

**501 Curatorship (3)**

Prerequisites: B.A. in art, anthropology or other major by special permission, and ART 466, 481. Curator collects, cares for and studies objects.

**503 Graduate Problems in Design Course Series (3)**

Prerequisite: classified Standing. Planning, development and evaluation of individual projects listed below. Maximum of 12 units in each area, but no more than three units in any one area in a single semester without permission of instructors.

**503A Graphic Design (3)**

(6 hours activity)

**503B Visual Development and Background Painting (3)**

(6 hours activity)

**503C Illustration (3)**

(6 hours activity)

**503D Exhibition Design (3)**

(More than 9 hours laboratory)

**503H Landscape Painting and Location Drawing (3)**

(6 hours activity)

**504 Graduate Problems in Ceramics Course Series (3)**

Prerequisite: classified Standing. Planning, development and evaluation of individual projects in ceramics, glass blowing and glass casting. Maximum of 12 units in each area but no more than three units in a single semester without permission of instructors. (9 hours laboratory)

**504A Ceramics (3)****504B Glass Blowing (3)****504C Glass Casting (3)****505 Graduate Problems in Crafts (3)**

Prerequisite: classified Standing. Planning, development and evaluation of individual projects listed below. Maximum of 12 units in each area, but no more than three units in a single semester. (9 hours laboratory)

**505A Jewelry (3)****505B General Crafts (3)****506A,B Graduate Problems in Sculpture (3,3)**

Prerequisite: classified Standing. Planning, development and evaluation of individual projects in sculpture. Maximum of 12 units in each area but no more than three units in a single semester without permission of instructors. (9 hours laboratory).

**507 Graduate Studies in Drawing, Painting and Printmaking (3)**

Prerequisite: 12 units of upper-division drawing and painting. Planning, development and evaluation of individual projects listed below. Maximum of 12 units in each area, but no more than three units in a single semester without permission of instructors.

**507A Graduate Seminar: Painting and Image Making (3)**

(6 hours activity)

**507B Graduate Studies: The Figure (3)**

(9 hours laboratory)

**507C Special Topics in Art (3)**

(6 hours activity)

**507D Printmaking (3)**

(9 hours laboratory)

**508A,B Graduate Problems in Creative Photography (3,3)**

Prerequisite: consent of instructor. Planning, development and evaluation of individual projects in photography. Maximum of 12 units in each area, but no more than three units in a single semester without permission of instructors. (9 hours laboratory)



**510 Graduate Problems: The Digital Studio (3)**

Prerequisite: any 400-level studio art class. Technical proficiency and conceptual understanding of digital imaging techniques and applications. Students develop their own projects integrating computer technology with their personal vision and practice. May be repeated once for credit. (6 hours activity)

**511 Seminar on the Content and Method of Art History (3)**

Prerequisite: ART 481. Methods of research, analysis and theories of art historical scholarship. May be repeated once for credit.

**512 Seminar on Selected Topics in Art History (3)**

Prerequisites: appropriate upper-division art course approved by instructor, and ART 511. Analysis and evaluation of specific works and their historical significance, including cultural, social and economic circumstances. May be repeated up to a maximum of 6 units.

**518 Graduate Seminar in Creative Photography (3)**

Prerequisite: any 400-level art course. Expands and deepens knowledge of photographic and media criticism and theory. Explore advanced theoretical topics and apply the tools of criticism to better understand their own creative process and artwork.

**548 Graduate Problems in Artists' Books (3)**

Prerequisite: ART 448. Investigation and application of principles of the book form to visual art and design, illustration, photography and printmaking media. Development of original works of art, which demonstrate competency in design, construction and fabrication of graduate quality visual books. May be repeated for a maximum of 12 units. (6 hours activity)

**563C Graduate Studies in Digital Narrative Illustration (3)**

Prerequisite: Graduate Classified Standing in Illustration, Drawing and Painting. Narrative illustration using advanced digital painting programs and techniques. Theories of illustration and story illustration, to include concepts, composition and current trends in digital media.

**578 Graduate Studio Expanded: Other Genre (3)**

Prerequisite: any 400-level studio art course. All aspects of new genre work, including conceptual, historic and theoretical approaches. Studio disciplines that will be investigated are installation, performance art, video and public art. May be repeated twice for credit.

**579 Graduate Problems: Aesthetics and Advanced Techniques of Video (3)**

Production of video as a medium of visual expression. All aspects of fine art video; history aesthetics, camerawork, non-linear and assemble editing, post production techniques video installations and the role of video as a medium of contemporary fine art production. May be repeated for credit for a maximum of 12 units. (9 hours laboratory)

**580T Selected Topics in Art History (3)**

Prerequisites: one 400-level course in art history and current graduate level standing. Specific concepts and/or periods in art history. Specific topics will vary from semester to semester and will be posted in the class schedule. May be repeated twice if topic is different.

**588T Graduate Topics in Creative Photography (3)**

Prerequisite: any 400-level studio course. Photography and other optical image-making practices in relation to specific conceptual or technical topics. Students develop their own research and projects in relation to each semester's specific topic and content.

**597 Project (3 or 6)**

Prerequisites: ART 500A,B, written consent of instructor and recommendation of the student's graduate committee. ART 500B may be taken concurrently with ART 597 on approval of instructor. Development and presentation of a creative project in the concentration beyond regularly offered coursework.

**598 Thesis (3 or 6)**

Prerequisites: ART 511, 512, written consent of instructor and recommendation of the student's graduate committee.

**599 Independent Graduate Research (1-3)**

Open to graduate students in art with consent of department chair and written consent of instructor. May be repeated for credit.

**ART EDUCATION COURSES**

Art Education courses are designated as ARTE in the class schedule.

**442 Teaching Art in the K-12 Schools (3)**

Prerequisite: admission to teacher education. Objectives, methods and practices for teaching art in K-12 schools, with an emphasis on secondary levels. Required before student teaching of majors in art for the Single Subject Teaching Credential.

**449E Externship in K-12 Teaching (3)**

See description and prerequisites under Division of Teacher Education. Offered every Fall semester.

**449I Internship in K-12 Teaching (10)**

See description and prerequisites under Division of Teacher Education. Concurrent enrollment in ARTE 449S required. Offered every Spring semester.

**449S Seminar in K-12 Teaching (3)**

Taken concurrently with ARTE 449I. Seminar in teaching a single subject visual art in K-12 schools, with an emphasis on secondary schools. Credit/No Credit only. A "B" (3.0) or better is required to receive a grade of credit.



# Asian American Studies

College of Humanities and Social Sciences

## PROGRAM COORDINATOR

Eliza Noh

## PROGRAM OFFICE/ WEBSITE

Humanities 314

657-278-2006

[hss.fullerton.edu/asian-american](http://hss.fullerton.edu/asian-american)

## PROGRAMS OFFERED

Bachelor of Arts in Ethnic Studies

Option in Asian American Studies

Minor in Asian American Studies

## INSTRUCTIONAL FACULTY

Jeffrey Brody (Communications),  
Thomas Fujita-Rony (Asian American  
Studies), Richard Jong (Asian American  
Studies), Mikyong Kim-Goh (Human  
Services), Tu-Uyen Nguyen (Asian  
American Studies), Eliza Noh (Asian  
American Studies), Carolina Ojeda-  
Kimbrough (Asian American Studies)  
Michael Perez (Sociology), Eric Reyes  
(Asian American Studies), Yichin Shen  
(English and Comparative Literature),  
Jennifer A. Yee (Asian American Studies)

## INTRODUCTION

Asian American Studies (ASAM) is a dynamic, interdisciplinary field inviting students to engage critically in a community of learners. Committed to social justice, Asian American Studies faculty offer opportunities for students to learn about the experiences, expression, history and contemporary social, political and economic conditions of Americans of Asian and Pacific Islander ancestry, including those who trace their origins to Central, South, Southeast and East Asia, and the Pacific Islands.

ASAM is an option within the Ethnic Studies degree. Students may investigate the courses offered within the ASAM program, the cross-disciplinary coursework within the degree program and affiliated courses on Asian American history, art, literature, philosophy, politics, psychology, socio-economics and relations to other ethnic and socio-political groups throughout the university. Students who complete either the Option or Minor in ASAM take with them a sensitivity to and knowledge of Asian American and Pacific Islander issues, history and identities in areas such as artistic expression, public health, education and urban planning.

ASAM faculty consciously focus on creating awareness and understanding of the distribution of power and privilege in the United States, along the intersections of race, gender, class, sexual orientation, ability and belief systems. Reflecting the origins of Asian American Studies as a field, ASAM offers accessible and meaningful learning opportunities in the classroom, in the community and online. The requirement of experiential and community-based learning reflects ASAM's commitment to fostering in students a spirit of scholarly and creative inquiry, service to community and society, and civic responsibility.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in Asian American Studies:

### Knowledge

- Describe the diversity among and the complexity within Asian American and Pacific Islander ethnic groups
- Demonstrate a familiarity with the history of more than one Asian American and/or Pacific Islander ethnic group before and after arrival in the United States where appropriate, including the obstacles they have faced and the contributions they have made to our society
- Identify important similarities and differences between Asian American and Pacific Islander and non-Asian and Pacific Islander groups
- Identify important similarities and differences between Asians, Pacific Islanders, and Asian Americans

### Critical Thinking and Communicating

- Understand and be able to utilize various methodologies used in Asian American Studies
- Demonstrate the ability to think critically, to write clearly and to speak persuasively, including the use of technology and multi-media tools, where appropriate
- Possess information competency skills, including:
  - The ability to determine the nature and extent of the information needed
  - The ability to access needed information effectively and efficiently
  - The ability to evaluate information and its sources critically and incorporate information into his or her knowledge base and value system
  - The ability to use information effectively to accomplish a specific purpose
  - The ability to understand many of the economic, legal, and social issues surrounding the use of information and uses of information ethically and legally

### Social Awareness and Civic Engagement

- Possess knowledge about local Asian American and Pacific Islander communities outside the university
- Identify, understand, and be able to discuss the needs of Asian American and Pacific Islander communities and the contexts in which they exist

## BACHELOR OF ARTS IN ETHNIC STUDIES (120 UNITS)

The Bachelor of Arts in Ethnic Studies includes courses for the option, general education, all-university requirements and electives.

### OPTION IN ASIAN AMERICAN STUDIES (36 UNITS)

#### Core Courses (12 units)

ASAM 101 Introduction to Ethnic Studies (3)

ASAM 201 History of Asian Pacific Americans (3)

ASAM 300 Introduction to Asian Pacific American Studies (3)

ASAM 307 Research and Writing in Ethnic Studies (3)

#### Topical Requirements (12 units)

In consultation with an adviser, students may focus their studies on Asian American Ethnic Groups; topics in Asian American Studies such as literature, art, communication, families, psychology, or law, etc.; or Non-Asian Ethnic Groups and Inter-ethnic Relations in the U.S.

#### Specific Asian American Ethnic Groups (6 units)

ASAM 220, 360, 362A, 364, 366, 370

HIST/ASAM 382

An additional six units must be selected from the two categories listed below after consulting with a faculty adviser or program coordinator.

### Topics in Asian American Studies

ASAM 308, 320, 322, 325, 327, 340, 342, 344, 346

HUSR 318

COMM 438T

### Non-Asian Ethnic Groups and Inter-ethnic Relations in the U.S.

AFAM 310, 311, 320, 322, 335

AMST 301, 377

CHIC 220, 303, 337, 340, 345

SOCI 357

WMST 302

### Asian Language or Asian Cultures and Social Institutions (6 units)

#### *Asian Languages*

Courses include, but are not limited to the following:

CHIN 100, 101, 102

JAPN 101, 102

VIET 201, 202

Any 200 or higher level course in Chinese or Japanese

#### *Asian Cultures and Institutions*

Topics include, but are not limited to the following:

ANTH 347

CPLT 380, 382T

GEOG 340

HIST 463C, 464B, 465A,B

PHIL 350, 352

POSC 434

CPRL 270T, 354T

HCOM 492T

### Community Research Requirement (6 units)

All Asian American Studies majors must complete ASAM 495, plus an additional course; either another internship or one of two other courses: ASAM 499 or oral history fieldwork.

## MINOR IN ASIAN AMERICAN STUDIES (21-23 UNITS)

### Core Courses (6 units)

ASAM 201 History of Asian Pacific Americans (3)

ASAM 300 Introduction to Asian Pacific American Studies (3)

### Comparative Cultures Breadth Requirement (3 units)

A course on a different minority group in America should be selected from an approved listing in consultation with the program coordinator or a faculty adviser. Courses include, but are not limited to the following: AFAM 310, 311, 320, 322, 335; AMST 301, 377; CHIC 220, 303, 337, 340, 345; SOCI 357; WMST 302.

### Topical Requirements (6 units)

Select two three-unit courses in Asian Pacific American Studies, chosen in consultation with a faculty adviser. Topics include, but are not limited to the following courses: ASAM 220, 308, 320, 327, 340, 342, 344, 346, 360 362A, 364, 366, 370; HIST 382; HUSR 318; COMM 438T.

### Asian Language or Asian Cultures and Social Institutions Requirement (3-5 units)

One course in an Asian language (3-5 units), or one three-unit course on Asian cultures or Asian social institutions, chosen in consultation with the undergraduate adviser.

Approved courses include, but are not limited to the following:

#### *Asian Languages*

CHIN 100 Introduction to Chinese Conversation (3)

CHIN 101 Fundamental Chinese A (5)

CHIN 102 Fundamental Chinese B (5)

JAPN 101 Fundamental Japanese A (5)

JAPN 102 Fundamental Japanese B (5)

KORE 101 Fundamental Korean-A (5)

KORE 102 Fundamental Korean-B (5)

KORE 203 Intermediate Korean-A (3)

VIET 201 Vietnamese for Vietnamese Speakers (3)

VIET 202 Vietnamese for Vietnamese Speakers (3)

Any 200 or higher level course in Chinese or Japanese

#### *Asian Cultures and Social Institutions*

ANTH 347; CPLT 382T; CPRL 270T, 354T; GEOG 340;

HIST 463C, 464B, 465A; PHIL 350, 352; POSC 434;

HCOM 492T.

### Community Research Requirement (3 units)

Choose one of the following, in consultation with a faculty adviser or program coordinator:

1. ASAM 499 Independent Study;
2. Oral history fieldwork; or
3. ASAM 495 Internship in Asian American Studies.

### ASIAN AMERICAN STUDIES COURSES

Courses are designated as ASAM in the class schedule.

#### 101 Introduction to Ethnic Studies (3)

(Same as AFAM/CHIC/W MST 101)

#### 190 Survey of American History with Emphasis on Ethnic Minorities (3)

(Same as HIST/AFAM/CHIC 190)

#### 201 History of Asian Americans (3)

(Same as HIST 201)

#### 220 Vietnamese Communities in the U.S. (3)

Prerequisite: completion of General Education (G.E.) Category D.1. Historical and cultural overview of Vietnamese communities in the U.S., especially Orange County. The vital role of voluntary agencies, mutual assistance associations and religious centers. Examines Vietnamese business, entertainment, family, education and hobbies.

#### 230 Civic Engagement Through Asian American and Pacific Islander Studies (3)

Prerequisite: Completion of G.E. Category A.3. Service-learning course that offers: introduction to purpose of AAPI Studies; opportunities to develop cultural competency while serving AAPI communities; and structured critical reflection for determining life purpose.

#### 300 Introduction to Asian Pacific American Studies (3)

Prerequisite: completion of G.E. Category D.1. Interdisciplinary exploration of the experiences of several Asian American groups. Addresses questions of cultural assimilation and cultural persistence, family and gender roles, and literary and popular culture representations.

#### 307 Research and Writing in Ethnic Studies (3)

Prerequisite: ENGL 101 or equivalent. Introduction to research and writing in ethnic studies. Issues of research in ethnic studies (e.g., quantitative v. qualitative analysis, reliability/validity) and specific methods of research (e.g., archives, interviews, oral history). Extensive writing. A "C" (2.0) or better is required to satisfy the upper-division writing requirement. (Same as AFAM/CHIC 307).

#### 308 Asian American Women (3)

Prerequisite: junior or senior standing. Interdisciplinary examination of Asian and Pacific Islander American women's experience. Compares and contrasts the experience of women from various parts of Asia and explores the social, cultural and political issues they face in the U.S. and abroad. One or more sections offered online. (Same as WMST 308)

#### 320 Asian American Creative Expression (3)

Prerequisites: completion of G.E. Categories C.1 and C.2. Asian American life as portrayed through novels, short stories, plays, poetry, film, music, painting, dance and other expressive forms. Examines historical and contemporary works by a variety of Asian and Pacific Americans. One or more sections offered online.

#### 322 Asian Pacific Americans and Religion (3)

Prerequisite: completion of G.E. Category C.2. Historically, religion plays a significant role for immigrants. Explores religion as a cultural dynamic in the incorporation and persistence of Asian Pacific Americans into American society, especially in Orange County and the greater Los Angeles area. (Same as CPRL 322)



**325 Asian American Film and Video (3)**

Prerequisites: completion of G.E. Categories C.1 and C.2. Introduction to major themes in Asian American film and video history and criticism. Asian American aesthetics, history and politics in areas of film and video direction, production, writing and acting. One or more sections offered online.

**327 Asian American Literature (3)**

Prerequisite: completion of G.E. Category C.2. Introduces early literary expressions of the Asian American experience. Readings include poetry, short stories, novels and autobiographies. Fundamental understanding of Asian American literary history and awareness of the cultural diversity in America. (Same as ENGL 327)

**340 Asian American Communication (3)**

Prerequisites: junior or senior standing and completion of G.E. Category D.1. Introduction to Asian American communication. Influences of Asian American cultural heritage, ethnic identity, generation and language fluency on communication. Similarities and differences in communication among the various Asian American ethnic groups. (Same as HCOM 340)

**342 Asian Pacific American Families (3)**

Prerequisite: completion of G.E. Category D.1. Asian Pacific American families have ranged from the seemingly solitary “bachelor” to the extended “clan.” Explores these, and many other ways of being a “family,” as it has been a basic part of Asian Pacific American history and culture.

**344 Asian Pacific American Identities (3)**

Prerequisite: completion of G.E. Category D.1. Interdisciplinary explorations of the ways in which those of Pacific Islander, Southeast, South and East Asian descent have met the challenge of being American at the personal level. Social construction of racial/ethnic identities, cultural conflict, self-determination and personal growth.

**346 Asian American Psychology (3)**

Prerequisite: completion of G.E. Category D.1. In-depth analysis of major issues in the Asian American community from a psychosocial perspective, including ethnic identity development, generational conflicts, the “model minority” myth, interracial relationships, attitudes toward mental health services and alternative healing/therapeutic approaches. (Same as PSYC 346)

**360 Multiple Heritage Asian Americans and Pacific Islanders (3)**

Prerequisite: completion of the G.E. Category D.1. Overview of the mixed heritage Asian American population in the USA. Surveys the historical avenues that led to the United States and to inter-ethnic alliances. The many challenges this multi-ethnic population faces.

**362A Filipina/o American Experience (3)**

Prerequisite: completion of G.E. Category D.1. Introduction to Filipina/o American Studies, covering point of origin, immigration, legal barriers, economic struggles, civil rights and other current issues up to 1965.

**364 The South Asian American Experience (3)**

Interdisciplinary course that explores the experience of South Asian Americans originally from India, Pakistan, Bangladesh or Sri Lanka. Focuses on questions regarding influence of American culture on South Asian American identity, intergenerational concerns and cultural continuity among others.

**366 The Korean American Experience (3)**

Prerequisite: completion of the G.E. Category D.1. Historical events and contemporary issues such as Korean American immigration, Korean identity, inter-ethnic relations, gender issues and Korean American entrepreneurship within the context of social, political and economic conditions of Korea and the United States.

**370 The Chinese American Experience (3)**

Prerequisite: completion of the G.E. Category D.1. Introduction to the experiences of Chinese in the United States. Historical events and contemporary issues, including Chinese immigration, exclusion, Chinese American identity, racial violence and gender.

**382 World War II Japanese American Evacuation (3)**

(Same as HIST 382)

**389 Literature About the War in Vietnam (3)**

(Same as ENGL/CPLT 389)

**495 Internship in Asian American Studies (3)**

Prerequisites: junior or senior standing and approval of supervising instructor(s). One hundred twenty (120) hours practical experience in some organization serving the Asian Pacific American community. Regular meetings with faculty adviser. May be repeated once for credit.

**496 Student-to-Student Tutorials (1-3)**

Prerequisites: junior or senior standing and approval of supervising instructor(s). Consult “Student-to-Student Tutorials” in this catalog for a more complete course description.

**499 Independent Study (1-3)**

Prerequisites: junior or senior standing and approval of supervising instructor(s). Supervised research and/or service learning projects in Asian American Studies to be taken with consent of instructor and program coordinator. May be repeated for credit.



# Asian Studies

College of Humanities and Social Sciences

## PROGRAM COORDINATOR

William W. Haddad (History)

## PROGRAM OFFICE

Humanities 7350  
657-278-3712

## PROGRAM OFFERED

Minor in Asian Studies

## PROGRAM COUNCIL

K. Chu (Economics), Irene Lange  
(Marketing), Preston Stedman (Music),  
Barbara Weightman (Geography) and  
Heping Zhao (English).

## INTRODUCTION

Asia, more than any other region in the world, has become the focus of extensive international business, political relationships and cultural exchange. Millions of people of Asian descent have become an integral part of American society. Indeed, California, more than any other place in the United States, is the residence of immigrants from throughout Asia. In order to keep pace with current developments in this extremely important part of the world, students are encouraged to take advantage of the opportunity to minor in Asian Studies.

The faculty for the Asian Studies Minor is drawn from several departments. What they have in common is that they teach and conduct research on Asia. The interdisciplinary nature of the Minor allows students the unique opportunity to learn about Asia from broad and differing perspectives.

## MINOR IN ASIAN STUDIES (21 UNITS)

### Core Courses (6 units)

ANTH 340 Peoples of Asia (3)  
OR ANTH 347 Peoples of the Pacific (3)  
GEOG 340 Asia (3)

### Electives (15 units)

One course each from three of the following four categories, plus 6 units of adviser-approved electives:

#### *Language, Culture, Geography and Human Behavior*

ANTH 340 Peoples of Asia (3)\*  
ANTH 347 Peoples of the Pacific (3)\*  
Any Japanese Language Course  
Any Chinese Language Course  
Any Vietnamese Language Course  
GEOG 330 California Landscapes (3)  
GEOG 340 Asia (3)  
KNES 151A Beginning Aikido (1)  
KNES 152A Beginning Karate (1)  
HCOM 320 Intercultural Communication (3)

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\*One of these is applicable as an elective if not chosen as a core course.

### *History and Politics*

HIST 360 Modern Asia: Nationalism and Revolutionary Change (3)

HIST 460A The Chinese Diaspora

HIST 461 History of China (3)

HIST 462B History of China (3)

HIST 462C China Since 1949 (3)

HIST 463A History of Japan (3)

HIST 463B History of Japan (3)

HIST 463C Themes in Korean History (3)

HIST 464 Modern Vietnam (3)

HIST 464A History of Southeast Asia to 1800 (3)

HIST 464B History of Contemporary Southeast Asia,  
1800-present (3)

HIST 465A History of India (3)

HIST 465B History of India (3)

HIST 490T Senior Research Seminar (3)

(Where course topic focuses on area of Asia).

POSC 434 The Asia-Pacific in World Affairs (3)

POSC 451T Problems in International Politics (3)

POSC 457 Politics of International Economics (3)

POSC 476 International Law (3)

### *Arts and Humanities*

(including Art, Literature, Philosophy and Comparative Religion)

CPLT 380 Introduction to Asian Literature (3)

CPLT 382T Topics in Asian Literature (3)

PHIL 350 Asian Philosophy (3)

PHIL 352 Philosophy of Asian Martial Arts (3)

CPRL 270T Introduction to the Asian Religions (3)

### *International Business and Economics*

ECON 332 Economies of the Pacific Rim (3)

ECON 333 Economic Development: Analysis and Case Studies (3)

ECON 335 The International Economy (3)

ECON 411 International Trade (3)

FIN 370 International Business Finance (3)

MKTG 445 International Marketing (3)



# Biological Science

College of Natural Sciences and Mathematics

## DEPARTMENT CHAIR

Kathryn Dickson

## DEPARTMENT OFFICE/WEBSITE

McCarthy Hall 282

657-278-3614

biology.fullerton.edu

## PROGRAMS OFFERED

Bachelor of Science in Biological  
Science with Concentrations in:

Cell and Developmental Biology

Ecology and Evolutionary Biology

Marine Biology

Molecular Biology and Biotechnology

Minor in Biotechnology

Minor in Cell and Molecular Biology

Minor in Environmental Biology

Master of Biotechnology

Master of Science in Biology

Subject Matter Preparation Program for

Single Subject Teaching Credential

## FACULTY

Joel Abraham, Catherine Brennan,  
Jennifer Burnaford, Merri Lynn Casem,  
Esther Chen, Amybeth Cohen, Math  
Cuajungco, Kathryn Dickson, David  
Drath, Douglas Eernisse, Kristy  
Forsgren, William Hoes, Michael  
Horn, Veronica Jimenez, Hope  
Johnson, Robert Koch, Alison  
Miyamoto, Nikolaos Nikolaidis, Nilay  
Patel, William Presch, M. Soledad  
Ramirez, Melanie Sacco, Darren  
Sandquist, H. Jochen Schenk, Paul  
Stapp, Marcelo Tolmasky, Christopher  
Tracy, Sean Walker, Danielle Zacherl

## INTRODUCTION

Biology is the branch of science concerned with the study of life. The discipline is dynamic, diverse and expanding with the integration of molecular approaches, information technology and concerns for the environment. Through the study of biology students will: learn principles that govern the function of their own body and those of other organisms; explore how complex organisms develop from a single cell and how genes and the environment govern these events; and learn how plants capture the energy from the sun and, ultimately, sustain almost all life on Earth through intricate relationships with other organisms, including humans. In addition, in Southern California, proximity to a variety of businesses, ranging from biotechnology and biomedical companies to environmental consulting firms provides biology majors with diverse employment opportunities.

The department has designed a curriculum that builds on a core of biology and supporting courses for students who: (1) seek careers in industry and state or federal agencies; (2) wish to prepare for secondary school teaching; or (3) desire to enter graduate and professional schools. The curriculum beyond the basic core experience will be developed through individual advising. Each semester, students are required to meet with their designated faculty adviser in order to develop an appropriate program of study. After discussion with their adviser, students will elect upper-division courses in one of four concentrations that will satisfy their individual interests and professional goals.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

### Bachelor of Science in Biological Science

The following goals and learning outcomes have been established for students pursuing a Bachelor of Science in Biological Science:

#### *Content Knowledge*

- Explain (i.e., expound, explicate, elucidate, and interpret) fundamental concepts and principles in the following areas of biological knowledge: biodiversity, cell biology, developmental biology, ecology, evolution, genetics, molecular biology, organismal biology, and physiology
- Interpret the following unifying themes in the context of the above areas of biological knowledge: complexity of biological systems, cycles, feedback loops, energy flow, homeostasis, information flow, networks, and structure-function relationships
- Demonstrate specialization and thus be able to explain advanced concepts in one or more of the areas of biological knowledge in the first bullet above
- Interpret connections between science and technology, past scientific discoveries and current scientific progress, academic requirements and careers or professional advancement, the scientific method including its limitations and the discovery of new knowledge, and bioethics/scientific integrity and the advancement of science



### *Skills*

- Communication – Communicate effectively orally; communicate effectively in writing; write in scientific format acceptable by scientific journals
- Teamwork – Work cooperatively to solve problems in a group of diverse composition
- Finding biological information – Find, evaluate, use, and integrate published information; use databases and information technology
- Critical thinking and problem-solving – Make an argument and support it; recognize and use deductive and inductive reasoning; integrate concepts within and among disciplines; recognize patterns; identify unifying principles; solve problems; distinguish between data and inferences based on data; distinguish information from scientific versus pseudo- and non-scientific sources and methods
- Use of the scientific method – Use deductive methods of inquiry; apply the scientific method to problems by generating hypotheses and designing experiments to test these hypotheses
- Analytical and quantitative skills – Create data sets from observations; objectively analyze data; interpret data; use quantitative methods for the analysis of data
- Lab and field work – Use appropriate technology; use equipment properly; follow safety procedures; apply government regulations

### *Attitudes*

- Embrace lifelong learning by being capable of self-directed learning, having a continual interest in biology, and having confidence in one's knowledge, skills and abilities
- Value learning by being open-minded, appreciating the value of knowledge, appreciating and respecting alternative possibilities and explanations, and experiencing the joy of discovery
- Demonstrate knowledge of careers by defining potential career paths and being aware of the requirements for career or professional advancement
- Be aware of impacts of biological issues on society by valuing the support of science by society, appreciating the relevance of biology to society and recognizing the connectedness of science, society and history
- Demonstrate an awareness of bioethics by identifying and evaluating ethical issues in biology, appreciating the value of integrity and valuing ethical behavior
- Demonstrate appropriate stewardship and advocacy by respecting biodiversity, contributing to the understanding of true science, helping the public make informed decisions and being responsible stewards of biological resources
- Demonstrate biological literacy by distinguishing science from pseudoscience, recognizing that science is a way of viewing the world and is not just a collection of facts, understanding the

limitations of science, applying scientific thinking to everyday problems and recognizing the impermanence of “truths”

All students will progress through lower-division core courses and select an upper-division concentration. Details of learning goals for the core and each concentration may be found at biology.fullerton.edu.

### **Master of Biotechnology (MBt)**

The following goals and learning outcomes have been established for students pursuing a Master of Biotechnology (MBt):

#### *Content Knowledge*

- Demonstrate knowledge in a primary area of expertise
- Identify and critically evaluate the literature in the primary area
- Understand the basic processes of product life cycles

#### *Information Literacy Skills*

- Determine what kind of information is needed to solve a problem
- Identify how to obtain the relevant information from literature/information databases
- Critically assess the information for its rigor
- Cite the information gathered appropriately in written and oral formats

#### *Communications Skills*

- Work effectively as a member of an interdisciplinary team
- Converse with colleagues in all disciplines related to the mission of PABS
- Write and present project proposals and technical reports that communicate effectively with all levels of an organization
- Communicate effectively with individuals at governmental and public entities

#### *Applications*

- Demonstrate mastery of basic application skills in biotechnology disciplines
- Develop experimental or practical designs for solving problems in product or process development
- Analyze the driving forces for product development
- Use knowledge effectively in new situations and diverse contexts

#### *Biotechnology Industry*

- Demonstrate knowledge of commercialization of biotechnology in pharmaceuticals, biomedical devices, diagnostics/assays systems, clinical trial management, and related companies
- Understand the essential processes of project management
- Understand the essential processes of regulatory affairs and clinical trials management

## Master of Science in Biology

The following goals and learning outcomes have been established for students pursuing a Master of Science in Biology:

### *Content Knowledge*

- Demonstrate knowledge in a primary area of expertise and place the thesis research in the context of the current state of knowledge of the field
- Critically evaluate the primary and secondary literature in a primary area of expertise
- Gain an appreciation for the diversity and multidisciplinary nature of biological science through participation in workshops, seminars and small working groups

### *Information Literacy Skills*

- Use library and electronic resources to obtain virtually all of the literature sources published in a primary area of expertise in biology
- Cite the information gathered appropriately in written and oral formats

### *Scientific Research Skills*

- Work independently to conduct and complete original research
- Demonstrate mastery of research approaches and techniques appropriate to a primary area of expertise
- Demonstrate mastery of key elements of research and study design and apply them to an independent research project
- Analyze and interpret data appropriately and present results properly in written, tabular and graphical formats

### *Communication Skills*

- Write a thesis proposal that contains the key elements of a competitive grant proposal
- Prepare and give high-quality, professional presentations (oral and poster) about the results of independent research
- Write a scholarly thesis containing key elements of a published article in one's primary area of expertise

### *Special Programs*

In addition to the usual course offerings, the Department of Biological Science participates in the Center for Applied Biotechnology Studies and four consortial programs with other California State University campuses. These are: CSUPERB (California State University Program for Education and Research in Biotechnology); the CSU Council on Ocean Affairs, Science & Technology (COAST); the Ocean Studies Institute (through the Southern California Marine Institute); and the California Desert Studies Consortium. Each of these centers is described in this catalog under "Research Centers."

## Single Subject Teaching Credential Information

The Bachelor's Degree in Biology may be effectively combined with subject matter studies necessary for the Single Subject Teaching Credential in Biological Sciences. Contact the Center for Careers in

Teaching (657-278-7130, [fullerton.edu/cct](http://fullerton.edu/cct)) and the Science Education Programs Office (657-278-2307, [nsm.fullerton.edu/scied/](http://nsm.fullerton.edu/scied/)) for early advisement and to plan efficient course selections for general education, the major and credential program coursework. Additional information is found under Science Education Programs in the University Catalog, as well as at <http://mast.wikispaces.com>.

## Recommendations for Transfer Students

Students planning to transfer from another college or university should take biology, chemistry, mathematics and/or physics courses that are equivalent to those required for the B.S. in Biological Science (refer to [assist.org](http://assist.org)). Prospective transfer students should contact the Biology Department as soon as possible prior to transfer to select appropriate courses.

## Upper-Division Baccalaureate Writing Requirement

To meet the upper-division baccalaureate writing requirement, students must pass with a "C" (2.0) or better ENGL 301 or six units from the following: BIOL 411, 414, 417, 422, 426, 427, 445, 446, 447, 449, 465, 466, 468, 470, 495, 498.

## BACHELOR OF SCIENCE IN BIOLOGICAL SCIENCE (120 UNITS)

The Bachelor of Science in Biological Science requires 43 units in the major, 34 units of supporting courses in physical sciences and mathematics and an exit exam on biology in the spring semester of the senior year. All courses must be passed with a "C" (2.0) or better. Those seeking careers in the health professions should speak to a health professions adviser about specific course recommendations. For more information, visit: [fullerton.edu/health\\_professions](http://fullerton.edu/health_professions).

### Core Requirements for the Major (20 units)

BIOL 171 Evolution and Biodiversity (5)

BIOL 172 Cellular Basis of Life (5)

BIOL 273 Genetics and Molecular Biology (5)

BIOL 274 Principles of Physiology and Ecology (5)

### Upper-Division Courses (23 units)

(Choose from four concentrations below)

The upper-division program is designed to provide students with depth in a chosen concentration. The upper-division program requires at least five units of laboratory- or field-based activities, six units of 400-level biology courses and two units of a specified capstone course.

Students with junior or senior standing will be permitted to enroll in BIOL 480, 482, 495, 498 and 499L. However, no more than a combined total of six units of BIOL 480 (2 units max), 482 (2 units max), 495 (3 units max), 498 (2 units max) and 499L (6 units max) shall be counted toward the 23 upper-division biology units required for the major, and no more than three of these units may count toward the requirement to complete at least five units of upper-division biology laboratory/field electives.

**Supporting Course Requirements for the Major  
(29-30 units)**

CHEM, 120A,B, 301A,B, 302; or 302A,B

PHYS 211, 211L, 212, 212L

MATH 130, 338; or 150A,B

**CONCENTRATION IN CELL AND DEVELOPMENTAL  
BIOLOGY (23 UNITS)**

**Required Upper-Division Courses (7 units)**

BIOL 302 General Microbiology (4)

BIOL 303 Intermediate Cell Biology (3)

**Upper-Division Biology Electives (10 units minimum)**

*Cell Biology Courses (7 units minimum)*

BIOL 362, 405, 417\*, 418L, 424, 426<sup>1</sup>\*, 427<sup>1</sup>\*, 428<sup>1</sup>, 429<sup>1</sup>,  
465\*, 470<sup>1</sup>\*

*Associated Courses*

One of the following may be used to complete the 10-unit minimum:

BIOL 309, 402, 407, 411\*, 412, 413, 414\*, 430, 445\*, 448

CHEM 421 OR 423A

**Free Upper-Division Biology Electives**

Although it is recommended that Cell and Developmental Biology Concentration majors select additional elective units from courses listed under Upper-Division Biology Electives under this concentration, any upper-division biology majors course may be utilized to complete the concentration's 23-unit requirement.

**Capstone Courses (2 units minimum)**

BIOL 400, 426<sup>1</sup>\*, 427<sup>1</sup>\*, 428<sup>1</sup>, 429<sup>1</sup>, 465<sup>1</sup>\*, 470<sup>1</sup>\*, 482, 495\*,  
498\*, 499L

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<sup>1</sup>courses that count as either electives or capstone, but not both.

\* courses that meet the upper-division writing requirement  
(6 units required)

**CONCENTRATION IN ECOLOGY AND  
EVOLUTIONARY BIOLOGY (23 UNITS)**

**Required Upper-Division Courses (6 units)**

BIOL 314 Population and Community Ecology (3)

BIOL 325 Principles of Evolution (3)

**Upper-Division Electives (6 units minimum)**

One course from each category:

*Organismal Courses (3 units)*

BIOL 302, 340, 344, 441, 467, 474, 476, 478, 479

*Physiology Courses (3 units)*

BIOL 362, 444, 445\*, 465, 468\*

**Additional Upper-Division Electives (5 units minimum)**

Any additional upper-division biology courses from the Organismal Biology or Capstone list (additional units from Organismal Biology or Capstone courses not used to fulfill those requirements count here) or courses from the following: BIOL 301, 317<sup>2</sup>, 402, 404 or 409, 419<sup>2</sup>, 419L<sup>2</sup>, 422<sup>2</sup>\*, 436, 442, 443, 446<sup>2</sup>\*, 449\*, 461<sup>2</sup>, 466, 475<sup>2</sup>

**Free Upper-Division Biology Electives**

Although it is recommended that Ecology and Evolutionary Biology Concentration majors select additional elective units from courses listed under Upper-Division Electives and Additional Upper-Division Electives under this concentration, any upper-division biology majors course may be utilized to complete the concentration's 23-unit requirement.

**Capstone Courses (2 units minimum)**

BIOL 400, 401, 447\*, 450, 465<sup>1</sup>\*, 481, 482, 495\*, 498\*, 499L

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<sup>1</sup> courses that count as electives or capstone, but not both

<sup>2</sup> a maximum of 4 units of these marine biology classes may be applied toward the 23 upper-division electives required for the EEB concentration

\* courses that meet the upper-division writing requirement  
(6 units required)

**CONCENTRATION IN MARINE BIOLOGY (23 UNITS)**

**Required Upper-Division Courses (3 units)**

BIOL 314 Population and Community Ecology (3)

OR BIOL 325 Principles of Evolution (3)

**Upper-Division Electives (11 units minimum)**

*Ecology Courses (4 units minimum)*

BIOL 419 and 419L

OR BIOL 422\*

*Organismal/Systematics Courses (4 units minimum)*

BIOL 446\*, 461, 475

*Other Marine Biology Courses (3 units minimum)*

BIOL 301, 302, 317, 402, 404 or 409, 405, 436, 468\*, or additional courses listed above

**Free Upper-Division Biology Electives**

Although it is recommended that Marine Biology majors select additional units from the courses listed under Upper-Division Biology Electives under this concentration, any upper-division biology majors course may be utilized to complete the concentration's 23-unit requirement.

### Capstone Courses (2 units minimum)

BIOL 400, 401, 422<sup>1</sup>, 450, 482, 495\*, 498\*, 499L

Selected approved courses from the Ocean Studies Institute (see [scmi.us/category/ocean-studies-institute](http://scmi.us/category/ocean-studies-institute)) taken as part of the CSU Catalina Semester may be used to fulfill many requirements for this concentration.

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<sup>1</sup> Course that counts as elective or capstone, but not both

\* courses that meet the upper-division writing requirement (6 units required)

### CONCENTRATION IN MOLECULAR BIOLOGY AND BIOTECHNOLOGY (23 UNITS)

#### Required Upper-Division Courses (6-7 units)

BIOL 309 Intermediate Molecular Biology (3) AND

*One or more of the following:*

BIOL 302 General Microbiology (4)

CHEM 421 Biological Chemistry (3)

CHEM 423A General Biochemistry (3)

#### Upper-Division Biology Electives (10 units minimum)

*Molecular Biology Courses (6 units minimum)*

BIOL 402, 405, 407, 411\*, 412<sup>1</sup>, 413, 414\*, 430<sup>1</sup>, 445\*, 448, 472A<sup>1</sup>, 472B<sup>1</sup>, 473

CHEM 421 OR 423A

*Associated Courses*

The following may be used to complete the 10-unit minimum;

BIOL 362, 417, 418L, 424, 426\*, 427\*, 428, 429<sup>1</sup>, 444, 465\*, 470\*, 477

#### Free Upper-Division Biology Electives

Although it is recommended that Molecular Biology and Biotechnology Concentration majors select additional elective units from courses listed under Upper-Division Biology Electives under this concentration, any upper-division biology majors courses may be utilized to complete the concentration's 23-unit requirement

### Capstone Courses (2 units minimum)

BIOL 400, 412<sup>1</sup>, 429<sup>1</sup>, 430<sup>1</sup>, 472A<sup>1</sup>, 472B<sup>1</sup>, 482, 495\*, 498\*, 499L

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<sup>1</sup> courses that count as either electives or capstone but not both.

\* courses that meet the upper-division writing requirement (6 units required)

### MINOR IN BIOTECHNOLOGY (31 UNITS)

The biotechnology minor is appropriate for students majoring in biological science or biochemistry and interested in gaining employment in nearly any area of the medical and agricultural biotechnology industries, working in academic research laboratories, or pursuing postgraduate degrees in basic molecular biology or biochemistry.

The biotechnology minor requires chemistry and biology courses that must be completed with a minimal overall grade-point average of 2.0 and include 12 units unique to the minor that are not used to meet requirements for the biological science or biochemistry major.

#### Required Courses (28 units)

BIOL 273 Genetics and Molecular Biology (5)

BIOL 309 Intermediate Molecular Biology (3)

OR CHEM 421 Biological Chemistry (3)

CHEM 301A,B Organic Chemistry (6)

CHEM 302 or CHEM 302A,B Organic Chemistry Laboratory (2)

BIOL 412 Principles of Gene Manipulation (3)

BIOL/CHEM 472A,B Advances in Biotechnology Laboratory (6)

CHEM/BIOL 477 Advances in Biotechnology (3)

#### Supporting Courses (3-4 units)

One of the following:

BIOL 309, 413, 424

CHEM 421, 423A, 423B

### MINOR IN CELL AND MOLECULAR BIOLOGY (26 UNITS)

Science has become increasingly interdisciplinary with biophysics, biochemistry, bioengineering, psychology and kinesiology as examples of disciplines that rely heavily on knowledge of biological science in the area of cell and molecular biology. Students majoring in these disciplines will be more competent and more competitive for graduate programs of employment with evidence of a minor that requires extensive education in cell and molecular biology. All courses must be passed with a "C" (2.0) or better.

#### Lower-Division Core (10 units)

BIOL 172 Cellular Basis of Life (5)

BIOL 273 Genetics and Molecular Biology (5)

#### Upper-Division Required Courses (10 units)

BIOL 303 Intermediate Cell Biology (3)

BIOL 309 Intermediate Molecular Biology (3)

BIOL 302 General Microbiology (4)

OR 362 Mammalian Physiology (4)

#### Upper-Division Cell and Molecular Electives (6 units)

BIOL 402, 405, 411, 412, 413, 414, 417, 418L, 424, 426, 427, 428, 445, 448, 470

CHEM 421



## **MINOR IN ENVIRONMENTAL BIOLOGY (22 UNITS)**

Understanding and controlling our environment has become an important career path in the 21st century. Understanding the biological science relevant to studying the environment is needed for students majoring in other disciplines to be more competitive for entry into graduate programs or into the work force. The minor will also provide students planning careers in secondary education science teaching with an expanded knowledge of environment-related issues. All courses must be passed with a "C" (2.0) or better.

### **Lower-Division Core (10 units)**

BIOL 171 Evolution and Biodiversity (5)

BIOL 274 Physiology and Ecology (5)

### **Upper-Division Required Course (3 units)**

BIOL 314 Population and Community Ecology (3)

### **Upper-Division Ecology Course (3 units minimum)**

BIOL 419 & 419L, 422, 443, 444, 449, 466

### **Upper-Division Elective (3 units minimum)**

BIOL 317, 325, 340, 401, 441, 446, 447, 450, 461, 467, 475, 476, 478, 479

At least one upper-division biology laboratory course from the list above must be completed.

### **Related Courses (3 units maximum to meet total units)**

CHEM 313A, 313B, 313C, 436, 437, 448

ECON 362

GEOG 323, 450, 481

GEOL 333, 335, 380

HESC 415

PHIL 313

## **MASTER OF BIOTECHNOLOGY (40 UNITS)**

The Master of Biotechnology (MBt) is a Professional Science Master's Program that prepares graduates for careers in biomedical device, pharmaceutical and biopharmaceutical industries. The two-year program provides training in the science and skills fundamental to industry, including knowledge of molecular and cellular biology, mathematical modeling, biological database mining and relevant technology. Students receive instruction in regulatory affairs, project management, cross-functional teamwork, communication and group leadership skills. They also participate in an industry-based internship, complete an industry-related project, and specialize in one of six concentrations. They are Applications to Biotechnology of: Analytical Chemistry; Business/Law; Engineering; Informatics/Biomathematics; Molecular Biology/Biochemistry; and Regulatory Affairs/Quality Assurance.

The MBt degree is coordinated by the Program for Applied Biotechnology Studies (PABS) and is a joint program among three CSU campuses: Fullerton, Los Angeles and Pomona (see [calstate.edu/pabs/](http://calstate.edu/pabs/)). Each campus will offer at least one required course, as well as advanced elective courses.

### **Admission Requirements**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, acceptance into this program is contingent upon the following: (1) a B.A. or B.S. from an accredited institution with a 3.0 GPA in major courses in biological science or related area, engineering or related area, chemistry or related area, business or related area, or mathematics or related area; (2) submitting scores from the Graduate Record Examination General Test, Medical College Admission Test, Dental Admission Test or Graduate Management Admission Test; (3) completing the departmental application; and (4) submitting two letters of recommendation from faculty members. Students with deficiencies may be considered for conditional acceptance into the program. For conditionally accepted students, the specific conditions and a deadline for their completion are determined at the time of admission; continuation in the master's program is dependent upon completing the admission conditions by the specified deadline.

### **Classified Standing**

Students should achieve classified graduate standing as soon as they are eligible, because no more than nine units of graduate work taken before classification can be included on the study plan (see below) for the degree. A student who meets the admission requirements may apply for classified standing, which requires developing a study plan approved by the department MBt graduate program adviser, department chair, and associate vice president for Graduate Studies and Research.

### **Advancement to Candidacy**

Advancement to candidacy is attained by requesting a graduation check and receiving subsequent approval of the department MBt graduate program adviser and associate vice president for Graduate Studies and Research.

### **Study Plan**

Students must meet the Graduate Level Writing Requirement, which is described in this catalog under "Graduate Regulations." MBt candidates meet this requirement by passing BIOL 570. A minimum of 28 units of the student's graduate study plan must consist of 500-level courses. All study plans must include BIOL 463\*, 463L\*, 518\*, 570, 571, 572, 576\*, 580, MGMT 554\*, 570, EGGN 520L\*, nine units of approved concentration courses, and six units of BIOL 597. An Applied Masters Project (AMP) comprising 480 hours of on-site work addressing a topic or issue of importance to the sponsoring business, a written project report and a public presentation of the AMP are also required to complete the MBt degree. The AMP projects' design, execution and report-out require the close

attention of both the MBt graduate adviser and the project mentor(s) representing the business. To insure that space is available within the program for new students, all students are expected to complete the MBt curriculum within two years of classification.

For more information or advisement, students should contact the MBt program graduate adviser in the Department of Biological Science at [ddyer@fullerton.edu](mailto:ddyer@fullerton.edu) or consult [calstate.edu/pabs/](http://calstate.edu/pabs/)

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\* course is offered at one of the other two PABS campuses, Los Angeles or Pomona

## **MASTER OF SCIENCE IN BIOLOGY (30 UNITS)**

The M.S. in Biology is a thesis-based degree for which the student completes original, independent research in one of the following areas: Cell and Developmental Biology, Ecology and Evolutionary Biology, Marine Biology, Molecular Biology and Biotechnology, or Biology Pedagogy Research.

### **Admission Requirements**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, acceptance into this program is contingent upon the following: (1) a B.A. or B.S. in Biological Science or related area at an accredited institution with a 3.0 GPA in biology courses and 2.5 GPA in the related courses in mathematics, chemistry and physics; (2) submitting scores from the Graduate Record Examination General Test, Medical College Admission Test or Dental Admission Test; (3) completing the departmental application; (4) submitting two letters of recommendation; and (5) acceptance by a thesis adviser.

Students with deficiencies may be considered for conditional acceptance into the program. For conditionally accepted students, the specific conditions and a deadline for their completion are determined at the time of admission; continuation in the M.S. program is dependent upon completion of the admission conditions by the specified deadline.

### **Application Deadlines**

Departmental applications for fall admissions are usually due April 1. Check the Department of Biological Science website at [biology.fullerton.edu](http://biology.fullerton.edu) for annual deadlines and additional information. A completed departmental application and all required documents must be received by the published deadlines.

### **Classified Standing**

Students should achieve classified graduate standing as soon as they are eligible, because no more than nine units of graduate work taken before classification can be included on the study plan (see below) for the degree. A student who meets the admission requirements may apply for classified standing, which requires the development of a study plan approved by the thesis adviser, thesis committee, department M.S. graduate program adviser and associate vice president for Graduate Studies and Research. Students admitted with conditional

acceptance must meet conditions (see above) before being considered for classified standing.

### **Advancement to Candidacy**

Advancement to candidacy is attained by requesting a graduation check and receiving subsequent approval of the department M.S. graduate program adviser and associate vice president for Graduate Studies and Research.

### **Study Plan**

Students must meet the Graduate Level Writing Requirement, which is described in this catalog under "Graduate Regulations." Biology M.S. candidates will meet this requirement by passing BIOL 500A,B. At least one-half of the study plan's total units must be at the 500 level. All study plans must include BIOL 500A,B, 580D, 598, 599 and at least two graduate seminars. A thesis acceptable to the adviser and committee, covering a research problem, as well as a thesis defense and a public presentation on the thesis research, are required to complete the degree program. Supervising the work of graduate students requires the personal attention of advisers. To insure that advisers are available for new graduate students, a graduate student is expected to complete the requirements for graduation within three years after classification.

For more detailed information or advisement, students should contact the Department of Biological Science or the department M.S. graduate program adviser at [biogradadv@fullerton.edu](mailto:biogradadv@fullerton.edu).

## **BIOLOGICAL SCIENCE COURSES**

Courses are designated as BIOL in the class schedule.

Unless otherwise designated, prerequisites may be waived by the instructor of the course if the instructor is satisfied that the student is qualified for the course.

### **101 Elements of Biology (3)**

Underlying principles governing life forms, processes and interactions. Elements of biology and reasoning skills for understanding scientific issues on personal, societal and global levels. For the non-science major. No credit toward biological science major. One or more sections offered online.

#### **101L Elements of Biology Laboratory (1)**

Pre- or corequisite: BIOL 101. Laboratory experiments demonstrating the principles presented in the lecture course. Scientific inquiry, cell structure and function, physiology, genetics, biodiversity, evolution and ecology. For the non-science major. (3 hours laboratory or fieldwork; weekend field trips may be required)

### **102 Biology for Future Teachers (3)**

Designed especially for the prospective teacher, this activity-based course examines biological concepts in real-world contexts, such as the medical examination, genes and evolution, and the environment. Lecture and laboratory form a single unified learning experience. No credit toward biological science major. (6 hours activity)

### **171 Evolution and Biodiversity (5)**

Prerequisites: must be eligible to take MATH 115 or higher and have passed/be eligible to take ENGL 101, and must be exempt from or have completed remedial MATH and ENGL. Introduction to scientific processes and methods of biology. Unifying principles of evolution processes leading to biodiversity, and principles of conservation biology. (Primarily for majors in the Colleges of Natural Science/Mathematics and Engineering/Computer Science; 3 hours lecture, 6 hours laboratory/fieldwork; weekend field trips are required)

### **172 Cellular Basis of Life (5)**

Prerequisites: Completion of (or be eligible to take) ENGL 101 with a "C" (2.0) or better, completion of MATH 115 (or equivalent) and BIOL 171 or CHEM 120A with a "C" or better. Structure and function of prokaryotic and eukaryotic cells including: evolutionary relationships; cell membranes; compartmentation; signaling and metabolic pathways; cellular reproduction; cell differentiation, multicellularity and development. (For majors in Colleges of Natural Science/Mathematics and Engineering/Computer Science; 3 hours lecture, 6 hours laboratory)

### **191A Integrated Human Anatomy and Physiology (4)**

(Same as KNES 191A)

### **191B Integrated Human Anatomy and Physiology (4)**

Prerequisite: KNES/BIOL 191A. Corequisite: CHEM 200. Second semester of integrated concepts in human anatomy and physiology for nursing, allied health, and kinesiology majors. Nutrition, water and ion balance, and homeostatic regulation by the digestive, renal, cardio-respiratory, endocrine, nervous systems. No credit toward biological science major. (3 hours lecture, 3 hours laboratory) (Same as KNES 191B)

### **202 Microbiology for Nursing and Allied Health Professionals (4)**

Prerequisite: BIOL 101, 191A or equivalent. Corequisite: CHEM 100 (for non-nursing majors) or 200 (for nursing majors). Introduction to bacteria, fungi, protozoa and viruses with emphasis on pathogenic agents and how they are controlled by host defenses and human intervention. Laboratory provides practice with basic microbiological skills. No credit toward biological science major. (3 hours lecture, 3 hours laboratory)

### **210 Human Anatomy and Physiology (3)**

Introductory anatomy and physiological concepts for Kinesiology and Health Science majors. Gross and micro-level human anatomy as well as the structure and function of selected systems. Preparation for KNES 260, 300, 348, 371, and the major in Health Science. No credit toward biological science major. (Same as KNES 210)

### **273 Genetics and Molecular Biology (5)**

Prerequisites: BIOL 172 and CHEM 120A or MATH 130 or 150A with a "C" (2.0) or better. Underlying principles of inheritance, structure and functions of nucleic acids, regulation of gene expression, the mechanisms by which populations evolve, and the impact of biotechnology on society. (3 hours lecture, 6 hours laboratory)

### **274 Principles of Physiology and Ecology (5)**

Prerequisites: BIOL 171, 172, 273, CHEM 120A, and MATH 130 or 150A with a "C" (2.0) or better. Principles of organisms' interactions with their environments; physiological and evolutionary mechanisms of change in response to environmental factors; population and community ecology; energy and material flow through ecosystems. (3 hours lecture, 6 hours laboratory/fieldwork; weekend field trips are required)

### **280R Research Preparatory Proseminar (1)**

Introduction to the culture of science and research. Read and discuss research articles, write brief reports, give oral presentations and learn about lab safety, research ethics, scientific discourse and future career prospects.

### **299L Directed Laboratory Study (1-3)**

Prerequisites: BIOL 171, 172 and consent of instructor. Research in biology under the supervision of a biology faculty member. Intended for students (especially lower division) who may not have completed sufficient coursework to allow them to work independently, but who are eager for laboratory research experience. May be repeated for university credit. (3 hours laboratory per unit)

### **300 Environmental Biology and Sustainability (3)**

Prerequisite: BIOL 101. Biological consequences of human intervention in ecosystems: Endangered and threatened species, pollution impact on organisms, pest control, population dynamics, genetic engineering of agricultural species, management of natural areas and urban ecosystem dynamics. No credit toward biological science major. One or more sections offered online.

### **301 Problems in Environmental Biology (3)**

Prerequisite: admission into the Southern California Ecosystems Research Program in environmental biology. Environmental problems in Southern California ecosystems. Effects of human activities on desert, foothill, and wetland ecosystems. Offered as an intensive four-week summer field experience. (Equivalent to 1 hour lecture, 6 hours laboratory/fieldwork during a normal semester)

### **302 General Microbiology (4)**

Prerequisites: biology majors, BIOL 274 and CHEM 120B with a "C" (2.0) or better; all others, BIOL 273 and CHEM 120B with a "C" or better. Introduction to structure and function of bacteria and viruses including beneficial and detrimental activities and interactions with other organisms. Laboratory provides investigations with microscopy, culture, physiology and genetics of microbes. (2 hours lecture, 6 hours laboratory)

### **303 Intermediate Cell Biology (3)**

Prerequisites: biology majors, BIOL 274 and CHEM 120B with a "C" (2.0) or better; all others, BIOL 273 and CHEM 120B with a "C" (2.0) or better. Evidence-based examination of cells in action, roles of information, matter and energy flow as driving forces for compartmentation, protein sorting, metabolic and signaling pathways, motility and adhesion; examples taken from developmental, neural and cancer processes.

### **304 Supervised Biology Laboratory Instruction (2)**

Prerequisites: BIOL 172, 273 or 274 and permission of instructor. For students interested in assisting in lower division biology lab that they have completed. Practical experience in laboratory teaching and introduction to major topics in biology education.

### **305 Human Heredity and Development (3)**

Prerequisite: completion of General Education (G.E.) category B.2. Principles of human heredity and embryology relating to human development. Mendelian genetics, single gene effects, genetics, prenatal diagnosis, and human embryology. No credit toward biological science major.

### **306 Biology of Aging (3)**

Prerequisite: BIOL 101. Biological changes in cells, tissues, organs and the whole body associated with aging. Theories of aging will be discussed with primary emphasis on mammals. No credit toward biological science major.

### **309 Intermediate Molecular Biology (3)**

Prerequisites: biology majors, BIOL 274 and CHEM 120B with a "C" (2.0) or better; all others, BIOL 273 and CHEM 120B with a "C" or better. Molecular and genetic basis of cellular functions. Role of gene expression and protein function in metabolism, physiology, growth, development. Introduction to recombinant DNA and its uses, and to critical analysis of primary literature.

### **310 Human Physiology (3)**

Prerequisites: BIOL 101 and 210, or BIOL 171 or 172 with a "C" (2.0) or better. Human physiological systems and their relationship to human function for non-biology majors and students in Kinesiology and Health Sciences. No credit for biological science major.

### **310L Human Physiology Laboratory (1)**

Prerequisite: BIOL 310 with a "C" (2.0) or better, or concurrent enrollment. Investigation of human physiology; the cellular to organ system level of muscular, cardiovascular, respiratory and renal systems; the neural and endocrine control of these systems. Labs emphasize functional aspects of each organ system. No credit toward biological science major. (3 hours laboratory)

### **311 Nutrition and Disease (3)**

(Same as CHEM 311)

### **314 Population and Community Ecology (3)**

Prerequisites: completion of biology lower-division core. Introduction to the quantitative description of populations and communities, as well as the use of mathematical models to understand the dynamics of populations and communities. Links comparative, experimental and theoretical approaches to understanding the abundance and distribution of organisms and their interactions.

### **317 Field Marine Biology (4)**

Prerequisites: completion of biology lower-division core. Field biology and natural history of local marine plants and animals. Identification of common species and factors determining their distributions and abundance in marine habitats. Effects of human activities on marine organisms. (2 hours lecture, 6 hours laboratory/fieldwork; weekend field trips may be required)

### **318 Wildlife Conservation (3)**

Prerequisite: completion of G.E. Category B.2. Causes and consequences of loss of biological diversity, with an emphasis on wildlife populations and science-based conservation. Threatened and endangered species/ecosystems, ecosystem management, habitat restoration, captive species reintroductions and conservation legislation. No credit toward biological science major.

### **319 Marine Biology (3)**

Prerequisite: completion of G.E. Category B.2. Survey of marine plants and animals in their habitats. No credit toward biological science major.

### **322 Human Behavioral Ecology (3)**

(Same as ANTH 322)

### **325 Principles of Evolution (3)**

Prerequisites: completion of biology lower-division core. Mechanisms of evolutionary change, including mutation, selection, migration, and drift. Introduces methods for studying adaptations. Sexual selection, kin selection and evolution of life history strategies. Uses modern examples, including antibiotic resistance, to illustrate the relevance of understanding evolution.

### **327 Stem Cells and Regenerative Medicine (3)**

Prerequisite: BIOL 101. Introduction to stem cell biology and current research with human stem cells for treating chronic and neurodegenerative diseases (regenerative medicine). Ethical and social issues related to various types of stem cells. No credit toward biological science major.

### **330 Sustainability Ecology: American Indian Models (3)**

Prerequisite: completion of G.E. Category B.2. Interrelationships of native peoples of the Americas with the local flora and fauna and the natural environment. Roles of American Indians in predator-prey interactions, ecological hierarchy, nutrient cycling, successional change and resource management. No credit toward biological science major.



### **340 Field Botany (3)**

Prerequisites: completion of biology lower-division core. Native flora of Southern California. Identification, natural history and factors that determine the distribution of species. (1 hour lecture, 6 hours laboratory or fieldwork; weekend field trips are required)

### **344 Survey of the Land Plants (4)**

Prerequisites: completion of biology lower-division core. Anatomical and morphological characteristics of the land plants as they relate to the evolutionary development and ecological strategies of these plants. (2 hours lecture, 6 hours laboratory)

### **352 Plants and Life (3)**

Prerequisite: completion of G.E. Category B.2. Importance of plants in our lives, including such things as plant domestication and the origin of agriculture. Why plants are fascinating organisms. No credit toward biological science major.

### **360 Biology of Human Sexuality (3)**

Prerequisite: completion of G.E. Category B.2. Biology of the human reproductive system, sexual differentiation, anatomy and physiology, sexual behaviors, procreation, contraception and sexually transmitted diseases. No credit toward biological science major. One or more sections offered online.

### **361 Human Anatomy (4)**

Prerequisites: biology majors, BIOL 274 with a "C" (2.0) or better; all others, BIOL 172, 273 and CHEM 120B with a "C" or better, or BIOL 310 with a "B" (3.0) or better. Systems approach to the structure and function of the human body. For biology majors and related health sciences. (2 hours lecture, 6 hours laboratory)

### **362 Mammalian Physiology (4)**

Prerequisites: biology majors, BIOL 274 and CHEM 120B with a "C" (2.0) or better; all others, BIOL 172, 273 and CHEM 120B with a "C" or better. Fundamental mechanisms of mammalian and human physiology. Integration of cellular and organ system functions with emphasis on regulatory processes. For biology majors and related health sciences. (3 hours lecture, 3 hours laboratory)

### **400 Seminar in Biology Education (2)**

Prerequisites: BIOL 302, 303, 309, 314, 325 with a "C" (2.0) or better, or acceptance in MATS program. For students interested in biology education/science education. Students discuss major topics in biology education and conduct research. (2 hours lecture/discussion)

### **401 Biogeography (3)**

Prerequisite: BIOL 314 or 325 with a "C" (2.0) or better, or graduate standing. Evolutionary patterns and mechanisms of the distribution of plants and animals in the major habitats of the world. Current concepts and theories.

### **402 Computer Lab in Molecular Systematics (3)**

Prerequisite: BIOL 303, 309, 314 or 325 with a "C" (2.0) or better, or graduate standing. Gain practical and theoretical experience with software-based methods in molecular systematics, with emphasis on Internet resources for molecular biologists, acquisition of gene protein sequences, multiple sequence alignment, PCR primer design, phylogenetic analysis, and controversies in the field. (2 hours lecture, 3 hours laboratory)

### **404 Evolution (3)**

Prerequisite: BIOL 309 or 325 with a "C" (2.0) or better, or graduate standing. History of evolutionary thought; origin of universe, earth and life; geological and paleontological history of the earth; evidence derived from comparative anatomy, embryology, genetics, zoogeography; mechanisms of evolution.

### **405 Developmental Biology (3)**

Prerequisite: BIOL 303 or 309 with a "C" (2.0) or better, or graduate standing. Molecular and cellular processes in embryonic development encompassing mechanisms of fertilization, cell and tissue interactions, morphogenesis, organogenesis, and the regulation of gene expression.

### **407 Genes and Genomes (3)**

Prerequisite: completion of BIOL 303 or 309 with a "C" (2.0) or better, or graduate standing. Evolutionary pattern and process at a molecular biology level, emphasizing applications in biology, such as investigating genetic change within populations, estimating phylogenies, charting the evolution of gene families and comparing the content and organization of genomes.

### **409 Teaching Evolution: Online Course for Teachers (3)**

Prerequisites: completion of biology lower-division core, G.E. Category B.2. or consent of instructor. Concepts of evolution, methods of teaching evolution, information competence and ethics. Technology employed for communication, collaboration, investigation and organization. If both BIOL 404 and 409 are taken, only BIOL 404 counts for biological science major.

### **411 Medical Genetics and Systems Biology (3)**

Prerequisite: BIOL 302, 309, CHEM 421 or 423A with a "C" (2.0) or better, or graduate standing. Advances in genetics, genomics, proteomics, and systems biology. Implications for the pharmaceutical industry, the clinic, and for genetic counseling. Uses of biological arrays in diagnosing and treating diseases.

### **412 Principles of Gene Manipulation (3)**

Prerequisites: BIOL 309 and CHEM 301B with a "C" (2.0) or better, or graduate standing. Current approaches to and applications of recombinant DNA technology. Principles behind construction of recombinant molecules including vectors and enzymes, introduction into organisms, selection, expression of cloned genes, and impact of research on society.

#### **413 Advances in Molecular Genetics (3)**

Prerequisites: BIOL 309 and CHEM 301B with a “C” (2.0) or better, or graduate standing. Function of genetic material and informational macromolecules. Extensive analysis of recent scientific articles in molecular genetics illustrating mutagenesis, protein synthesis, protein structure and function, biogenesis of RNA molecules, regulation of gene expression and their relationship to important biological processes.

#### **414 Microbial Genetics (3)**

Prerequisite: BIOL 302, 309, CHEM 421 or 423A with a “C” (2.0) or better, or graduate standing. Perspective of genetics of microbial systems including background information, experimental methods, data interpretation, genetic analysis and applications to biotechnology.

#### **417 Advances in Cell Biology (3)**

Prerequisite: BIOL 303 with a “C” (2.0) or better, or graduate standing. Current topics in the cell biology of cell motility, cell multiplication and regulation, membranes and permeability, cell signaling, cell-to-cell contact and extracellular matrix, and cell differentiation using current journal articles.

#### **418L Advances in Cell Biology Lab (2)**

Prerequisite: BIOL 303 with a “C” (2.0) or better, or graduate standing. Use of current techniques like fluorescence microscopy, immunolabeling, ion-sensitive dye ratiometry, image processing, and 2-D and 3-D reconstruction to study problems in cell biology, cellular developmental biology, and cellular neurobiology. (6 hours laboratory)

#### **419 Marine Ecology (3)**

Prerequisite: BIOL 314 or 325 with a “C” (2.0) or better, or graduate standing. Ecology of planktonic, nektonic and benthic organisms; their communities and environments.

#### **419L Marine Ecology Laboratory (1)**

Corequisite: BIOL 419 or graduate standing. Field and laboratory studies of planktonic, nektonic and benthic communities. (3 hours laboratory or field work; weekend field trips may be required)

#### **422 Coastal Ecology (4)**

Prerequisite: BIOL 314 or 325 with a “C” (2.0) or better, or graduate standing. Ecology of coastal populations and communities with emphasis on rocky intertidal or other marine or ocean-influenced habitats. Field and laboratory experiments and studies of ecological processes affecting species distributions and abundances. (2 hours lecture, 6 hours laboratory/field work; weekend field trips may be required)

#### **424 Immunology (4)**

Prerequisites: BIOL 302, and 303 or 309 with a “C” (2.0) or better, or graduate standing. Molecular, cellular and organismic nature of the immune process. Inflammation, phagocytosis, antigens, immunoglobulins and cell-mediated immune phenomena. Modern immunology techniques. (2 hours lecture, 6 hours laboratory)

#### **426 Virology (3)**

Prerequisite: BIOL 303, 309, or graduate standing. Viral structure and replication and host-virus interactions in the viral replication process, with emphasis on animal and bacterial virus systems.

#### **427 Stem Cell Biology (3)**

Prerequisite: BIOL 303 or 309 with a “C” (2.0) or better, or graduate standing; BIOL 405 recommended. Historical context, principles, methodology, clinical impact on society and the individual, recent relevant scientific facts and progress, controversies and perspective of stem cell biology, focusing on applications to regenerative medicine and tissue engineering.

#### **428 Biology of Cancer (3)**

Prerequisite: BIOL 303, 309, 314 or 325 with a “C” (2.0) or better, or graduate standing; BIOL 424 recommended. Cancer problem as a dilemma of biology. Clinical and epidemiological aspects. Current research.

#### **429 Techniques in Stem Cell Biology (3)**

Prerequisites: BIOL 302, and 303 or 309 with a “C” (2.0) or better, or graduate standing. Introduction to cell-culture and stem cell laboratory research techniques; focus on advanced-level biology experiments, fundamental characteristics of stem cells and differentiation of mouse or government-approved human stem cell-lines into several phenotypes. (1 hour discussion, 6 hours laboratory)

#### **430 Advances in Microbiology (3)**

Prerequisite: BIOL 302 with a “C” (2.0) or better, or graduate standing. Current topics in microbiology virulence mechanisms, antibiotics, host-bacterium interaction, mobile DNA elements, secretion systems, select agents, differentiation, and development.

#### **436 Advanced Applied Statistics (4)**

Prerequisites: MATH 337, 338 with a “C” (2.0) or better, or graduate standing. Linear models, including mixed models, applied to experimental and field data from current research projects. Poisson and logistic regression. Model fitting and checking; use of permutation tests as needed. Presentation of results suitable for publication. (3 hours lecture, 3 hours laboratory) (Same as MATH 436)

#### **438 Public Health Microbiology (4)**

Prerequisite: BIOL 302 with a “C” (2.0) or better, or graduate standing. Control and epidemiology of infectious diseases of public health importance, water and sewage microbiology. Control of current problems. (2 hours lecture, 6 hours laboratory)

**441 Plant Taxonomy (4)**

Prerequisites: completion of biology lower-division core or graduate standing. Classification and evolution of vascular plants; emphasis on the flowering plants. (2 hours lecture, 6 hours laboratory or fieldwork; weekend field trips may be required)

**442 Pollination Biology (3)**

Prerequisites: completion of biology lower-division core or graduate standing. Pollination in the plant kingdom. Floral cues, pollination syndromes, pollinator behavior, chemical and physical characteristics of pollination, energetics, gene flow, phenology, and ecological aspects of pollination. (2 hours lecture, 3 hours laboratory or fieldwork)

**443 Plant Ecology (4)**

Prerequisite: BIOL 314 with a “C” (2.0) or better, or graduate standing. Community and population ecology of terrestrial plants. Environmental factors and plant distribution with emphasis on California vegetation. (2 hours lecture, 6 hours laboratory or fieldwork; weekend field trips may be required)

**444 Plant Physiological Ecology (4)**

Prerequisites: completion of biology lower-division core or graduate standing. BIOL 445 recommended. Fundamental mechanisms of plant physiological responses to the environment with primary emphasis on whole plants and ecosystems. (2 hours lecture, 6 hours laboratory or fieldwork; weekend field trips may be required)

**445 Plant Cell Physiology (3)**

Prerequisite: BIOL 302, 309, 314, CHEM 421 or 423A with a “C” (2.0) or better, or graduate standing. Cellular and molecular mechanisms of behavior, growth, transport processes, and environmental responses in vascular plants. Plant cell development, nutrition, respiration, photosynthesis, hormones, photoperiodism, and stress biology.

**446 Marine Phycology (4)**

Prerequisites: completion of biology lower-division core or graduate standing. Biological aspects of marine algae; comparative development, morphology, taxonomy, physiology, and ecology. (2 hours lecture, 6 hours laboratory or fieldwork; weekend field trips may be required)

**447 Ethnobotany (3)**

Prerequisite: BIOL 314 or 325 with a “C” (2.0) or better. How people interact with plants and the environment, including such things as western medicinal plant use, traditional medicine and dentistry, exotic foods and conservation. (2 hours lecture, 3 hours laboratory; weekend field trips may be required)

**448 Plant Molecular Biology (3)**

Prerequisite: BIOL 302, 303, 309, CHEM 421 or 423A with a “C” (2.0) or better, or graduate standing. Genetic mechanisms in vascular plants controlling metabolism, growth, development, and responses to biotic/abiotic environmental stresses. Molecular regulation of gene expression and transduction of internal and external signals.

**449 Desert Ecology (4)**

Prerequisite: BIOL 314 or 325 with a “C” (2.0) or better, or graduate standing. Adaptations, distributions and interactions of desert plants, animals and microbes, including the influences of environmental factors. (2 hours lecture, 6 hours laboratory or fieldwork; weekend field trips may be required)

**450 Conservation Biology (3)**

Prerequisite: BIOL 314 or 325 with a “C” (2.0) or better, or graduate standing. Current topics involving theory, concepts and techniques in the conservation of biological diversity.

**451 Advanced Human Evolution (3)**

(Same as ANTH 451)

**453 Life Science Concepts (3)**

Prerequisites: BIOL 101 or 102 and junior or senior standing. Biological principles using science processes appropriate for elementary teachers. No credit for biological science major. (2 hours lecture, 2 hours activity)

**456 Hormones and Behavior (3)**

(Same as ANTH 456)

**461 Marine Invertebrate Biology (4)**

Prerequisites: completion of biology lower-division core, or graduate standing. Evolution, classification, phylogeny, morphological and physiological adaptations of marine invertebrate animals. Dissection, identification and observation of extant animals. (2 hours lecture, 6 hours laboratory or fieldwork; weekend field trips may be required)

**462 General Parasitology (4)**

Prerequisite: BIOL 302 with a “C” (2.0) or better, or graduate standing. Survey of various animal parasites with an emphasis on the morphology, physiology, and genetics of human protozoans and helminthes. Other topics will include vectors and common parasites of domestic animals. (3 hours lecture, 3 hours laboratory)

**465 Integrative Biology of Spider Silk (3)**

Prerequisite: BIOL 303, 309, 314 or 325 with a “C” (2.0) or better, or graduate standing. Inter-relationships and applications of diverse biological principles using spider silk as an organizing theme. Synthesis and use of silk from multiple perspectives, including but not limited to, molecular genetics, behavior and evolution.

**466 Behavioral Ecology (3)**

Prerequisites: completion of biology lower-division core, or graduate standing. Current problems in the evolution of animal behavior; the origin and maintenance of social systems and behavioral interactions of animals.

**467 Entomology (4)**

Prerequisites: completion of biology lower-division core, or graduate standing. Anatomy, physiology, evolution and biology of insects and other terrestrial arthropods. Dissection, collection, identification and observation of living arthropods. (2 hours lecture, 6 hours laboratory or fieldwork; weekend field trips may be required)

**468 Comparative Animal Physiology (4)**

Prerequisites: completion of biology lower-division core and CHEM 120B, or graduate standing. Comparative study of physiological and biochemical processes among representative animals. (3 hours lecture, 3 hours laboratory, weekend field trips may be required)

**470 Cellular Neurobiology (3)**

Prerequisites: BIOL 303 or 309, and 362 with a "C" (2.0) or better, or graduate standing. Processes of cell communication, particularly in nervous systems. Molecular biology of neurons, model sensory and motor systems, and cellular basis for behavior.

**472A Advances in Biotechnology Laboratory (3)**

Prerequisites: BIOL 302 and 309, CHEM 421 or 423A with a grade of "C" (2.0) or better, or graduate standing. Recommended corequisite: BIOL 412. First semester explores biotechnology techniques for DNA cloning and analysis: restriction enzyme action, DNA sequencing, sequence analysis by computer, plasmid cloning, genomic library production and screening, DNA probe hybridization. (1 hour discussion, 6 hours laboratory) (Same as CHEM 472A)

**472B Advances in Biotechnology Laboratory (3)**

(Same as CHEM 472B)

**473 Bioinformatics (3)**

Prerequisites: CHEM 301B, 302 and BIOL 325 or CHEM 421 with a "C" (2.0) or better, or graduate standing. Provides a research-based, problem-solving experience using the tools and algorithms of molecular and computational biology to analyze genetic and protein sequences retrieved from appropriate databases. (2 hours lecture, 3 hours computer laboratory) (Same as CHEM 473)

**474 Natural History of the Vertebrates (4)**

Prerequisites: completion of biology lower-division core, or graduate standing. Natural history of the vertebrates. Observation, identification, behavior, ecology and distribution of the vertebrates. (2 hours lecture, 6 hours laboratory/fieldwork; weekend field trips may be required)

**475 Ichthyology (4)**

Prerequisites: completion of biology lower-division core, or graduate standing. Systematics, evolution, morphology, physiology, ecology and behavior of fishes. (2 hours lecture, 6 hours laboratory/fieldwork; weekend field trips may be required)

**476 Herpetology (4)**

Prerequisites: completion of biology lower-division core, or graduate standing. Biology, structure, physiology, ecology, distribution, identification, collection, evolution and behavior of amphibians and reptiles. (2 hours lecture, 6 hours laboratory or fieldwork; weekend field trips may be required)

**477 Advances in Biotechnology (3)**

(Same as CHEM 477)

**478 Mammalogy (4)**

Prerequisites: completion of biology lower-division core, or graduate standing. Systematics, evolution, morphology, physiology, ecology and behavior of mammals. (2 hours lecture, 6 hours laboratory/fieldwork; weekend field trips may be required)

**479 Ornithology (4)**

Prerequisites: completion of biology lower-division core, or graduate standing. Anatomy, physiology, evolution, behavior, and ecology of birds. Laboratory and fieldwork in identification, anatomy, observational techniques and community composition. (2 hours lecture, 6 hours laboratory/fieldwork; weekend field trips may be required)

**480 Advanced Topics in Undergraduate Biology (1-3)**

Prerequisites: junior or senior students majoring in biological science and consent of instructor. Current topics, updating of concepts, recent advances and unification of the principles of biology. May be repeated for credit.

**480D Colloquium: Diverse Topics in Biology (1)**

Prerequisite: Must have passed at least one, or be concurrently enrolled in, any upper-division Biology course (300 or 400 level). Diverse research topics and perspectives in the biological sciences. Presented by biologists from CSUF and invited speakers from other universities, industries, governmental agencies or private organizations. May be repeated for credit.

**480E SCERP Proseminar (1)**

Prerequisite: selection as a Southern California Ecosystems Research Program (SCERP) Scholar. Increases the experience and skills of SCERP Scholars in working on problems in environmental biology. Discussion of publications, development and presentation of SCERP research. Offered Credit/No Credit only. May be repeated for credit.



**480M MARC Proseminar (1)**

Prerequisite: selection as MARC Fellow. Intended to increase the contact of MARC Fellows with minority scientists of national repute who will present seminars. Fellows will read and discuss relevant primary literature, attend the seminars, and meet with speakers before and after the seminars. May be repeated for credit. (Same as CHEM/MATH/PSYC 480M)

**480S Howard Hughes Medical Institute Scholars Proseminar (1)**

(Same as CHEM 480S)

**481 Advances in Evolution and Ecology (3)**

Prerequisite: BIOL 314 or 325 with a "C" (2.0) or better, or graduate standing. Current topics in evolutionary biology and ecology. Examination and analysis of current literature relating to evolutionary biology, population, community, and ecosystem ecology, behavioral ecology and evolutionary ecology.

**482 Capstone Studies in Biology (2)**

Prerequisite: consent of department; for Biological Science majors who have completed 90 units. Individualized practical experience related to the study of biology or pursuit of a biology career that reflects paradigms of the discipline. Application and integration of biological concepts and skills through library research, applied projects or community service activities. Not available for graduate degree credit.

**495 Biological Internship (3)**

Prerequisites: successful completion of 90 units, including all core requirements, and consent of instructor. Biological, ecological, and health-related fields. Ninety (90) hours of practical experience in student's chosen field of interest with public or private agencies or businesses. May not be repeated for credit. (1 hour discussion, 6 hours laboratory work experience)

**496 Biology Tutorials (1-3)**

Prerequisites: completion of biology lower-division core and consent of instructor. Supervised experience in biological science teaching through tutoring or assisting in a laboratory or field class. No credit toward biological science major.

**498 Senior Thesis (1-2)**

Prerequisites: 6 units of BIOL 499L (two units may be taken concurrently). Thesis committee must approve research plan at least two semesters prior to enrollment in this course. Requires preparation, presentation and defense of a formal thesis. May be repeated for a total of 2 units.

**499L Independent Laboratory Study (1-3)**

Prerequisite: junior or senior standing with consent of instructor with whom the student wishes to pursue independent laboratory study in biology. May be repeated for credit.

**500A Professional Aspects of Biology (1)**

Prerequisites: graduate standing. Corequisite: BIOL 500B. Discussions concerning research protocol, scientific methodology and communication techniques. Ethics and social responsibilities of professional biologists. (1 hour discussion)

**500B Professional Aspects of Biology (1)**

Prerequisites: graduate standing. Corequisite: BIOL 500A. Individualized project work and experiences in scientific writing. Required of all students upon admission to the graduate program. (3 hours project work)

**500C Professional Aspects of Biology: Teaching Effectiveness (2)**

Pre- or corequisites: graduate standing; must have received a Graduate Teaching Associate appointment and attend two mandatory preparation meetings on the Thursday and Friday prior to beginning of classes. Assists graduate students in becoming effective classroom teachers and understanding the scholarship of teaching in higher education. Graduate Teaching Associates will learn pedagogy and a variety of teaching alternatives while concurrently teaching in a laboratory/discussion setting.

**505T Seminar in Cellular and Molecular Biology and Physiology (3)**

Prerequisite: graduate standing. Selected advanced topics. May be repeated for credit.

**517T Seminar in Ecological and Organismic Biology (3)**

Prerequisite: graduate standing. Selected advanced topics. May be repeated for credit.

**520T Seminar in Microbiology (3)**

Prerequisite: graduate standing. Selected advanced topics. May be repeated for credit.

**537 Clinical Trials Project Management: Setting up Clinical Trials (3)**

Prerequisite: BIOL 576 or equivalent. Implementation of Good Clinical Practices (GCP), documentation, Institutional Review Board (IRB) requirements, qualification of study sites, insurance requirements, statistical considerations in study design, ethical issues and global considerations. Team projects based on case studies/real world examples.

**538 Clinical Trials Project Management: Managing Clinical Trials (3)**

Prerequisites: BIOL 576 or equivalent; BIOL 537. Management, monitoring and closure of human clinical trials; preparing and managing regulatory agency audits, budget and project schedules; balancing business goals with ethical issues; managing regulatory and statistical issues; conflict resolution. Team projects based on case studies/real world examples.

**539 Clinical Trials Project Management: Pre-Market Submission Process for Clinical Trials (3)**

Prerequisites: BIOL 576, or equivalent; BIOL 538. Clinical trial reports for pre-market submission; developing timelines; project management principles; product labeling; best practices for negotiating with regulatory agencies; ethical considerations; statistical issues in submissions; post-market clinical study scenarios. Team projects based on case studies/real world examples.

**570 Survey of Molecular Biology and Pharmacology/Toxicology (3)**

Prerequisites: enrollment in Master of Biotechnology (MBt) degree program or consent of instructor; MGMT 540. Corequisites: BIOL/MATH 571 and CPSC/BIOL 572. Molecular biology, pharmacology and toxicology concepts as applied to the development of pharmaceutical products and biomedical devices. Students work collaboratively toward a final project to propose a new pharmaceutical product and/or biomedical device. (Same as CHEM 570)

**571 Survey of Mathematical Modeling and Bioinformatics (3)**

Prerequisites: enrollment in Master of Biotechnology (MBt) degree program or consent of instructor; MGMT 540. Corequisites: BIOL/CHEM 570 and CPSC/BIOL 572. Introduction to the strategies, approaches and computer applications utilized for drug discovery and design, database design and data mining. Case studies will illustrate specific applications of the methods of measuring, visualizing, representing, inferring, clustering, classifying, and modeling biotechnological data. (Same as MATH 571)

**572 Survey of Pharmaceutical and Medical Devices Technology (3)**

(Same as CPSC 572)

**580 Advanced Topics in Graduate Biology (1-3)**

Prerequisites: graduate standing in biology and consent of instructor. Current research topics, experimental design and problem solving in biological systems. May be repeated for credit.

**580D Biology Colloquium (1)**

Prerequisite: graduate standing. Series of scholarly presentations covering diverse research topics and perspectives in the biological sciences. Scientific presentations by biologists from CSUF and other universities, industries, governmental agencies or private organizations. May be repeated for credit.

**597 Project (1-3)**

Prerequisite: graduate standing in an appropriate master's degree program. Planning, preparing and completing an applied master's degree project. Credit only for completed written project report and oral presentation, both of which must be formally approved by the master's program committee. (Not acceptable for research-based thesis master's degree programs)

**598 Thesis (1-3)**

Open to graduate students with consent of instructor with whom the student is conducting graduate thesis research. May be repeated for a maximum of 6 units of credit.

**599 Independent Graduate Research (1-3)**

Open to graduate students with consent of instructor with whom the student wishes to pursue independent study in biology. May be repeated for credit.

# Business Administration

Mihaylo College of Business and Economics

## INTRODUCTION

This major prepares students for beginning professional-level positions in business and administration in the private and public sectors. Career opportunities range from accounting, cost analysis, marketing research and statistical forecasting to real estate, personnel, sales and information systems. This curriculum also provides a foundation for advanced study.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in business administration:

### Problem solving and critical thinking skills

- Effectively use quantitative/analytical, problem-solving and critical thinking skills in a business situation

### Interpersonal relations

- Motivate self and others to achieve group and organizational goals
- Diagnose and resolve conflict in group and organizational settings

### Ethical awareness

- Demonstrate an awareness of ethical issues and responsibilities

### Functional knowledge

- Understand and appreciate the principles and roles of each of the major business disciplines and the interrelationships of these disciplines within a strategic framework

### Multicultural awareness

- Appreciate diversity and understand how workforce and market diversity challenge, benefit and influence the activities of the organization

### Information technology skills

- Use information technology to support business analysis and operations

### Global awareness

- Understand the impact of the global economy and business environment

### Economic and legal environment knowledge

- Demonstrate knowledge about the economic and legal environments in which business operates

### Communications skills

- Demonstrate knowledge and skills to communicate effectively about business issues using written and oral communications

## ASSOCIATE DEAN, ACADEMIC PROGRAMS AND FACULTY DEVELOPMENT

Morteza Rahmatian

## DEPARTMENT OFFICE/COLLEGE WEBSITE

Steven G. Mihaylo 3100  
657-278-4652  
business.fullerton.edu

## PROGRAMS OFFERED

Bachelor of Arts in Business  
Administration

Concentrations in: Accounting,  
Business Economics, Decision  
Sciences, Entertainment and  
Tourism Management, Entrepre-  
neurship, Finance, Information  
Systems, Management, Market-  
ing, Marketing and Information  
Systems, and Risk Management  
and Insurance

Joint Emphasis in Accounting and  
Finance

Joint Emphasis in Accounting and  
Information Systems

Minor in Business Administration

Minor in Entrepreneurship

Minor in Information Systems

Master of Business Administration  
Concentrations in: Accounting,  
Business Economics, Business  
Intelligence, Entrepreneurship,  
Finance, Information Systems,  
International Business,  
Management, Management  
Science, Marketing, and Risk  
Management and Insurance

## FACULTY

April Franklin, Linda Fraser, Marcia  
Lichty, Dana Lowey, Teeanna Rizkallah

## **BACHELOR OF ARTS IN BUSINESS ADMINISTRATION (120 UNITS)**

### **Admission to the Business Administration Major**

Admission to the Business Administration major involves two steps. Students who apply to the major are initially classified as Pre-business. After completing the lower-division core requirements with a “C” (2.0) or better, students may apply to the Business Administration major.

All of the following requirements must be met for the degree. Students must earn a “C” (2.0) or better in each core course listed below. For assistance in interpreting these requirements, contact the Business Advising Center.

### **Required Lower-Division Core Courses**

- ACCT 201A Financial Accounting (3)
- ACCT 201B Managerial Accounting (3)
- BUAD 201 Business Writing (3)
- ECON 201 Principles of Microeconomics (3)
- ECON 202 Principles of Macroeconomics (3)
- MGMT 246 Business and Its Legal Environment (3)
- ISDS 265 Introduction to Information Systems and Applications (3)
- MATH 135 Business Calculus (3)
  - OR MATH 130 Short Course in Calculus (4)
  - OR MATH 150A Analytic Geometry and Calculus (4)

### **Required Upper-Division Core Courses**

- BUAD 301 Advanced Business Communication (3)
- ECON 315 Intermediate Business Microeconomics (3)<sup>†</sup>
  - OR ECON 320 Intermediate Macroeconomic Analysis (3)<sup>‡</sup>
- FIN 320 Business Finance (3)
- MGMT 339 Principles of Management and Operations (3)
- MGMT 340 Organizational Behavior (3)
- ISDS 361A Quantitative Business Analysis: Probability and Statistics (3)
- ISDS 361B Quantitative Business Analysis: Statistics and Management Science (3)
- MKTG 351 Principles of Marketing (3)

<sup>†</sup> Required of business majors with a concentration in economics

<sup>‡</sup> May be taken by business majors, in lieu of ECON 315

### **Required Capstone Core Course**

- MGMT 449 Seminar in Strategic Management (3)

### **Required Concentration Courses (18 units minimum)**

See listing of concentration requirements below.

### **Global Business Requirement**

Complete one three-unit course in the area of Global Business. The course must be selected from the list of Approved Global

Business Courses and may not be a course in your concentration. The approved list is available in the Business Advising Center.

### **Other Requirements, Grades and Residence**

Grade-Point Average (GPA). Maintain at least a 2.0 grade-point average in all college level units attempted, in all units attempted at CSUF, in all units attempted in the major and in all units attempted in the concentration. Earn at least a “C” (2.0) in each core course and in each of the following concentrations: accounting, information systems and management science. A “C-” (1.7) or lower is not a passing grade.

Grade option. Take all required core courses and all required concentration courses in the Mihaylo College of Business and Economics for a letter grade (A,B,C,D,F). The Credit/No Credit grading option may not be used for these courses, and a grade of CR (credit) will not satisfy the requirements for the degree. Exception: Courses in calculus may be taken under the Credit/No Credit grading option; however, if it is also taken to meet general education requirements then it must be taken for a letter grade.

Residence. At least 30 units in the major and at least one-half of the units in the concentration (except accounting, which requires 15) must be taken in residence in the Mihaylo College of Business and Economics; at least 15 of the last 24 units before graduation must be taken in residence in the Mihaylo College of Business and Economics.

### **ACCOUNTING CONCENTRATION (21 UNITS)**

- ACCT 301A,B Intermediate Accounting (3,3)
- ACCT 302 Cost Accounting (3)
- ACCT 307 Accounting Information Systems (3)
- ACCT 308 Concepts of Federal Income Tax Accounting (3)
- Two courses from the following (6 units):*
  - ACCT 401, 402, 403, 405, 408, 420, 422, 445, 460, 470

### **BUSINESS ECONOMICS CONCENTRATION (18 UNITS)**

All students with an economics concentration are required to take ECON 310 or 315 as part of their business administration core requirements. In addition, the concentration requires ECON 320, 340 and 12 units of upper-division economics electives, 6 units of which must be at the 400 level.

Students interested in economics also may wish to consider the Bachelor of Arts in Economics.

### **DECISION SCIENCES CONCENTRATION (18 UNITS)**

#### **Required Courses (9 units)**

- ISDS 309 Introduction to Operating Systems and Programs (3)
- ISDS 402 Database Management Systems (3)
- ISDS 440 Integrative Decision Tools for Business Operations (3)
  - OR ISDS 442 Business Modeling Using Spreadsheets (3)



**One Course from Statistical Concepts (3 units)**

ISDS 422, 461, 462, 467, 472, 473, 474, 475

**Electives (6 units)**

ISDS 406, 411, 415, 443, 465, 490

ECON 440

FIN 360, 444

MGMT 422, 430, 444

MATH 390

An additional course in Statistical Concepts (3)

**ENTERTAINMENT AND TOURISM MANAGEMENT CONCENTRATION (18 UNITS)****Required courses (15 units)**

BUAD 360 Entertainment Money Management (3)

MGMT 365 Entertainment Business (3)

MGMT 446 Entertainment Law (3)

MGMT 470 Entertainment Operations (3)

MGMT 471 Tourism Management (3)

**Interdisciplinary Electives (3 units)**

Three units of coursework electives chosen in consultation with a departmental adviser

**ENTREPRENEURSHIP CONCENTRATION (18 UNITS)**

ACCT 463 Financial Controls for Entrepreneurs (3)

MGMT 461 Entrepreneurial Management

MGMT 464 Entrepreneurial Leadership (3)

MGMT 465A New Venture Creation and Funding (3)

MGMT 465B New Venture Launch (3)

MKTG 462 Marketing for Entrepreneurs (3)

**FINANCE CONCENTRATION (18 UNITS)****Required Courses (6 units)**

FIN 321 Financial Management II (3)

FIN 340 Introduction to Investments (3)

OR FIN 342 Capital and Money Markets (3)

**Electives (12 units)**

Students are strongly advised to focus on one advisory track in completing the 12 units in finance electives and to seek advisement when selecting courses.

**INFORMATION SYSTEMS CONCENTRATION (21 UNITS)**

ISDS 309 Introduction to Operating Systems and programming (3)

ISDS 402 Database Management Systems (3)

ISDS 406 Systems Analysis and Design (3)

ISDS 409 Business Telecommunications for Information Systems Design (3)

ISDS 454 Seminar in Information Systems Development (3)

*Two courses from the following (6 units):*

ISDS 371, 372, 411, 414, 415, 418, 431, 433, 435, 437, 442, 443, 474, 485

**MANAGEMENT CONCENTRATION (18 UNITS)**

Select one of the following emphases:

**General Management (18 units)**

MGMT 343 Human Resource Management (3)

OR MGMT 443 Team Leadership Skills (3)

MGMT 425 Productivity and Quality Management (3)

MGMT 440 Emerging Issues in Management (3)

Nine units of elective coursework chosen in consultation with a department adviser.

**Human Resources Management (18 units)**

MGMT 343 Human Resource Management (3)

MGMT 432 Staffing (3)

MGMT 434 Compensation (3)

Nine units of elective coursework in consultation with a department adviser.

**Legal Studies (18 units)**

MGMT 348 Commercial Law (3)

MGMT 445 employment Law (3)

*12 units from the following:*

MGMT 346, 349, 440, 441, 446, 447

**Operations Management (18 units)**

MGMT 422 Production and Inventory Control (3)

MGMT 423 Purchasing and Supply Management (3)

MGMT 425 Productivity and Quality Management (3)

MGMT 430 Integrated Supply Chain Management (3)

Six units of elective coursework in consultation with a department adviser

**MARKETING CONCENTRATION (18 UNITS)****Required Courses (9 units)**

MKTG 353 Marketing Information Technology (3)

MKTG 370 Buyer Behavior (3)

MKTG 379 Marketing Research Methods (3)

**Electives (6 units)**

MKTG 401, 405, 415, 425, 430, 443, 445, 455, 462, 465, 475

**Marketing Concentration Capstone Course (3 units)**

MKTG 489 Developing Marketing Strategies (3)

**MARKETING AND INFORMATION SYSTEMS  
CONCENTRATION (24 UNITS)**

**Required Courses (18 units)**

ISDS 402 Database Management Systems (3)  
ISDS 406 Systems Analysis and Design (3)  
ISDS 415 Principles of Business Intelligence (3)  
MKTG 353 Marketing Information Technology (3)  
MKTG 379 Marketing Research Methods (3)  
MKTG 489 Developing Marketing Strategies (3)

**Electives (6 units, 3 from each)**

ISDS 443\*, 473, 474  
MKTG 425, 443\*, 455, 465

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\* Can be counted toward an ISDS elective or MKTG elective,  
but not both

**RISK MANAGEMENT AND INSURANCE  
CONCENTRATION (18 UNITS)**

**Required Course (3 units)**

FIN 360 Principles of Insurance (3)

**Electives (15 units)**

FIN 321, 335, 340, 410, 411, 461, 462, 463, 464  
MATH 390

**JOINT EMPHASIS IN ACCOUNTING AND FINANCE  
(30 UNITS)**

ACCT 301A Intermediate Accounting (3)  
ACCT 301B Intermediate Accounting (3)  
ACCT 302 Cost Accounting (3)  
ACCT 422 Internal Audit Control (3)  
ACCT 460 Seminar in Financial Statement Analysis (3)  
FIN 321 Financial Management II (3)  
FIN 340 Introduction to Investments (3)  
FIN 370 International Business Finance (3)  
FIN 432 Financial Forecasting and Budgeting (3)  
FIN 433 Problems in Business Finance (3)

**JOINT EMPHASIS IN ACCOUNTING AND  
INFORMATION SYSTEMS (30 UNITS)**

ACCT 301A Intermediate Accounting (3)  
ACCT 301B Intermediate Accounting (3)  
ACCT 302 Cost Accounting (3)  
ACCT 307 Accounting Information Systems (3)  
ACCT 422 Internal Audit Control (3)  
ISDS 309 Introduction to Programming (3)

ISDS 402 Database Management Systems (3)  
ISDS 406 Systems Analysis and Design (3)  
ISDS 418 Privacy and Security (3)  
ISDS 435 Integrated Enterprise Information Systems (3)

**MINOR IN BUSINESS ADMINISTRATION (27 UNITS)**

Business administration minors shall not enroll in any required upper-division course (in the minor) until they have completed all of the required lower-division courses (in the minor) with a "C" (2.0) or better in each course. Students must earn a "C" (2.0) or better in each course required for the minor.

**Required Lower-Division Courses**

ACCT 201A,B Financial and Managerial Accounting (3,3)  
ECON 201 Principles of Microeconomics (3)  
ECON 202 Principles of Macroeconomics (3)  
ISDS 265 Introduction to Information Systems and Applications (3)  
MGMT 246 Business and Its Legal Environment (3)

**Required Upper-Division Courses**

*Note:* Enrollment in these courses requires the completion of all lower-division minor requirements with a "C" (2.0) or better in each course.

FIN 320 Business Finance (3)  
MGMT 339 Principles of Management and Operations (3)  
OR MGMT 340 Organizational Behavior (3)  
MKTG 351 Principles of Marketing (3)

**Economics Majors Minor in Business Administration**

Economics Majors can complete a minor in business administration by taking ACCT 201B, MGMT 246, FIN 320, MGMT 339 or 340 and MKTG 351. All other required courses for the minor are required for the major in Economics.

**MINOR IN ENTREPRENEURSHIP\* (18 UNITS)**

Students must earn a "C" (2.0) or better in each course listed below.

**Required Courses (18 units)**

ACCT 201A Financial Accounting (3)  
BUAD 210 Understanding Business (3)  
FIN 320 Business Finance (3)  
MGMT 465A New Venture Creation and Funding (3)  
MGMT 465B New Venture Launch (3)  
MKTG 351 Principles of Marketing (3)

*Note:* Students are advised to have a working knowledge of Excel and to have completed a college-level course in statistics that covers regression prior to enrolling in upper-division courses for the Entrepreneurship minor.

## MINOR IN INFORMATION SYSTEMS\* (18 UNITS)

Students must earn a “C” (2.0) or better in each course listed below.

ACCT 201A Financial Accounting (3)

ISDS 265 Introduction to Information Systems and Applications (3)

ISDS 309 Introduction to Operating Systems and Programming (3)

ISDS 402 Database Management Systems (3)

ISDS 406 Systems Analysis and Design (3)

*One of the following:*

ISDS 371, 372, 411

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\*Students with a major in business administration may not minor in entrepreneurship or information systems. Interested students may elect to complete a second concentration in entrepreneurship or information systems.

## MASTER OF BUSINESS ADMINISTRATION – MBA (33 UNITS MINIMUM)

The Mihaylo College of Business and Economics holds dual accreditation in business administration and accounting from AACSB International, the premier accrediting body for university-level business programs in the world. We are the only university in Orange County, and one of five in California, to hold this prestigious level of dual accreditation. Our accreditation guarantees that students receive a high quality education, delivered by the most qualified faculty, all from a College that has met the highest standards in business education.

Depending on personal and professional commitments, students may earn their MBA on a full- or part-time basis. Classes are offered during the late afternoon and evenings, and students may complete their program at either the main campus in Fullerton or at the CSUF Irvine Campus.

### Admission

Admission into the MBA program is competitive and decisions are based on the holistic assessment of each candidate’s academic and personal/professional background. Students must meet the CSU requirements for admission to a master’s degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants will be evaluated based on the following:

1. a satisfactory score on the Graduate Management Admission Test (GMAT). Students should score in the top 50 percent on the verbal, quantitative and analytical writing areas;
2. a minimum TOEFL score of 570 on the paper exam, or 90 on the internet based (iBT) is required<sup>1</sup>; and

3. a recommendation from the MBA Admissions Committee based upon a review of the above requirements, the student’s “Statement of Purpose” and prior work experience.

Additional coursework may be required of admitted students who holistically satisfy the criteria but are weak in one of the above areas.

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<sup>1</sup> For international students

### Proficiency Requirements

All newly admitted students must demonstrate proficiency in calculus, software applications and statistics, either at the time of admission or within their first year of study. The three technical courses listed below, or equivalent coursework, must be completed with a “C” (2.0) or better:

MATH 135 Business Calculus (3)

ISDS 265 Introduction to Information Systems and Applications (3)

ISDS 361A Quantitative Business Analysis: Probability and Statistics (3)

OR ISDS 513 Statistical Analysis (3)

### Study Plan

Students with a bachelor’s degree in business administration may be able to complete the program with a minimum of 33 units of adviser-approved coursework. However, those students with little or no recent coursework in business administration may require up to 48 total units of advisor-approved coursework. Students electing the International Business concentration must complete a minimum of 36 units, up to 48 units of adviser-approved coursework. A minimum 3.0 GPA (“B”) is required in study plan courses and overall applicable coursework. Any study plan course with a grade lower than “C” (2.0) must be repeated and passed with a “C” (2.0) or better.

### Business Core (18-30 units)

The MBA program at CSUF presumes that all students demonstrate proficiency in the topics covered by the following business core, which consist of a minimum of 18 units, up to 30 units of coursework. These courses must be at the 500 level. All specific required courses are determined by college advisers and/or department chairs within the Mihaylo College of Business and Economics. Each student in the MBA program must complete an advisor-approved study plan. The Business Core courses are:

ACCT 510 Financial Accounting (3)

ACCT 511 Seminar in Managerial Accounting (3)

ECON 515 Microeconomic Perspective for Managers (3)

FIN 517 Managerial Finance (3)

ISDS 514 Decision Models for Business and Economics (3)

MGMT 515 Management of Information in the Corporate Environment (3)  
 OR ECON 521 Macroeconomic Perspective for Managers (3)  
 MGMT 516 Operations Management (3)  
 MGMT 518 Legal and Ethical Environment of Business (3)  
 MGMT 524 Seminar in Organizational Behavior and Administration (3)  
 MKTG 519 Marketing Management (3)

Decisions about core coursework equivalency are made by college advisers and department chairs within the Mihaylo College of Business and Economics. Consideration for equivalency may only be provided if the proposed equivalent courses are no more than seven years old and the student has achieved a "C" (2.0) or better with an overall GPA of 3.0 ("B").

### **Concentration Elective Courses (12 -15 units)**

A student may elect to follow a generalist path within the MBA or select from one of the 11 concentration areas to tailor a degree towards their individual professional, personal and educational goals. The generalist path consists of 12 units from differing areas, with no more than two electives from any one disciplinary area. Specific courses in that plan must be approved by the Associate Dean or designee.

Concentrations are offered in the following areas: Accounting, Business Intelligence, Economics, Entrepreneurship, Finance, Information Systems, International Business, Management, Management Science, Marketing, and Risk Management and Insurance. Each concentration requires four courses (12 units) from within its area. A minimum of two of the four courses must be at the 500 level. The International Business concentration requires five courses (15 units). All concentration courses must be approved by the department chairs or their designee.

*Note:* The accounting concentration electives must cover the following areas: Financial Accounting and Theory, Accounting Information Systems, Auditing and Taxation.

### **Capstone Course (3 units)**

BUAD 591 Business Strategy Capstone (3)

Students must pass the individual project in BUAD 591 and complete the course with a "B" (3.0) or better. In exceptional cases, a thesis (BUAD 598) may serve as an option. See the graduate adviser for details.

## **BUSINESS ADMINISTRATION COURSES**

Courses are designated as BUAD in the class schedule.

### **201 Business Writing (3)**

Prerequisite: ENGL 101 or equivalent (with a "C" (2.0) or better). Core communication practices: routine business correspondence, positive, informative, negative, persuasive messages. Introduction to research and job application process.

### **210 Understanding Business (3)**

Nature, dimensions and forms of business and the role of entrepreneurship in business creation and growth. Development of an understanding of contemporary business issues, including an introduction to major business functions.

### **301 Advanced Business Communication (3)**

Prerequisites: ENGL 101, BUAD 201, ISDS 265 (or equivalent) with a "C" (2.0) or better. Advanced course in business communication focusing on case analysis, analytical reports, ethics and business presentations.

### **360 Entertainment Money Management (3)**

Prerequisites: ACCT 201A or BUAD 210 for non-MCBE students. How entertainment, tourism and hospitality firms make money: overview of existing and evolving income-generation models in the various industry sectors.

### **495 Internship (1-3)**

Prerequisites: junior standing, major in Business Administration, consent of the instructor, 2.5 GPA and semester in residence at the university. Planned and supervised work experience. May be repeated for a total of six units of credit. Credit/No Credit only.

### **499 Independent Study (1-3)**

Prerequisite: consent of instructor. Open to qualified students desiring to pursue directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

### **501 Managerial Communications (3)**

Investigates the entire process of case studies and formal reports. Students analyze management communication problems, apply writing strategies and deliver executive presentations. Credit/No Credit or letter grade.

### **591 Business Strategy Capstone (3)**

Prerequisites: classified MCBE status, within six units of completion of study plan and in final semester of program. Tools of strategic management and their application in a business environment. Integrates business functional areas and tools by means of a business consulting project. Fulfills the terminal requirement for the MBA degree.

### **598 Thesis (3)**

Prerequisites: classified MCBE status and consent of the associate dean. Individual research under supervision. See "Theses and Projects" in this catalog for university requirements.



# Chemistry/Biochemistry

College of Natural Sciences and Mathematics

## INTRODUCTION

The Department of Chemistry and Biochemistry plans its curriculum to provide thorough instruction in the basic principles and concepts of chemistry and biochemistry for students who will: (1) advance to graduate work in chemistry or biochemistry; (2) teach in the science programs of secondary schools; (3) seek employment in industry or government; (4) advance to medical, dental, or pharmacy training; or (5) pursue a degree or minor in support of a career in other areas such as physics, biology, geology, business or computer science.

To qualify for any of the bachelor's degrees, a student must earn a "C" (2.0) or better in all courses required for the major, including prerequisites in related sciences or mathematics.

The Department of Chemistry and Biochemistry is currently on the approved list of The American Chemical Society (ACS), and students have the opportunity to earn ACS certification of the B.S. degrees offered.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in chemistry or biochemistry:

### Concepts

- Understand the concept that all matter is composed of atoms whose inherent periodic properties determine their interactions and combinations into compounds with specific molecular structure, chemical function and physical properties
- Understand and apply fundamental thermodynamic laws and kinetics to chemical reactions in equilibrium and nonequilibrium systems
- Demonstrate literacy in concepts underlying fundamental analytical instrumentation and instrumentation techniques used in chemistry and biochemistry
- Understand the various ways that chemists represent and test chemical knowledge in models, theories, mathematical relationships and symbolic notations
- Understand the principles of safe practices in the laboratory across the subdisciplines of the chemical sciences

### Skills and processes

- Demonstrate the ability to generate data and information through designing and safely implementing experiments using contemporary methods and techniques
- Collect, analyze and interpret data and information
- Retrieve appropriate scientific literature and data
- Communicate data, concepts, skills and processes to experts and nonexperts in the field

## DEPARTMENT CHAIR

Christopher R. Meyer

## DEPARTMENT OFFICE/WEBSITE

McCarthy Hall 580

657-278-3621

[chemistry.fullerton.edu](http://chemistry.fullerton.edu)

## PROGRAMS OFFERED

Bachelor of Science in Biochemistry  
Bachelor of Science in Chemistry  
Bachelor of Arts in Chemistry  
Minor in Chemistry  
Minor in Biotechnology  
    Emphasis in Biotechnology  
    Emphasis in Environmental Chemistry  
Master of Arts in Chemistry  
Master of Science in Chemistry  
    Emphasis in Geochemistry  
Single Subject Teaching Credential  
    in Science

## FACULTY

Michael Bridges, Peter de Lijser,  
Richard Deming, Mark Filowitz,  
Barbara Gonzalez, Christina Goode,  
John Haan, A. Scott Hewitt, Paula  
Hudson, Philip Janowicz, Zhuangjie Li,  
Maria Linder, Christopher Meyer,  
Madeline Rasche, Harold Rogers,  
Nicholas Salzameda, Chandra  
Srinivasan, Fu-Ming Tao

### Attitudes

- Demonstrate the safe and ethical use of scientific knowledge, materials and procedures, and be able to explain their impact on a diverse society
- Deliberately employ methods of scientific inquiry to collect, analyze and interpret evidence to solve problems while recognizing the tentative nature of scientific knowledge
- Work effectively, independently and cooperatively
- Pursue career objectives that make use of the baccalaureate degree

### Recommended Program in General Education

Because of high unit requirements for chemistry degree programs, students majoring in chemistry are strongly urged to consult with an adviser at the Academic Advisement Center in UH-123 prior to designing their general education programs. There is a six-unit exemption in general education for B.S. Chemistry degree majors for which the undergraduate Chemistry adviser must be consulted.

### Upper-Division Baccalaureate Writing Requirement

Chemistry and biochemistry majors meet the coursework portion of the university's upper-division writing requirement by passing ENGL 301 or 360 with a "C" or better.

### TEACHING CREDENTIAL

The Bachelor's Degree in Chemistry may be effectively combined with subject matter studies necessary for the Single Subject Teaching Credential in science. Undergraduates are encouraged to contact the Center for Careers in Teaching (657-278-7130, fullerton.edu/cct) and the Science Education Programs Office (657-278-2307, nsm.fullerton.edu/scied/) for early advisement and to plan efficient course selections for general education, the major and credential program coursework. Postbaccalaureate and graduate students should contact the Science Education Programs Office (657-278-2307 or nsm.fullerton.edu/scied/). Additional information is found under Science Education Programs in the University Catalog as well as at mast.wikispaces.com.

### BACHELOR OF SCIENCE IN BIOCHEMISTRY (120 UNITS)

Students who complete the Bachelor of Science degree in Biochemistry and include CHEM 325 and 411 may qualify for certification by the American Chemical Society.

#### Basic Courses (48 units)

CHEM 120A,B General Chemistry (10)  
CHEM 190 Orientation to Chemistry and Biochemistry (1)  
CHEM 301A,B Organic Chemistry (6)  
CHEM 302 Organic Chemistry Laboratory (2)  
OR CHEM 306A Organic Chemistry Laboratory (2)  
CHEM 315 Theory of Quantitative Chemistry (3)  
CHEM 316 Quantitative Chemistry Laboratory (1)  
ENGL 301 Advanced College Writing (3)  
OR ENGL 360 Scientific and Technical Writing (3)

CHEM 361A,B Introduction to Physical Chemistry (6)  
OR CHEM 371A,B Physical Chemistry (6)

CHEM 423A,B General Biochemistry (6)

CHEM 422 Biochemistry Laboratory (2)

CHEM 495/499 Senior Research/Independent Study (3)†

Upper-division electives (5-6)

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† With consent of the department, this may be substituted with CHEM 490 or another course that includes a substantial research component with products that include a poster and paper. Consult the department chair for more information.

#### Related Courses (26 units)

PHYS 211, 212, 211L, 212L

MATH 150A,B

BIOL 172, 273

Upper-division electives are encouraged. See the department handbook or the department adviser for the approved list of courses.

### BACHELOR OF SCIENCE IN CHEMISTRY (120 UNITS)

Students who complete the Bachelor of Science degree in Chemistry and include an advanced course in instrumental analysis (such as 3 units of CHEM 411) and CHEM 425 may qualify for degree certification by the American Chemical Society.

#### Basic Courses (48 units)

CHEM 120A,B General Chemistry (10)  
CHEM 190 Orientation to Chemistry and Biochemistry (1)  
MATH 338 Statistics Applied to Natural Sciences (4)  
CHEM 301A,B Organic Chemistry (6)  
CHEM 306A,B Organic Chemistry Laboratory (4)  
CHEM 315 Theory of Quantitative Chemistry (3)  
CHEM 316 Quantitative Chemistry Laboratory (1)  
CHEM 325 Inorganic Chemistry (3)  
ENGL 301 Advanced College Writing (3)  
OR ENGL 360 Scientific and Technical Writing (3)  
CHEM 355 Physical Chemistry Laboratory (3)  
CHEM 371A,B Physical Chemistry (6)  
CHEM 410C Introduction to Computational Chemistry (1)  
CHEM 411A,B,C,D or G Instrumental Analysis (1,1,1,1,1)  
CHEM 495/499 Senior Research/Independent Study (3)†  
Upper-division elective (3)

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† With consent of the department, this may be substituted with CHEM 490 or another course that includes a substantial research component with products that include a poster and paper. Consult the department chair for more information

### Related Courses (25 units)

PHYS 225, 226, 227, 225L, 226L

MATH 150A,B, 250A, 250B

*Note:* For students planning to pursue a graduate degree, PHYS 227L is highly recommended.

### Career Breadth (9)

Career Breadth requirements are satisfied by taking nine units of upper-division coursework directly related to the student's career plans in chemistry and approved by the undergraduate adviser.

### BACHELOR OF ARTS IN CHEMISTRY (120 UNITS)

The Bachelor of Arts in Chemistry degree is offered for students who are planning careers that require a sound background in fundamental chemistry, but not at the depth of the B.S. degree.

### Basic Courses (45 units)

CHEM 120A,B General Chemistry (10)

CHEM 190 Orientation to Chemistry and Biochemistry (1)

CHEM 301A,B Organic Chemistry (6)

CHEM 306 A,B Organic Chemistry Laboratory (4)

CHEM 315 Theory of Quantitative Chemistry (3)

CHEM 316 Quantitative Chemistry Laboratory (1)

CHEM 325 Inorganic Chemistry (3)

ENGL 301 Advanced College Writing (3)

OR ENGL 360 Scientific and Technical Writing (3)

CHEM 361A, B Introduction to Physical Chemistry (6)

CHEM 410C Introduction to Computational Chemistry (1)

CHEM 411 A,B,C,D or G Instrumental Analysis (1,1,1,1,1)\*

CHEM 421 Biological Chemistry (3)

CHEM 495/499 Senior Research/Independent Study (2)†

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\* Three units from 411 courses

† With consent of the department, this may be substituted with CHEM 490 or another course that includes a substantial research component with products that include a poster and paper. Consult the department chair for more information

### Related Courses (16 units)

PHYS 211, 212, 211L, 212L

MATH 150A,B

### Chemistry/Pre MBA Program

A student may combine a B.A. in chemistry with a minor in Business Administration to qualify to enroll in and complete an MBA degree at CSUF in one additional year (33 units), provided all entrance requirements for the MBA program have been met. See your department adviser for details.

### MINOR IN CHEMISTRY (24 UNITS)

The Minor in Chemistry includes general chemistry plus 14 units of upper-division chemistry courses. These courses must be completed with an overall grade-point average of 2.0. A list of approved upper-division chemistry classes is available from the department office.

### EMPHASIS IN BIOTECHNOLOGY

#### Required Courses (12 units)

CHEM 472A,B Advances in Biotechnology Lab (6)

CHEM 477 Advances in Biotechnology (3)\*

BIOL 412 Principles of Gene Manipulation (3)

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\* May be substituted with any of the following: CHEM 473, BIOL 414, 448

### EMPHASIS IN ENVIRONMENTAL CHEMISTRY

#### Requirements (18-19 units)

*Three of the following (9 units):*

CHEM 435 Chemistry of Hazardous Materials (3)

CHEM 436 Atmospheric Chemistry (3)

CHEM 437 Environmental Water Chemistry (3)

CHEM 438 Environmental Biochemistry (3)

*Three one-unit mini-courses (3 units):*

CHEM 411A Optical Spectroscopy (1)

CHEM 411C Separations (1)

CHEM 411G Mass Spectrometry (1)

MATH 338 Statistics Applied to the Natural Sciences (4 units)

*Note:* This course can be substituted for chemical and biochemical computation courses in meeting requirements for the major.

CHEM 495 (2-3)

*Note:* Topic must be environmentally related.

The Environmental Chemistry Emphasis may be integrated with the B.S. in Chemistry by using the above courses to meet career breadth, elective and research requirements. The environmental chemistry courses also can be used to satisfy requirements for the minor in chemistry.

### REQUIREMENTS FOR CHEMISTRY MAJORS SEEKING A TEACHING CREDENTIAL

To qualify for the Subject Matter Preparation Program for the Single Subject Teaching Credential in Science with a concentration in Chemistry, students must earn a bachelor's degree and complete the following:

- BIOL 171
- GEOL 101, 101L and 420 and/or

- Pass California Subject Examinations – (CSET) exams Science Subtest I (astronomy, geology, Earth sciences, and physics), Science Subtest II (biology and chemistry), and Science Subtest III (chemistry). Consult the Secondary Science Education Credential adviser at 657-278-5637 for more information

## **MASTER OF SCIENCE IN CHEMISTRY (30 UNITS)**

### **Admission**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants must meet the following requirements:

- An undergraduate degree in chemistry or a selection of science courses deemed as adequate preparation for further study in chemistry by the Department Graduate Committee
- At least a 2.75 GPA in science courses
- For students holding undergraduate degrees from non-U.S.-accredited institutions, the GRE subject examination (Chemistry or Biochemistry), with scores reported to the department

### **Placement Examinations**

All incoming students are required to pass an analytical writing exam. Any student failing to pass will be required to take a remedial writing class. Each student is required to take and pass placement examinations or take and pass the appropriate courses with a "B" (3.0) or better. Graduate students in one of the chemistry options must demonstrate competency by passing four placement examinations in the following five areas of chemistry: analytical, inorganic, organic, physical, and/or biochemistry. Graduate students in the biochemistry option must demonstrate competency in the following areas of chemistry: analytical, organic, biochemistry, as well as either physical or biology.

A student may take each placement examination two times within the first year of enrolling in the graduate program. A student who does not pass the placement examinations within the first year must demonstrate competency by passing with a "B" (3.0) or better the appropriate courses within two years after first enrolling.

The appropriate courses are CHEM 301B for organic, 315 for analytical, 325 for inorganic, 361A,B for physical (biochemistry option), 371A,B for physical (chemistry option), 423A,B for biochemistry and BIOL 273 for biology.

### **Classified Standing**

In order to proceed from conditionally classified to classified standing, a student must meet the following requirements:

- Demonstration of competency in any three of the areas, as described above
- Approved selection of a research director
- An approved study plan
- The university graduate-level writing requirement

### **Study Plan**

Three alternatives are available for the study plan. The student can complete either a laboratory thesis (strongly preferred) a library thesis, or project.

The degree program consists of graduate committee-approved coursework completed with a minimum GPA of 3.0 in all coursework exclusive of CHEM 505A,B and 599. Each student prepares a study plan in consultation with the graduate program adviser, which must be approved by the student's research director, the department, and the Office of Graduate Studies. All chemistry courses on the study plan must be 400 level or above.

Study plans may contain no more than 2 units of CHEM 505A,B, and no more than 6 units of CHEM 599 (3 units for students electing the library thesis alternative).

### **Basic requirements**

Courses required of all students:

CHEM 505A,B Seminar (2)

CHEM 599 Independent Graduate Research (3-6)

CHEM 598 Thesis (2-4)

OR CHEM 597 Project (2-4)

### **Core and Elective Requirements**

A minimum of 18 units of adviser-approved coursework are required, at least nine units of which must be the 500 level. Nine of these units must be core courses in the student's area of specialization, as follows:

Analytical – CHEM 511, 512, 552

Biochemistry – CHEM 541, 542, 546

Inorganic – CHEM 425, 431, 552

Organic – CHEM 431, 535, 539

Physical – CHEM 512, 551, 552

A specialization in geochemistry is also available. Consult the chemistry graduate adviser for more information. For further details or advisement concerning the M.S. program, contact the graduate adviser.

## **MASTER OF ARTS IN CHEMISTRY (30 UNITS)**

This course-based degree is intended for those interested in high school or community college teaching, technical librarianship, scientific writing, or who have significant research experience and are currently employed in the industrial sector. See [chemsrvr2.fullerton.edu/MACChem\\_Overview.asp](http://chemsrvr2.fullerton.edu/MACChem_Overview.asp) and the Graduate Program Advisor for details.



## CHEMISTRY AND BIOCHEMISTRY COURSES

Courses are designated as CHEM in the class schedule.

### 100 Survey of Chemistry (3)

Prerequisite: one year of high school algebra. Fundamental principles of chemistry; atomic and molecular structure and the application of these principles to contemporary problems. For nonscience majors.

### 100L Survey of Chemistry Laboratory (1)

Pre- or corequisite: CHEM 100 or 115. Experiments chosen to develop laboratory techniques; chemical principles and their application to environmental and societal problems. (3 hours laboratory)

### 102 Physical Science for Future Elementary Teachers (3)

(Same as PHYS 102)

### 105 Survey of the Molecules of Life (3)

Introduction to the biochemical processes of life, including metabolism, development and disease. Recent scientific advances are discussed with emphasis on AIDS, cancer, diabetes and cloning. Scientific methods and ethical issues in scientific research are examined. (3 hours lecture)

### 111 Nutrition and Health (3)

Basics of nutrition; diet, food additives, vitamins, hormones, drugs, disease and related biochemical topics. Current controversies, popular practices, fads and fallacies. For non-science majors. (3 hours lecture)

### 115 Introductory General Chemistry (4)

Chemistry at the basic level. For students with limited background in chemistry who plan to take additional chemistry or other science courses. Does not fulfill chemistry requirements for majors or minors in the physical or biological sciences (3 hours lecture, 2 hours activity)

### 120A General Chemistry (5)

Prerequisites: pass the Chemistry Placement Examination (CPE) and exemption from or pass ELM examination or completion of CHEM 115 with a "C" (2.0) or better. For majors and minors in the physical and biological sciences. Principles of chemistry: stoichiometry, acids, bases, redox reactions, gas laws, solid and liquid states, changes of state, modern atomic concepts, periodicity and chemical bonding. Laboratory: elementary syntheses, spectroscopy and volumetric quantitative analysis. (3 hours lecture, 3 hours laboratory, 2 hours activity)

### 120B General Chemistry (5)

Prerequisite: CHEM 120A or equivalent. For majors and minors in the physical and biological sciences, chemical thermodynamics, chemical equilibrium (gaseous, aqueous, acid-base, solubility and complexation), elementary electrochemistry and chemical kinetics. Laboratory: quantitative and qualitative analysis and elementary physical chemistry; some qualitative analysis. (3 hours lecture, 6 hours laboratory).

### 125 General Chemistry B Lecture (3)

Prerequisite: CHEM 120A or 123. Not open to students with credit in CHEM 120B. For students who do not need a second semester of general chemistry lab. Topics: chemical thermodynamics, chemical equilibrium (gaseous, aqueous, acid-base, solubility and complexation), elementary electrochemistry and chemical kinetics. (3 hours lecture)

### 190 Orientation to Chemistry and Biochemistry (1)

Resources, opportunities and careers available in chemistry and biochemistry. Successful strategies to complete the major and enter the chemistry/biochemistry workforce. (1 hour lecture)

### 200 Chemistry for Nursing and Allied Health Professionals (5)

Prerequisites: Intermediate algebra with a "C" (2.0) or better; one year of high school chemistry or a passing score on the placement test for general chemistry or completion of introductory general chemistry (CHEM 100, 100L) with a "C" (2.0) or better strongly advised. Fundamental concepts of general, organic and biochemistry and their applications to the health sciences. Meets requirement for pre-nursing curriculum and can be applied to other allied health majors. (3 hours lecture, 3 hours activity)

### 295 Directed Study (1)

Prerequisite: consent of instructor. Research in chemistry under the supervision of a chemistry department faculty member. Credit/no credit only. May be repeated for credit. Does not count towards major. (3 hours laboratory per unit)

### 301A Organic Chemistry (3)

Prerequisites: CHEM 120A,B. Properties and reactions of aliphatic and aromatic compounds, theories of structure, and reaction mechanisms. For nonchemistry majors, or B.A. in Chemistry, B.S. in Chemistry or B.S. in Biochemistry majors. (3 hours lecture)

### 301B Organic Chemistry (3)

Prerequisites: CHEM 120A,B, 301A. Properties and reactions of aliphatic and aromatic compounds, theories of structure, and reaction mechanisms. For nonchemistry majors, or B.A. in Chemistry, B.S. in Chemistry or B.S. in Biochemistry majors. (3 hours lecture)

### 302 Organic Chemistry Laboratory (2)

Prerequisite: CHEM 301A. Corequisite: CHEM 301B. Techniques for the synthesis, characterization and isolation of typical aliphatic and aromatic compounds. For the nonchemistry majors or B.S. in Biochemistry majors. (6 hours laboratory)

### 302A Organic Chemistry Laboratory (1)

Corequisite : CHEM 301A. Techniques for the synthesis, isolation and characterization of typical aliphatic and aromatic compounds. Students wishing to fulfill all of their organic chemistry laboratory requirements in a single semester should enroll in CHEM 302.

### **302B Organic Chemistry Laboratory (1)**

Corequisite: CHEM 301B. Techniques for the synthesis, isolation and characterization of typical aliphatic and aromatic compounds. Students wishing to fulfill all of their organic chemistry laboratory requirements in a single semester should enroll in CHEM 302.

### **303A Biotechnology: Business and Society (1)**

Prerequisites: completion of General Education (G.E.) Categories A, B, B.1, B.4. Major applications of modern biotechnology will be explored in a lecture/discussion/presentation format that includes guest speakers from industry. (3 hours lecture/discussion for 5 weeks)

### **303B Biotechnology: Medical Biotechnology (1)**

Prerequisites: CHEM 303A and completion of G.E. Categories A, B, B.1, B.4. Major applications of modern biotechnology will be explored in a lecture/discussion/presentation format that includes guest speakers from industry. (3 hours lecture/discussion for 5 weeks)

### **303C Biotechnology: Agricultural and Environmental Biotechnology (1)**

Prerequisites: CHEM 303A and completion of G.E. Categories A, B, B.1, B.4. Major applications of modern biotechnology will be explored in a lecture/discussion/presentation format that includes guest speakers from industry. (3 hours lecture/discussion for 5 weeks)

### **306A Organic Chemistry Laboratory (2)**

Prerequisites: CHEM 120 A,B. Corequisite: CHEM 301A. Techniques for synthesis, isolation and characterization of typical aliphatic and aromatic compounds, with applications of instrumental and spectroscopic methods for B.A. and B.S. in Chemistry majors. (6 hours laboratory)

### **306B Organic Chemistry Laboratory (2)**

Prerequisites: CHEM 301A, 306A. Corequisite: CHEM 301B. Continuation of CHEM 306A for B.A. and B.S. in Chemistry majors. (6 hours laboratory)

### **311 Nutrition and Disease (3)**

Prerequisite: CHEM 111 or BIOL 101. Relationship between nutrients and disease, emphasizing cancer, atherosclerosis and infectious illness. Dietary factors that modify and/or contribute to the disease process from the viewpoints of physiology, biochemistry and immunology. Not applicable to the major. (3 hours lecture) (Same as BIOL 311)

### **313A Environmental Pollution and Its Solutions: Air Pollution (1)**

Prerequisites: completion of G.E. Categories A, B, B.3. Human pollution of the Earth's atmosphere and means to ameliorate this pollution. Historical examples, current cases and future prospects. (3 hours lecture/discussion for 5 weeks)

### **313B Environmental Pollution and Its Solutions: Water Pollution (1)**

Prerequisites: completion of G.E. Categories A, B, B.3. Human pollution of the Earth's aqueous environment and means to ameliorate this pollution. Historical examples, current cases and future prospects. (3 hours lecture/discussion for 5 weeks)

### **313C Environmental Pollution and Its Solutions: Land Pollution (1)**

Prerequisites: completion of G.E. Categories A, B, B.3. Human pollution of the Earth's terrestrial environment and means to ameliorate this pollution. Historical examples, current cases and future prospects. (3 hours lecture/discussion for 5 weeks)

### **315 Theory of Quantitative Chemistry (3)**

Prerequisite: CHEM 120B; PHYS 211, 212 or 225; PHYS 226 strongly recommended. Modern analytical chemistry; aqueous and non-aqueous equilibrium calculations, electrochemistry, spectrometry, and contemporary separation methods emphasizing chromatography.

### **315W Quantitative Chemistry Workshop (1)**

Corequisite: CHEM 315. Designed to enhance knowledge and skills needed for success in CHEM 315. Review general chemistry, problem-solving skills, study and exam skills, and their application to quantitative chemistry. Credit/No Credit only. (2 hours activity)

### **316 Quantitative Chemistry Laboratory (1)**

Prerequisites: CHEM 315. Modern analytical chemistry laboratory: polyprotic acids, liquid chromatography, electrochemistry, absorption spectroscopy (ultraviolet/visible, infrared, atomic). (3 hours laboratory)

### **325 Inorganic Chemistry (3)**

Prerequisite: CHEM 301B. Chemistry of the main group elements and an introduction to transition metal chemistry. (3 hours lecture)

### **355 Physical Chemistry Laboratory (3)**

Prerequisite: CHEM 316, 361A or 371A. Corequisite: CHEM 361B or 371B. Experiments in chemical synthesis, instrumental analysis and physical chemistry. Laboratory training and written presentation of theory, data and results are emphasized. (1 hour lecture, 6 hours laboratory).

### **361A Introduction to Physical Chemistry (3)**

Prerequisites: MATH 150A,B and PHYS 211, 212 or 225, 226, CHEM 301A,B. Thermodynamics and kinetics; properties of gases and solutions; molecular structure and energies and application to spectroscopic techniques; liquids, phase equilibria, thermodynamics of multicomponent systems with application to the life sciences. (3 hours lecture)

**361B Introduction to Physical Chemistry (3)**

Prerequisites: MATH 150A,B and PHYS 211, 212 or 225, 226, CHEM 301A,B. Thermodynamics and kinetics; properties of gases and solutions; molecular structure and energies and application to spectroscopic techniques; liquids, phase equilibria, thermodynamics of multicomponent systems with application to the life sciences. (3 hours lecture)

**371A Physical Chemistry (3)**

Prerequisites: MATH 250A, PHYS 225, 226, CHEM 301A,B. Thermodynamics, solutions, chemical and phase equilibria, electrochemistry, transport phenomena, introduction to atomic and molecular structure, rotation and vibration spectroscopy, statistical mechanics and kinetics. (3 hours lecture)

**371B Physical Chemistry (3)**

Prerequisites: MATH 250A, PHYS 225, 226, CHEM 301A,B. Thermodynamics, solutions, chemical and phase equilibria, electrochemistry, transport phenomena, introduction to atomic and molecular structure, rotation and vibration spectroscopy, statistical mechanics and kinetics. (3 hours lecture)

**395 Undergraduate Research (1-3)**

Prerequisites: completion of one upper-division course in chemistry, one semester of experience working in a research laboratory and consent of instructor. Independent research in chemistry or biochemistry under the guidance of a department faculty member. May be repeated for credit. Does not count towards major. (3 hours per week per unit). (4 units maximum)

**410B Advanced Computational Biochemistry (1)**

Prerequisites: CHEM 361A; 421 or 423A. Corequisite: 361B, 371B or 423B. Principles of protein folding and structure; methods for determining protein structure; methods of protein structure prediction and modeling; contents of structural databases; structure visualization, validation and analysis; structure-based drug design; rational mutagenesis; computational biochemistry tools.

**410C Introduction to Computational Chemistry (1)**

Prerequisites: CHEM 361A or 371A. Corequisite: 361B or 371B. Basic theory of molecular electronic structure; common methods for molecular computation; visualizing molecular structure and understanding calculated properties; predicting molecular spectra and other experimental data; applying molecular computation to practical problems in research.

**410D Advanced Computational Chemistry (1)**

Prerequisites: CHEM 361A or 371A; 410C. Corequisite: 361B or 371B. High-level methods of molecular computation; theory of reaction rates; methods for transition state computations; tools and techniques for exploring reaction mechanisms or pathways; prediction of reaction kinetics data; applications of molecular computations in research.

**411A Instrumental Analysis - Optical Spectroscopy (1)**

Prerequisites: CHEM 315, 316. Corequisite: CHEM 361B or 371B. UV/visible, infrared, atomic absorption, flame emission. Students wishing an ACS certified degree must take three units of CHEM 411 courses. (1 hour lecture, 3 hours laboratory for 5 weeks)

**411B Instrumental Analysis - Magnetic Resonance (1)**

Prerequisites: CHEM 315, 316. Nuclear magnetic resonance, electron spin resonance. Students wishing an ACS certified degree must take three units of CHEM 411 courses. (1 hour lecture, 3 hours laboratory for 5 weeks)

**411C Instrumental Analysis - Separations (1)**

Prerequisites: CHEM 315, 316. High performance liquid chromatography, gas chromatography. Students wishing an ACS certified degree must take three units of CHEM 411 courses. (1 hour lecture, 3 hours laboratory for 5 weeks)

**411D Instrumental Analysis - Electrochemistry (1)**

Prerequisites: CHEM 315, 316. Voltammetry, amperometry, electrodes. ACS-certified degrees require three units of CHEM 411 courses. (1 hour lecture, 3 hours laboratory for 5 weeks)

**411G Instrumental Analysis - Mass Spectrometry (1)**

Prerequisites: CHEM 315, 316. Conventional magnetic sector, quadrupole, Fourier transform, tandem, and time-of-flight; hyphenated techniques including gas chromatography (GC-MS), liquid chromatography (LC-MS). Students wishing an ACS certified degree must take three units of CHEM 411 courses. (1 hour lecture, 3 hours laboratory for 5 weeks)

**421 Biological Chemistry (3)**

Prerequisite: CHEM 301A. Corequisite: CHEM 315. Biochemistry designed for biology majors and pre-health profession careers. Intermediary metabolism and compounds of biochemical interest. Application of biochemistry and the biochemical foundation of health science. (3 hours lecture)

**422 General Biochemistry Laboratory (2)**

Prerequisites: CHEM 302 or 306A and 316. Corequisite: CHEM 421 or 423A. Chemistry and metabolism of carbohydrates, nucleic acids and proteins; techniques of enzyme isolation and characterization; DNA isolation and manipulation; research methods. (6 hours laboratory)

**423A General Biochemistry (3)**

Prerequisite: CHEM 301B. Corequisite: CHEM 315. For Biochemistry majors; structural chemistry and function of biomolecules, bioenergetics and intermediary metabolism. (3 hours lecture)

**423B General Biochemistry (3)**

Prerequisite: CHEM 423A. For Biochemistry majors; structural chemistry and function of biomolecules, central and secondary metabolism; photosynthesis; nucleic acid biochemistry. (3 hours lecture)

**425 Advanced Inorganic Chemistry (3)**

Prerequisites: CHEM 325, 361A,B or 371A,B. Bonding, structure and reactivity of transition and lanthanide elements. Molecular orbital and ligand field theory, classical metal complexes and organometallic chemistry of the transition elements. (3 hours lecture)

**431 Advanced Organic Chemistry (3)**

Prerequisites: CHEM 301B, 361A,B or 371A. Theoretical and physical aspects of organic chemistry. The modern concepts of structure, and reaction mechanisms. (3 hours lecture)

**435 Chemistry of Hazardous Materials (3)**

Prerequisite: CHEM 301B. Hazardous chemicals; organic and inorganic air- and moisture-sensitive compounds, reactive metals; chemical reactivity patterns; chemical compatibilities; storage and handling; methods of disposal and waste containment; Federal and local regulations; case histories. (3 hours lecture)

**436 Atmospheric Chemistry (3)**

Prerequisite: CHEM 315. Chemistry and photochemistry of the troposphere and stratosphere, both natural and polluted. Fundamental reaction kinetics and mechanisms, monitoring techniques, smog chamber, field and modeling studies. (3 hours lecture)

**437 Environmental Water Chemistry (3)**

Prerequisite: CHEM 315. Chemical characteristics of fresh and oceanic water; major water pollutant classes, origins, environmental chemical transformations, effects, abatement, and fates; chemical methods for determining water quality, large scale processes for water treatment. (3 hours lecture)

**438 Environmental Biochemistry (3)**

Prerequisite: CHEM 301B. Effects of current agricultural, industrial and mechanical practices on the composition, metabolism and health of soil, plants, animals and man, from a biochemical perspective; mechanism of action and degradation of common agricultural chemicals and industrial pollutants. (3 hours lecture)

**445 Nutritional Biochemistry (3)**

Prerequisite: CHEM 423A or 421. Nutrition, metabolism and excretion of carbohydrates, proteins, fats, vitamins, major minerals and trace elements from a biochemical perspective. Relevant variations in dietary practices related to life stages and specific illnesses. (3 hours lecture)

**472A Advances in Biotechnology Lab (3)**

(Same as BIOL 472A)

**472B Advances in Biotechnology Laboratory (3)**

Prerequisite: BIOL/CHEM 472A. Biotechnology techniques for gene product analysis: DNA sequencing, site-directed mutagenesis, predicting amino acid changes, protein overproduction, enzyme function assays, protein identification/preparation by gel techniques, immunoblotting. (1 hour discussion, 6 hours laboratory) (Same as BIOL 472B)

**473 Introduction to Bioinformatics (3)**

(Same as BIOL 473)

**477 Advances in Biotechnology (3)**

Prerequisites: BIOL 172, 273. Corequisite: CHEM 421 or 423B. Current topics in biotechnology centering on techniques for molecular cloning and DNA sequencing of genes. Medical breakthroughs for diagnosis of mutations and gene therapy. Role of biotechnology in agriculture, energy and environment. Bioethical issues. (Same as BIOL 477)

**480A Topics in Contemporary Chemistry (1)**

Prerequisite: junior or senior standing in chemistry. Research seminar dealing with topics of current interest in chemistry such as photochemistry, biochemistry, analytical chemistry and organometallic chemistry. Credit/no credit only. Not applicable toward master's degree. May be repeated for credit.

**480M MARC Proseminar (1)**

(Same as BIOL/PSYC 480M)

**480S Howard Hughes Medical Institute Scholars Proseminar (1)**

Prerequisite: Howard Hughes Medical Institute (HHMI) Undergraduate Research Scholar. Hands-on training and experience in practices required for becoming a biomedical research scientist and entering doctoral programs; includes familiarity with the scientific literature and interactions with visiting scientists. May be repeated for up to four units.

**480T Topics in Contemporary Chemistry (2-3)**

Prerequisite: junior or senior standing in chemistry. Special lecture topics of current interest in chemistry. May be repeated for credit. (1 hour lecture per unit)

**490 Internship in Chemistry and Biochemistry (1-2)**

Prerequisites: junior or senior standing in chemistry and consent of instructor. Internship in chemistry. Work on projects in industrial, governmental or medical laboratories. May count as career breadth requirement units for chemistry majors, or substituted for CHEM 495, with permission. May be repeated once. Does not count toward M.S. degree.

**495 Senior Research (1-3)**

Prerequisites: three one-year courses in chemistry and consent of instructor. Corequisite: ENGL 301 or 360. Methods of chemical research through a research project under the supervision of one of the department faculty. May be repeated for credit. Only 6 units may apply toward B.A. or B.S. degree (6 hours per week per unit)

**496 Student-to-Student Tutorials (1-3)**

Supervised experience in chemistry teaching through tutoring or assisting in laboratory or field classes. Consult "Student-to-Student Tutorials" in this catalog for prerequisites and a more complete course description.



**498 Senior Thesis (2)**

(Same as BIOL 498)

**499 Independent Study (1-3)**

Prerequisites: junior or senior standing and completion of two one-year courses in chemistry. Special topics in chemistry selected in consultation with the instructor and approval of department chair. May be repeated for credit. Only six units may apply toward B.A. or B.S. degree. In some cases, CHEM 499 can be substituted for 495 to meet degree requirements.

**505A Seminar (Participation) (1)**

Prerequisites: graduate standing and consent of department. Student attendance at presentations by invited scientists on topics of current interest in chemistry. May not be repeated for credit. (1 hour seminar)

**505B Seminar (Presentation) (1)**

Prerequisites: CHEM 505A, graduate standing and consent of the department. Student presentation of recent contributions to the chemical literature. May not be repeated for credit. (1 hour seminar)

**511 Theory of Separations (3)**

Prerequisites: CHEM 355, 361A,B or 371A,B. Theory, application and limitations of physical and chemical separation techniques; chromatography. (3 hours lecture)

**512 Advanced Instrumentation (3)**

Prerequisite: CHEM 315. Spectroscopic instrumentation components and systems. Laser spectroscopy, mass spectroscopy, chemical sensor, process control, surface science, and microscopy methods; vacuum technology, optics, electro-optics, and electronics components; design and repair of instrumentation.

**535 Organic Synthesis (3)**

Prerequisites: CHEM 361A,B or 371A,B, 301B. Methods of synthetic organic chemistry and their application to construction of organic molecules. (3 hours lecture)

**537 Organic Spectroscopy (3)**

Prerequisites: CHEM 301B/302 or 301B/306B, CHEM 361A,B; CHEM431 recommended. Theory and use of infrared spectroscopy, mass spectrometry, ultraviolet-visible spectroscopy and nuclear magnetic resonance spectroscopy as methods for the identification of organic compounds. (3 hours lecture)

**539 Chemistry of Natural Products (3)**

Prerequisite: CHEM 301B. Biosynthesis of the alkaloids, terpenes, steroids and other natural products of plant and animal origin. (3 hours lecture)

**541 Protein Biochemistry (3)**

Prerequisites: CHEM 423A,B or equivalent. Protein isolation strategies and techniques; chemical/physical characterization and modeling; functional characterization (kinetics, binding, chemical modification); molecular biology, including protein expression and engineering. (3 hours lecture)

**542 Nucleic Acid Biochemistry (3)**

Prerequisites: CHEM 423A,B, or equivalent, and a biochemistry lab course (CHEM 422 or equivalent). Biochemistry of nucleic acids in living systems at the molecular level. Advances and techniques used in nucleic acid research and biotechnology. Strong emphasis on critical reading, analysis and presentation of primary literature. (3 hours lecture)

**543 Physical Biochemistry (3)**

Prerequisites: CHEM 361A,B or 371A,B, 421 or 423A,B. Methods for measuring physical properties of proteins and nucleic acids. Thermodynamic and hydrodynamic aspects. (3 hours lecture)

**546 Metabolism and Catalysis (3)**

Prerequisite: CHEM 421 or 423A,B. Regulation of bio-synthetic and degradative reactions in living systems. The control of enzyme activity and concentration. Mechanisms of hormone action. (3 hours lecture)

**551 Quantum Chemistry (3)**

Prerequisites: CHEM 371A,B. Postulates and theories of approximation methods in quantum chemistry, the electronic structure of atoms and molecules, chemical bonds, group theory and applications. (3 hours lecture)

**552 Kinetics and Spectroscopy (3)**

Prerequisite: CHEM 361B or 371B. Kinetics and spectroscopy of chemical and biochemical systems in the gas phase, in the liquid phase, and on surfaces. (3 hours lecture)

**580T Topics in Advanced Chemistry (1-6)**

Prerequisite: graduate standing in chemistry. Current research topics in chemistry in the area of analytical, organic, inorganic, physical chemistry and biochemistry. May be repeated for credit. (1 hour seminar per unit)

**597 Project (1-6)**

Prerequisites: an officially appointed project committee and consent of the department chair. Guidance in the preparation for a project for the master's degree.

**598 Thesis (1-6)**

Prerequisite: an officially appointed thesis committee. Guidance in the preparation of a thesis for the master's degree.

**599 Independent Graduate Research (1-6)**

Prerequisite: graduate standing in chemistry. May be repeated for credit.



# Chicana and Chicano Studies

College of Humanities and Social Sciences

## DEPARTMENT CHAIR

Alexandro José Gradilla

## DEPARTMENT OFFICE/WEBSITE

Humanities 314  
657-278-3731  
[hss.fullerton.edu/chicano](http://hss.fullerton.edu/chicano)

## PROGRAMS OFFERED

Bachelor of Arts in Ethnic Studies  
Option in Chicano Studies  
Minor in Chicano Studies

## FACULTY

Erualdo R. González, Alexandro José Gradilla, Monica D. Hanna, Gabriela Nuñez, Patricia A. Pérez

## INTRODUCTION

### Chicana and Chicano Studies Mission and Vision Statement

Our mission is to expand critical thinking, communication and civic-mindedness through an engaging and interdisciplinary curriculum focusing on the arts, humanities and social sciences. We aim to prepare our students for future academic and non-academic employment endeavors in order to be successful leaders.

Our vision is to establish and uphold a premier Chicana/o Studies Department that promotes social justice through student-centered teaching/mentoring, research and service that focuses on Chicana/o- and Latina/o-origin communities.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and learning outcomes have been established for students pursuing a degree in Chicana/o Studies:

### Knowledge

- Mastering interdisciplinary perspectives focusing on social sciences, humanities and the arts
- Have a working knowledge of the history of the field of Chicana/o Studies — its theories, methods and intellectual justifications
- Gain knowledge and understanding of the role of critical theory and perspectives to understand phenomena, including issues of race, class, gender and politics

### Critical thinking and Expressive Skills

- Develop their research skills and clearly communicate their findings through well-organized written and oral methods of delivery
- Develop critical thinking, writing and interpretive skills
- Understand diverse viewpoints and experiences through group communication and collaborative team work
- Engage technology and multimedia in communicating written and oral research

### Civic Engagement and Leadership Skills

- Understand how to bridge academic content and practice through service learning
- Develop an understanding of social justice principles and applying them to make a difference in their local, national and global communities

## **BACHELOR OF ARTS IN ETHNIC STUDIES (120 UNITS)**

The Bachelor of Arts in Ethnic Studies includes courses for the option, general education, all-university requirements and free electives.

### **OPTION IN CHICANO STUDIES (36 UNITS)**

#### **Lower division courses (6 units)**

CHIC 101 Introduction to Ethnic Studies (3)

CHIC 106 Introduction to Chicano Studies (3)

#### **Upper-division courses (9 units)**

Select nine units of coursework from upper-division curriculum.

#### **Upper-Division Writing Requirement and Capstone (6 units)**

CHIC 307 Research and Writing in Ethnic Studies (3)

AFAM 490 Ethnic Studies Senior Seminar (3)

OR ETHN 490 Ethnic Studies Senior Seminar (3)

#### **Electives (15 units)**

### **MINOR IN CHICANO STUDIES (15 UNITS)**

Select 15 units of coursework in lower- and upper-division classes in consultation with the department adviser.

### **GRADUATE STUDY**

The Department of Chicana and Chicano Studies offers courses for advanced study in the following graduate degree programs:

- Master of Science in Education – Bilingual/Bicultural Concentration
- Master of Arts in History – Chicana/Chicano Studies
- Master of Arts in Spanish – Bilingual Concentration
- Master of Arts in Spanish – Chicana/Chicano Studies

### **CHICANA AND CHICANO STUDIES COURSES**

Courses are designated as CHIC in the class schedule.

#### **101 Introduction to Ethnic Studies (3)**

(Same as AFAM 101)

#### **102 Communication Skills (3)**

Basic communication skills, including oral and written expression. A unit on the mechanics of writing and reporting on a term paper is included as part of the course.

#### **106 Introduction to Chicano Studies (3)**

Prerequisite: completion of General Education (G.E.) Category D.1. Role of the Chicano in the United States. The Chicano's cultural values, social organization, urbanization patterns, and the problems in the areas of education, politics and legislation. One or more sections offered online.

#### **108 Linguistics and Minority Dialects (3)**

(Same as LING 108)

#### **190 Survey of American History with Emphasis on Ethnic Minorities (3)**

(Same as HIST/AFRO 190. Fulfills Title V, Statutory Requirements)

#### **220 Chicana/o Identities (3)**

Chicana/o identities, from their indigenous beginnings to the present, through categories of gender, sexuality, race, ethnicity, national origin and class; surveying interdisciplinary, social scientific, historical and literary sources.

#### **302 Ancient Mexican Culture (3)**

Historical and cultural survey of principal pre-Columbian cultures of Mexico and their significance to Mexican society.

#### **303 Chicano/Mexican Cultures (3)**

Prerequisite: junior or senior standing. Methodology for studying and analyzing the cultural background of Mexican and Chicana/o populations in order to understand current traditions, practices, beliefs and ideologies. Issues, such as syncretism, colonialism, modernization, urbanization, migration and resistance.

#### **304 Music of Mexico (3)**

(Same as MUS 304)

#### **305 The Chicano Family (3)**

Prerequisite: junior or senior standing. The Chicano family's development as an American social institution, focusing on cross-cultural, historical and interdisciplinary perspectives. One or more sections offered online.

#### **306 Barrio Studies (3)**

Prerequisite: junior or senior standing. How Latina/o and Mexican-origin communities develop in urban areas and the role of collective action in the community. Requires service learning.

#### **307 Research and Writing in Ethnic Studies (3)**

(Same as AFAM/ASAM 307)

#### **313 La Chicana (3)**

Prerequisite: completion of G.E. Category D.1. Cultural influences that the family, religion, economic status and community play upon the lifestyles, values and roles held by Chicanas. One or more sections offered online. (Same as WMST 313)

#### **315 Chicano/Latino Theater (3)**

Prerequisite: completion of G.E. Category C.1. or C.2. Contemporary Chicano/Latino theater in relation to its historical evolution. Plays, playwrights and theater groups expressing the Chicano/Latino experience. Extensive play reading. (Same as THTR 315)

**316 The Chicano Music Experience (3)**

Mexican folk and popular music and its relationship to the culture of Mexico. Pre-Cortesian period to the present in Mexico and Southwestern United States.

**325 Chicana and Chicano Education (3)**

Prerequisite: completion of G.E. Category D.1. Overview of the educational plight of Chicanas/os in the American school system from an interdisciplinary perspective. Addresses educational inequality and social justice phenomenon using various concepts, theories and methodologies.

**330 The Evolution of Mexican Literature (3)**

Prerequisite: completion of the G.E. Category C.2. Survey and analysis of the Nahautl, Mexican and Chicano literature from pre-Columbian period to present.

**331 The Chicano Child (3)**

Prerequisite: completion of G.E. Category D.1. The Chicano child from preschool through grade six. Motor, physical, social, intellectual, emotional growth and development and their effect on school adjustment and achievement. Field observation of preschool and grade school children required.

**332 The Chicano Adolescent (3)**

Prerequisite: completion of the G.E. Category D.1 The Chicano adolescent's social, intellectual and emotional growth and development. Bicultural pressures from the barrio, family structure, school and achievement values.

**333 Mexican Literature Since 1940 (3)**

Literature of Mexico since 1940: Carlos Fuentes, Rodolfo Usigli, Xavier Villarrutia, Juan Jose Arreola, Octavio Paz, Laura Esquivel and Juan Rulfo. Other contemporary authors may be included.

**336 Main Trends in Spanish-American Literature (3)**

Main currents of Spanish-American literature emphasizing contemporary works. Relation between the artistic expression and the ideological values of the period.

**337 Contemporary Chicano Literature (3)**

Prerequisite: CHIC 106 or 220. Modern Chicano writers in the United States: Alurista, Corky Gonzales, Octavio Romano, El Teatro Campesino and major Chicano magazines and newspapers. Other contemporary writers may be included.

**340 Mexican/Chicano Intellectual Thought (3)**

Prerequisite: completion of G.E. Category C.2. Emergence of the Chicano movement dealing with political, economic and sociological facets. Writings of Nahautl, Spanish, Spanish-American, Chicano and contemporary writers.

**345 History of the Chicano (3)**

Prerequisite: completion of G.E. Category D.1. History of the Chicano from the pre-Columbian period to the present. The Chicanos' changing role in the United States, their cultural identity crisis and their achievements.

**350 Mexican Life and Culture (3)**

(Same as LTAM 350)

**353 Mexico Since 1906 (3)**

Prerequisite: completion of G.E. Category D.1. Mexican Revolution of 1910, stressing the political, economic and social aspects, as well as its contributions in the fields of art, literature and social reforms.

**360 Chicanos and the Law (3)**

Relationship between Chicanos and the legal and judicial system, including the administration of justice, Chicano-police relations and prison system.

**367 Latino/a Spirituality and Religion (3)**

(Same as CPRL 367)

**450 The Chicano and Contemporary Issues (3)**

Socioeconomic and political problems confronting the Chicano, including proposed solutions. Effect that social institutions have had on the Chicano community.

**460 The Chicano and Politics (3)**

Theory of urban politics and evaluation of issues that affect the Chicanos and American society. Evaluations and surveys will be made on political organizations in Hispanic-surnamed communities. (Same as POSC 460)

**480 Chicanas/os and Immigrants (3)**

Prerequisite: junior, senior or graduate standing. Mexican- and Latino-origin immigration to the United States at key social structural levels.

**496 Student to Student Tutorial (1-3)**

Learning through teaching. Three hours of work per week expected for each semester unit of credit and may include, apart from contact hours with tutees: tutorial preparations; consulting with instructors; reporting, analyzing and evaluating the tutorial experiences. Requires independent research project on topic related to tutoring area.

**499 Independent Study (1-3)**

Prerequisites: senior standing and approval by the department chair and instructor(s) in charge of directing the study. Opportunity to study independently under the guidance of the faculty on a subject of special interest and approved by instructor.



**500 Chicana/Chicano Studies Paradigms and Traditions (3)**

Prerequisite: graduate standing. Interdisciplinary approaches, methods and theories used in the study of Chicana/Chicano and Latina/Latino populations and related topics.

**599 Independent Graduate Research (1-3)**

Prerequisites: permission of instructor. Individual library research or empirical project, with conferences with instructor as necessary, culminating in one or more papers. May be repeated for credit.



# Child and Adolescent Studies

College of Health and Human Development

## DEPARTMENT CHAIR

Kari Knutson Miller

## DEPARTMENT OFFICE/WEBSITE

Education Classroom 503  
657-278-8458  
[hhd.fullerton.edu/cas](http://hhd.fullerton.edu/cas)

## PROGRAMS OFFERED

Bachelor of Science in Child and Adolescent Development  
Options:  
Early Childhood Development  
Elementary School Settings  
Adolescent/Youth Development  
Family and Community Contexts  
Minor in Child and Adolescent Development

## FACULTY

Jason Baker, Katherine Bono, Ioakim Boutakidis, Nathalie Carrick, Rachel Fenning, Leslie Grier, Diana Wright Guerin, Leigh Hobson, Janna Kim, Kari Knutson Miller, Pamella Oliver, James Rodriguez, Sharon Seidman, Sharon Willmer, Shelli Wynants, Shu-Chen Yen

## INTRODUCTION

The Bachelor of Science in Child and Adolescent Development (CHAD) is designed to provide students with empirically derived knowledge about bio-physical, socio-emotional and cognitive developmental milestones from conception through adolescence; individual and cultural differences; and common variations in development. Students develop critical thinking, writing and oral presentation skills in preparation to be professionals working with children and families. Our curriculum provides broad undergraduate preparation for students interested in early care and education, elementary education, special education and a variety of youth-related social service careers, as well as graduate study in disciplines such as child development, counseling, developmental psychology and social work.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in Child and Adolescent Development:

### Comprehension of theories, concepts and research outcomes

- Describe and/or explain relevant theories, concepts and related research findings
- Describe normative development
- Describe individual, cultural and environmental differences
- Identify the purpose and structure of community and government systems

### Information literacy and research analysis skills

- Identify, access, analyze and synthesize relevant sources
- Critically analyze research studies

### Communication skills

- Write effectively in APA style, taking purpose and audience into account
- Make effective oral presentations, taking purpose and audience into account

### Professional, ethical and reflective practice with diverse populations

- Apply theories, concepts and research findings to promote child well-being
- Identify relevant ethical and legal issues and the impact of possible actions in real-world situations

## ACADEMIC ADVISEMENT

Academic advisement is provided at both the Fullerton and Irvine campuses through regularly scheduled Overview of the Major sessions and individual student advising appointments. During their first semester as a major, students are required to attend an Overview of the Major session and are expected to consult with a department

adviser to develop an academic plan to ensure efficient progress towards graduation. Consult the department website or contact the department office for a schedule of Overview of the Major sessions and available individual advisement appointments.

### **BACHELOR OF SCIENCE IN CHILD AND ADOLESCENT DEVELOPMENT (51 UNITS)**

The Bachelor of Science in Child and Adolescent Development requires a minimum of 51 units in the major, including a nine-unit basic core completed by all majors and 42 units in one of the following four options: Early Childhood Development; Elementary School Settings; Adolescent/Youth Development; and Family and Community Contexts.

A “C” (2.0) or better is required in all courses applied to the major. Course prerequisites are strictly enforced.

#### **Basic Core Courses (9 units)**

CAS 101 Introduction to Child and Adolescent Development (3)

CAS 201 Child, Family and Community (3)

SPED 371 Exceptional Individual (3)

#### **OPTION IN EARLY CHILDHOOD DEVELOPMENT (42 UNITS)**

The option in Early Childhood Development (ECD) provides advanced understanding of cognitive, physical and social-emotional development, from conception through age eight. It is designed for students preparing to work with young children and their families and/or pursue graduate studies in early childhood education, development, mental health or related fields.

##### **Option-Specific Core Courses (18 units)**

CAS 215 Observations in Early Childhood Settings (3)

CAS 300 Elements of Effective Professional Communication (3)

CAS 305 Advanced Assessment in Early Childhood (3)

CAS 321 Infant/Toddler Development (3)

CAS 322 Preschool-Age Development (3)

CAS 491 Leadership Seminar in Early Childhood (3)

OR CAS 490T Topical Senior Seminar in Child and Adolescent Development (3)

##### **Fieldwork Courses (6 units)**

CAS 140/L Introduction to Early Childhood//Practicum (3)

OR CAS394/L Practicum Seminar/Practicum in Child and Adolescent Development (3)

CAS 464/L Practicum Seminar/Practicum in Early Care and Education (3)

OR CAS 494/L Practicum Seminar/Practicum in Youth and Families in Community Settings (3)

#### **Topical Developmental Courses (18 units)**

CAS 340 Parenting in the 21st Century (3)

OR CAS 341 Working with Parents of Young Children (3)

CAS 346 Modern Culture and Early Childhood (3)

NURS 306 Health and Safety for Early Childhood (3)

SPED 400 Early Childhood Special Education (3)

*And one class from each cluster:*

Language and Literacy – CAS 351, READ 340, or SPED 425

Curriculum – CAS 352, 353, ART 380, BIOL 453, GEOL 410, MUS 433 or approved alternate.

#### **OPTION IN ELEMENTARY SCHOOL SETTINGS (42 UNITS)**

The option in Elementary School Settings (ESS) is designed for students interested in teaching at the elementary school level and emphasizes an understanding of cognitive, physical, and socio-emotional development, subject-matter knowledge, and consideration of pedagogical strategies and programs that promote academic achievement as well as other positive developmental outcomes for elementary school children.

##### **Option-Specific Core Courses (18 units)**

CAS 300 Elements of Effective Professional Communication (3)

CAS 301 Inquiry and Methodology in Development (3)

CAS 310 Assessing and Observing Development (3)

CAS 325A Conception through Age 8 (3)

CAS 325B Age 9 through Adolescence (3)

CAS 490T Topical Senior Seminar in Child and Adolescent Development (3)

##### **Fieldwork Courses (6 units)**

CAS 394/L Practicum Seminar/Practicum in Child and Adolescent Development (3)

CAS 474/L Practicum Seminar/Practicum in Development in School Settings (3)

#### **Topical Developmental Courses (18 units)**

*One class from each cluster:*

Arts – ART 380, DANC 471, MUSC 433, THTR 402A

Kinesiology – KNES 386

Language Arts – ENGL 341, THTR 311

Math – MATH 303A

Science – BIOL 453, GEOL 410

Developmental Elective – CAS 326, 340, 345, 2nd CAS 490T

## **MULTIPLE SUBJECT TEACHING CREDENTIAL PREPARATION**

A Multiple Subject Teaching Credential is required to teach in California public elementary schools. Demonstration of both basic skills and subject matter competency are admission requirements for the Multiple Subject Teaching Credential program. Further information is available from the Center for Careers in Teaching.

### **OPTION IN ADOLESCENT/YOUTH DEVELOPMENT (42 UNITS)**

The option in Adolescent/Youth Development (AYD) provides advanced understanding of cognitive, physical and socio-emotional development during the adolescent age period. It is designed for students who intend to work with youth in community-based settings and/or to pursue graduate studies related to adolescent development.

#### **Option-Specific Core Courses (18 units)**

CAS 300 Elements of Effective Professional Communication (3)  
CAS 301 Inquiry and Methodology in Development (3)  
CAS 310 Assessing and Observing Development (3)  
CAS 325A Conception through Age 8 (3)  
CAS 325B Age 9 through Adolescence (3)  
CAS 490T Topical Senior Seminar in Child and Adolescent Development (3)

#### **Fieldwork Courses (6 units)**

CAS 394/L Practicum Seminar/Practicum in Child and Adolescent Development (3)  
CAS 484/L Practicum Seminar/Practicum in Adolescent and Youth Services (3)  
OR CAS 494/L Practicum Seminar/Practicum in Youth and Families in Community Settings (3)

#### **Topical Developmental Courses (18 units)**

*One class from each cluster:*

Family and Parenting – CAS 340, 345  
Interpersonal Issues – CAS 380, HCOM 220, SOCI 341  
Recreation and Health – CAS 327, 360, KNES 387  
Diversity and Identity – CAS 375, CHIC 332, EDSC 340, SOCI 354  
Adolescents at Risk – CAS 365, 490T, CRJU 425, 455, HESC 321, SOCI 413  
Program Planning and Evaluation/Statistics – HUSR 385, POSC 320, PSYC 201, SOCI 303

## **OPTION IN FAMILY AND COMMUNITY CONTEXTS (42 UNITS)**

The option Family and Community Contexts (FCC) is designed for students planning to work with children, adolescents, and their families in community-based settings and/or preparing for graduate studies in human/child development, counseling, social work or related fields.

#### **Option-Specific Core Courses (18 units)**

CAS 300 Elements of Effective Professional Communication (3)  
CAS 301 Inquiry and Methodology in Development (3)  
CAS 310 Assessing and Observing Development (3)  
CAS 325A Conception through Age 8 (3)  
CAS 325B Age 9 through Adolescence (3)  
CAS 490T Topical Senior Seminar in Child and Adolescent Development (3)

#### **Fieldwork Courses (6 units)**

CAS 394/L Practicum Seminar/Practicum in Child and Adolescent Development (3)  
CAS 494/L Practicum Seminar/Practicum in Youth and Families in Community Settings (3)

#### **Topical Developmental Courses (18 units)**

*One class from each cluster:*

Abnormal Behavior – PSYC 341, SOCI 466  
At-Risk Issues – CAS 365, HESC 321, HUSR 415, 430, SOCI 385, 408  
Biology – BIOL/KNES 210, BIOL 305, PSYC 306  
Family Systems – CAS 340, 345, SOCI 351  
Measurement/Statistics – PSYC 201, SOCI 303  
Theoretical Perspectives – HUSR/COUN 380, HCOM 407, PSYC 431, PSYC 481, SOCI 300

## **MINOR IN CHILD AND ADOLESCENT DEVELOPMENT (21 UNITS)**

A minimum of 12 units of coursework for the minor must be distinct from coursework that is applied to the major. No more than six units of lower-division coursework may be applied to the minor. A "C" (2.0) or better is required in all courses applied to the minor.

#### **Core Courses (9 units)**

*One developmental survey course (3)*  
CAS 101 Introduction to Child and Adolescent Studies (3)  
CAS 312 Human Growth and Development (3)  
CAS 315 Child Development (3)



### *Developmental context course (3)*

CAS 201 Introduction to Child, Family and Community (3)

### *One developmental depth course (3)*

CAS 321 Infant/Toddler Development (3)

CAS 326 Optimizing Development of School Aged Children (3)

CAS 330 Adolescence and Early Adulthood (3)

OR approved alternate

### **Research Methods (3 units)**

CAS 301 Inquiry and Methodology in Development (3)

OR CAS 305 Advanced Assessment in Early Childhood (3)

OR approved alternate

### **Electives (9 units)**

*Nine units selected in consultation with department adviser.*

May include CAS 394/L

## **CHILD AND ADOLESCENT STUDIES COURSES**

Courses are designated as CAS in the Class Schedule.

### **101 Introduction to Child and Adolescent Development (3)**

Overview of major concepts and related professional opportunities. Practical applications will be considered within different biological, familial, social and cultural contexts to facilitate understanding of influences on developmental outcomes.

### **120 Youth Development in After-School Programs (3)**

For individuals in or who are currently working in after-school programs. Relevant developmental issues and effective strategies for interfacing with youth to support positive outcome in after-school programs. One or more sections offered online.

### **140 Introduction to Early Childhood (2)**

Corequisite: CAS 140L. Learn about and plan developmentally appropriate activities in early childhood settings for children ages 0-8 and their families.

### **140L Introduction to Early Childhood Practicum (1)**

Corequisite: CAS 140. First of a year-long practicum sequence for Child and Adolescent Development majors pursuing the Early Childhood Development Option. How to implement developmentally appropriate activities in early childhood settings. Minimum of four hours per week for a total of 60 hours required for the semester. Credit/No Credit grade option only.

### **141 Intermediate Seminar in Early Childhood (2)**

Prerequisites: CAS 140, 140L. Corequisite: 141L. Builds on an introductory practicum as students learn about and plan developmentally appropriate activities to early childhood settings for children 0-8 and their families.

### **141L Intermediate Practicum Early Childhood (1)**

Prerequisites: CAS 140, 140L. Corequisite: CAS 141. Supervised field experience in early childhood setting for children 0-8 and their families. Implementation of developmentally appropriate activities. Minimum of four hours per week for a total of 60 hours required for the semester. Credit/No Credit grade option only.

### **201 Child, Family and Community (3)**

Overview of interpersonal relationships between child, family and community members; the interaction among systems, influences of age, gender, diverse abilities, culture, race, ethnicity, socio-economic and public policy factors, and community resources available to support family systems. One or more sections offered online.

### **210 Orientation to the Field of Child Development (3)**

Introduction to the field of child development. Survey of programs and services for children, adolescents and young adults, and exploration of professional opportunities, organizations and publications.

### **215 Observations in Early Childhood Settings (3)**

Prerequisite: CAS 101. Introduces the appropriate application and limits of a variety of observation methods for use with young children and in early childhood settings; several assessment tools will be studied. Hands-on observations will focus on children, interactions, and environments.

### **300 Elements of Effective Professional Communication (3)**

Prerequisite: sophomore standing. Styles of written communication common to child development programs and services. Reporting on theories and research to multiple audiences (e.g., other professionals, parents, community groups) in written and oral formats. Meets upper-division baccalaureate writing course requirement for Child and Adolescent Development majors.

### **301 Inquiry and Methodology in Development (3)**

Prerequisite: sophomore standing. Framework and methods necessary for interdisciplinary study of child development. Conducting library research, reading and writing scientific reports, using descriptive and inferential statistics, developing computer literacy, and exploring developmental methodology and theory. (2 hours lecture, 2.5 hours laboratory)

### **305 Advanced Assessment in Early Childhood (3)**

Prerequisites: CAS 101, 215. Relevant literature, observation and assessment strategies, research design and data analysis as relevant to young children. Effective oral and written communication for diverse audiences found in early childhood settings. Meets upper-division baccalaureate writing course requirements for Child and Adolescent Development majors.

**310 Assessing and Observing Development (3)**

Prerequisites: CAS 101, 201, 300, 301. Purposes and methods associated with assessing and observing child and adolescent development. Topics include selection of appropriate methods, survey of standardized measures, ethics, and interpretation and implications of data.

**312 Human Growth and Development (3)**

Prerequisite: PSYC 101. Biological/physical, socio-emotional, cognitive development across the lifespan. One or more sections offered online.

**315 Child Development (3)**

Prerequisite: completion of General Education (G.E.) Category D.1. Major concepts, principles, theories and research related to cognitive, linguistic, social, emotional and physical development from birth through adolescence; emphasizes developmentally appropriate practices. One or more sections offered online.

**321 Infant and Toddler Development (3)**

Prerequisite: CAS 101. Normative and atypical physical, social, emotional and cognitive development for children 0-3 years of age and implications of infant and toddler child care services with an emphasis on developmentally appropriate practices.

**322 Preschool-Age Development (3)**

Prerequisites: CAS 101, 321. Normative and atypical physical, social, emotional and cognitive development for children 3-6 years of age and implications on child care services provided for preschool-aged children with an emphasis on developmentally appropriate practices.

**323 Primary-Age Development (3)**

Prerequisite: CAS 322. Normative and atypical physical, social, emotional and cognitive development for primary-aged children and implications of after-school program services with an emphasis on developmentally appropriate practices.

**325A Conception through Age 8 (3)**

Prerequisites: CAS 101, 201, 300, 301. Research, theories and their application to biological/physical, socio-emotional and cognitive development from conception through age 8. One or more sections offered online.

**325B Age 9 through Adolescence (3)**

Prerequisites: CAS 101, 201, 300, 301, 325A. Research, theories and their application to biological/physical, socio-emotional, and cognitive development from age 9 through adolescence. One or more sections offered online.

**326 Optimizing Development of School Age Children (3)**

Prerequisite: CAS 101 or equivalent. Conditions that impact and facilitate development during middle childhood. These include external (e.g., appropriate support and empowerment across various contexts) and internal assets (e.g., social competence and commitment to learning). Highlights strategies that promote development. One or more sections offered online.

**327 Optimizing Development During Adolescence (3)**

Prerequisite: CAS 101. Conditions that impact and facilitate development during adolescence. External (e.g., appropriate support and empowerment across various contexts) and internal (e.g., self-concept, commitment to learning) assets. Strategies that promote development.

**330 Adolescence and Early Adulthood (3)**

Prerequisite: PSYC 101. Human development during and following adolescence. Community resources and services for adolescents and their families. Consequences of adolescent experiences for later development.

**340 Parenting in the 21st Century (3)**

Prerequisite: completion of G.E. Category D.1. Goals and patterns of parenting in context of contemporary, multicultural society; identifies changing demands of parenting infants, children and adolescents; summarizes current scholarly research on relation of parenting practices to child development outcomes. One or more sections offered online.

**341 Working with Parents of Young Children (3)**

Prerequisites: CAS 305, 321. Responsibilities and influences of diverse family systems, from the transition to parenting through children completing primary grades. Effective collaboration and communication with parents during early childhood years with the goal of optimizing children's development.

**345 Child and Adolescent Development in Diverse Family Contexts (3)**

Prerequisites: CAS 300, 301. Patterns and processes of child/adolescent development within families of various cultural/ethnic/social contexts. Identifies multiple theoretical and disciplinary perspectives in studying child and family developmental processes, as well as summarizing the current related scholarly literature.

**346 Modern Culture and Early Childhood (3)**

Prerequisites: CAS 305, 322. Impact of cultural diversity, media, family practices and related education policies on young children's development, including cognitive and social skills, and the application of the information in early childhood settings. One or more sections offered online.

**351 Language and Literacy Development in Early Childhood (3)**

Prerequisites: CAS 305, 322. Integrates a deep understanding of early language and literacy development with theory, research and practical strategies for facilitating children's mastery of these skills. Developmental norms, individual and cultural variations, and curricular strategies are addressed.

**352 Numeracy and Science in Early Childhood (3)**

Prerequisites: CAS 305, 323. Theory and research on children's scientific inquiry and numeracy development. Integrates science and mathematics in early childhood settings through interdisciplinary thematic units.

**353 Learning and Motivation in Early Childhood (3)**

Prerequisites: CAS 305, 321, 322. Building on the foundation developmental classes, this class examines theory and research on children's learning, cognition and motivation with an emphasis on practical applications in early childhood settings. Developmental norms, individual and cultural variations, and curricular strategies.

**360 Adolescents and the Media (3)**

Prerequisite: completion of G.E. Category D.1. Summarizes current social, cultural and behavioral research on adolescents and mass media. How teens use, learn, are depicted in and shape cultural meaning from exposure to television and other electronic media.

**365 Adolescent Pregnancy and Parenting (3)**

Prerequisite: completion of G.E. Category D.1. Reviews current knowledge base on adolescent pregnancy and the developmental implications for parent and child. Social, educational and health implications of early parenting, and articulates the resources, skills and supports needed to foster success in parenting.

**370 Development of African American Children and Youth (3)**

Prerequisite: completion of G.E. Category D.1. Understanding cognitive and socio-emotional development of African American children and youth is facilitated through comprehensive examinations of significant African and African American cultural and historical experiences; and social influences including families, schools, socioeconomic status, neighborhoods and American society. (Same as AFAM 370)

**375 Adolescent Identity (3)**

Prerequisites: CAS 300, 301, 325A. Corequisite: CAS 325B recommended, but not required. Adolescent identity within the context of socio-emotional, physical and cognitive development. Special attention paid to the function of sociocultural factors (e.g., ethnicity, peers, family structure) that help forge individual identity within the larger group context.

**380 Adolescent Sexuality and Intimate Relationships (3)**

Prerequisite: CAS 301. Current trends, potential risks and opportunities associated with adolescents' involvement in sexual and intimate relationships from a normative developmental perspective. Socio-ecological contexts (e.g., families, peers, culture) of adolescents' sexual and relational attitudes/behaviors.

**394 Practicum Seminar in Child and Adolescent Development (2)**

Prerequisites: CAS 101, 201. Corequisite: CAS 394L. Classroom analysis of field experience focusing on linkages between theory and practice, and skills and techniques of child development professionals. One or more sections offered online.

**394L Practicum in Child and Adolescent Development (1)**

Corequisite: CAS 394. Supervised field experience in agencies, institutions and organizations serving children and families. Minimum of four hours per week for a total of 60 hours required for the semester. Credit/No Credit grade option only. May be repeated once for credit.

**464 Advanced Practicum Seminar in Early Care and Education (2)**

Prerequisites: CAS 101, 140, 140L, 201, 215, 305, 321, 322. Corequisite: CAS 464L. Classroom analysis of field experience focusing on linkages between theory and practice, and skills and techniques of early childhood development professionals, including adult supervision.

**464L Practicum in Early Care and Education (1)**

Corequisite: CAS 464. Supervised field experience in agencies, institutions, and organizations serving young children and families. Minimum of four hours per week for a total of 60 hours required for the semester. Credit/No Credit grade option only. May be repeated for credit.

**474 Practicum Seminar in Development in School Settings (2)**

Prerequisites: CAS 101, 201, 300, 301, 310, 325A, 394, 394L. Corequisite: CAS 474L. Positive developmental outcomes associated with programs/materials used in elementary school contexts are examined. Developmental theory and research findings are linked to these practice alternatives.

**474L Practicum in Development in School Settings (1)**

Corequisite: CAS 474. Supervised field experiences in educational setting serving elementary school-aged children. Minimum of four hours per week for a total of 60 hours for credit. Credit/No Credit grade option only. May be repeated for credit.

**484 Practicum Seminar in Adolescent and Youth Services (2)**

Prerequisites: CAS 101, 201, 300, 301, 310, 325A, 394, 394L. Corequisite: CAS 484L. Classroom analysis of field experience focusing on linkages between theory and practice, and skills and techniques of adolescent development/youth services professionals.

**484L Practicum in Adolescent and Youth Services (1)**

Corequisite: CAS 484. Supervised field experience in agencies, institutions and organizations serving adolescents and families. Minimum of four hours per week for a total of 60 hours required for the semester. Credit/No Credit grade option only.

**490T Senior Seminar in Child and Adolescent Development (3)**

Prerequisites: CAS 101, 201, 300, 301, 310, 325A, 325B. Systematic study of theory, methods and findings concerning a specific developmental topic. Variable topics include children and adolescents at risk, cognition and motivation, controversial issues in development, culture and ethnicity in development, life span creativity, life span perspective, families and development, gender and development, gifted intelligence, working for change: legislative advocacy, moral development, self concept, and temperament and development. May be repeated for credit under different topic. One or more sections offered online.

**491 Leadership Seminar in Early Childhood (3)**

Prerequisites: CAS 305, 323. Capstone course examining leadership, assessment and funding for early childhood programs. Prepares students to use their knowledge of data, theory and literature to promote the well-being of young children and families through advocacy, fundraising and professional activities. One or more sections offered online.

**494 Practicum Seminar in Youth and Families in Community Settings (2)**

Prerequisites: CAS 101, 201, 300, 301, 310, 325A, 394, 394L. Corequisite: CAS 494L. Classroom analysis of field experience focusing on linkages between theory and practice, and skills and techniques of professionals working with parents and families in school and community settings.

**494L Practicum in Youth and Families in Community Settings (1)**

Corequisite: CAS 494. Supervised field experience in agencies, institutions and organizations serving parents and families. Minimum of four hours per week for a total of 60 hours required for the semester. Credit/No Credit grade option only. May be repeated for credit.

**496 Student-to-Student Tutorial (1-3)**

Prerequisites: a 3.0 or higher grade-point average and simultaneous enrollment in the course being tutored or previous enrollment in a similar course or its equivalent. Consult "University Curricula" section of this catalog for more complete course description. May be repeated for a maximum of three total units of credit. Only three units may be taken in a single semester.

**499 Independent Study (1-6)**

Individual research project, either library or field, under the direction of a Child and Adolescent Studies faculty member. May be repeated for a maximum of nine units of credit. Only six units may be taken in a single semester.





# Civil and Environmental Engineering

College of Engineering and Computer Science

## INTRODUCTION

The primary goal of the Civil and Environmental Engineering department's degree program is to provide students with the educational background and tools required for them to excel in their intended profession in Civil Engineering. The areas of focus in the civil engineering program are structural, geotechnical, hydraulic, environmental, construction, transportation and architectural engineering. Most course topics are well integrated with computer-aided analysis and design tools.

The undergraduate engineering program is designed to impart knowledge of mathematics and natural sciences to students so that they learn to use the forces of nature and materials economically, while maintaining engineering ethics and high professional standards.

One of the major objectives of this program is to provide design experience to students gradually from the very beginning years until they graduate, through a variety of courses. During this time, they also learn about safety, reliability, ethics, and socially and globally sensitive problems.

The graduate engineering program is designed for specialization in the areas (also called tracks) of construction, environmental, geotechnical and structural engineering.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and learning outcomes have been established for students pursuing a degree in Civil and Environmental Engineering:

### Program Educational Objectives

- A. Technical Growth – Graduates will be successful in modern engineering practice, integrate into the local and global workforce, and contribute to the economy of California and the nation
- B. Professional Skills – Graduates will continue to demonstrate the professional skills necessary to be competent employees, assume leadership roles, and have career success and satisfaction
- C. Professional Attitude and Citizenship – Graduates will become productive citizens with high ethical and professional standards, who make sound engineering or managerial decisions, and have enthusiasm for the profession and professional growth

## STUDENT OUTCOMES

- (a) The ability to apply knowledge of mathematics, science and engineering
- (b) The ability to design and conduct experiments, as well as to analyze and interpret data
- (c) The ability to design a system, component, or process to meet desired needs
- (d) The ability to function on multi-disciplinary teams

## DEPARTMENT CHAIR

Uksun Kim

## DEPARTMENT OFFICE/WEBSITE

Engineering 100  
657-278-3012  
cee.fullerton.edu

## PROGRAMS OFFERED

Bachelor of Science in Civil Engineering  
Emphasis in Architectural Engineering  
Master of Science in Civil Engineering  
Concentration in Environmental Engineering  
Master of Science in Environmental Engineering

## FACULTY

Pinaki Chakrabarti, Pratanu Ghosh,  
Harmonie Hawley, Uksun Kim, Jeff  
Kuo, Phoolendra Mishra, David Naish,  
Chandrasekhar Putcha, Mallela Prasada  
Rao, Garrett Struckhoff, Binod Tiwari

- (e) The ability to identify, formulate and solve engineering problems
- (f) An understanding of professional and ethical responsibility
- (g) The ability to communicate effectively
- (h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context
- (i) Recognize the need for and an ability to engage in life-long learning
- (j) A knowledge of contemporary issues
- (k) The ability to use the techniques, skills and modern engineering tools necessary for engineering practice
- (l) The ability to apply knowledge in at least four technical areas appropriate to civil engineering
- (m) An understanding of professional practice, e.g., management, business, public policy, leadership and professional licensing

### High School Preparation

The entering freshman's preparation should include two years of algebra, geometry, trigonometry, and one year of physics or chemistry. Students deficient in mathematics or chemistry must take special preparatory courses, which will not carry credit for the major. (See Mathematics Section for Entry Level Mathematics test and Math-Science Qualifying Examination requirements)

### Transfer Students

A transfer student shall complete a minimum of 30 units in residence, 15 of which shall be taken in upper-division engineering courses. Work taken at another college or university on which a "D" (1.0) was earned may not be substituted for upper-division courses.

## BACHELOR OF SCIENCE IN CIVIL ENGINEERING (129 UNITS)

The Bachelor of Science in Civil Engineering is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. The degree includes 85 units in the major, 30 General Education units, 14 units of electives and all university requirements. When selecting courses, students need to consult with a faculty adviser. Course prerequisites are strictly enforced.

All required courses toward the degree must be taken for a letter grade. All required mathematics and science courses must be passed with a "C-" (1.7) or better. The exceptions are MATH 150A, which must be passed with a "C" (2.0) or better, and BIOL 101, which must be passed with a "D" (1.0) or better. Graduate courses are not open to undergraduate students without department approval. A GPA of 2.0 or better is required for the major.

### Mathematics and Science Courses (34)

- BIOL 101 Elements of Biology (3)
- CHEM 115 Introductory General Chemistry (4)
- MATH 150A Calculus (4)
- MATH 150B Calculus (4)

MATH 250A Multivariate Calculus (4)

MATH 250B Introduction to Linear Algebra and Differential Equations (4)

PHYS 225, 225L Fundamental Physics: Mechanics and Lab (4)

PHYS 226, 226L Fundamental Physics: Electricity and Magnetism and Lab (4)

EGCE 308 Engineering Analysis (3)

### Introductory Engineering Courses (9)

EGCE 201 Statics (3)

EGCE 302 Dynamics (3)

EGEE 401 Engineering Economics and Professionalism (3)

### General Education Courses

#### *Area A: Core Competencies (9 Units)*

1. Oral Communication (3)  
HONR 101B, HCOM 100, 102
2. Written Communication (3)  
ENGL 101
3. Critical Thinking (3)  
HONR 101A, HCOM 235, PHIL 105, 106, PSYC 110, READ 290

#### *Area B: Scientific Inquiry and Quantitative Reasoning (11 Units)*

1. Physical Science (3)  
PHYS 225
2. Life Science (3)  
BIOL 101
3. Laboratory Experience (1)  
PHYS 225L
4. Mathematics/Quantitative Reasoning (4)  
MATH 150A
5. Implications and Explorations in Mathematics and Natural Sciences  
Not applicable for engineering majors

#### *Area C: Arts and Humanities (12 Units)*

1. Introduction to Arts (3)  
ART 101, 201A, 201B, 311, 312, DANC 101, MUS 100, 101
2. Introduction to the Humanities (3)  
Any lower-division course in this category listed in the current class schedule
3. Explorations in the Arts and Humanities (3)  
Any upper-division course in this category listed in the current class schedule

4. Origins of the World Civilizations (3)

HIST 110A or 110B, 210A, 210B

*Area D: Social Sciences (12 Units)*

1. Introduction to the Social Sciences (3)

EGCP/EGCE/EGEE 401

2. World Civilizations and Cultures

Not applicable for engineering majors

3. American History, Institutions and Values (3)

AFAM 190, AMST 201, CHIC 190, HIST 180, 190, HONR 201A

4. American Government (3)

HONR 201B, POSC 100

5. Explorations in Social Sciences (3)

Any upper-division course in this category listed in the current class schedule

*Area E: Lifelong Learning and Self Development (3 Units)*

Not applicable for engineering majors

*Area Z: Cultural (3 Units)*

Take at least one star (\*) course in Sections C.3 and D.5

**Upper-Division Writing Requirement**

Six units from the following courses are required and must be passed with a "C" (2.0) or better. Laboratory reports are graded on English composition, as well as content.

EGCE 324L, 325L, 377, 428L, 431L, 463L, 465, 468

**CIVIL ENGINEERING**

**Mathematics and Science Courses (34 units)**

**Introductory Engineering Courses (9 units)**

**Civil Engineering Core Courses (42 units)**

EGCE 206 Computer-Aided Architectural and Civil Engineering Drafting (1)

EGCE 214 Engineering Surveying (2)\*\*

EGCE 214L Engineering Surveying Laboratory (1)\*\*

EGCE 301 Mechanics of Materials (3)

EGCE 324 Soil Mechanics (3)

EGCE 324L Soil Mechanics Laboratory (1)

EGCE 325 Structural Analysis (3)

EGCE 325L Structural Analysis Laboratory (1)

EGCE 377 Civil Engineering Materials Lab (1)

EGCE 408 Reinforced Concrete Design (3)

EGCE 418 Foundation Design (3)

EGCE 428 Engineering Hydraulics (3)

EGCE 428L Engineering Hydraulics Lab (1)

EGCE 430 Structural Steel Design (3)

EGCE 432 Computer-Aided Analysis and Design in Civil Engineering (3)

EGCE 441 Environmental Engineering (3)

EGCE 468 Engineering Construction (3)

EGCE 494 Design of Civil Engineering Structures (3)\*\*

EGCE 494L Design of Civil Engineering Structures Laboratory (1)\*\*

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\*\*Corequisites.

**Technical Electives in Civil Engineering (14 units minimum)**

Before enrolling in any elective course, approval of the adviser must be obtained.

EGCE 411, 431L, 435, 436, 463, 463L, 465, 466, 481, 482, 493, 496, 497, 499

CHEM 125\*

EGEE 203\*

EGGN 100\*

EGME 304\*

GEOL 376\*

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\* Need chair approval.

**CIVIL ENGINEERING WITH ARCHITECTURAL ENGINEERING EMPHASIS**

Students wishing to earn an Architectural Engineering Emphasis must fulfill the requirements for the Bachelor of Science in Civil Engineering. When choosing their electives, they must consult with an adviser.

**MASTER OF SCIENCE IN CIVIL ENGINEERING (30 UNITS)**

The Master of Science degree in Civil Engineering is intended to meet the needs of students who wish to prepare for careers in areas such as construction and project management, design and analysis of complex systems (including structures, such as tall buildings and bridges), environmental engineering, geotechnical engineering, consulting and research; as well as doctoral studies.

The program provides advanced study within the area of civil engineering and allows students to select coursework, with adviser approval, in the areas of construction engineering and management, environmental engineering, geotechnical engineering and structural engineering.

**Admission Requirements**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. Applicants meeting these requirements will be admitted to the graduate program in Civil Engineering and will advance to classified standing immediately after filing an adviser-approved study plan in the Civil and Environmental

Engineering Department office. Students not meeting the above requirements may be admitted and will be required to take additional prerequisite coursework.

Any student entering the M.S. degree program without a B.S. in Civil Engineering will be required to complete deficiency courses prior to beginning coursework for the master's degree. All deficiency courses must be completed before the final semester of coursework.

Students who possess a bachelor's degree from a postsecondary institution where English is not the principal language should submit an iBT TOEFL score of 80 or better. The Civil and Environmental Engineering Department does not require the Graduate Record Exam (GRE).

### **Application Deadlines**

Refer to: [fullerton.edu/ecs](http://fullerton.edu/ecs) for application information.

### **Classified Standing**

Students will be advanced to classified standing and are eligible to take graduate courses for which they are qualified by meeting the following requirements.

1. Complete all deficiency work specified by the graduate adviser with a "B-" (2.7) or better before starting graduate courses (unless approved by the chair);
2. meet with an adviser prior to completing nine units toward the M.S. degree at CSUF to develop a study plan, which must be approved by the department chair and Office of Graduate Studies; and
3. fulfill the university writing requirement prior to completing nine units at CSUF toward the M.S. Degree by successfully completing one of the following:
  - An upper-division writing requirement at any CSU campus
  - An upper-division writing course from another university that is equivalent to a course satisfying the CSUF Upper-Division Writing Requirement. Equivalency must be certified by the department chair
  - Cal State Fullerton Examination in Writing Proficiency (EWP)
  - CSUF upper-division or graduate-level course that is certified as meeting the writing requirement and is approved by the department chair. A grade of "C" (2.0) or better is required.

### **Study Plan**

The study plan consists of adviser-approved upper-division or graduate-level coursework, which must be completed with an overall grade-point average of at least 3.0. At least half the units required for the degree must be in approved graduate (500-level) courses.

### **Required Courses (6 units)**

EGGN 403 and an additional three-unit, adviser-approved math-oriented course, or six units adviser-approved electives (for those focusing on environmental and construction areas).

### **Course Tracks (15 units)**

Students are required to select a minimum of 15 units in Civil Engineering. These units may be 400- (subject to approval by the department chair) and 500-level courses and are selected according to each student's area of interest. Coursework may focus on the following areas: Construction Engineering and Management; Geotechnical Engineering; and Structural Engineering. Upon graduation, students will receive a Master's degree in Civil Engineering. Environmental Engineering track students will receive a Master's degree in Civil Engineering with a concentration in Environmental Engineering.

### **Other Courses (9 units)**

Elective units should be taken in Civil Engineering or a related engineering field and are subject to adviser approval.

### **Exam/Thesis/Project Option**

Subject to approval by the department head, students may select one of the following three options for final review by a department committee:

1. Oral comprehensive examination
2. EGCE 598 Thesis
3. EGCE 597 Project

Students enrolling in less than six units of Independent Study/Thesis/Project will be required to take an oral comprehensive exam. Students enrolling in six units of thesis or project may defend their thesis or project instead of taking an oral comprehensive exam.

## **CONCENTRATION IN ENVIRONMENTAL ENGINEERING**

### **Required Concentration Courses (15 units)**

EGCE 481 Solid Waste Technology and Management (3)

EGCE 482 Liquid Waste Technology and Management (3)

Adviser-approved Environmental Engineering courses, which may include Thesis, Project or Independent Study (9)

### **Electives (15 units)**

Adviser-approved electives must include a minimum of six units in non-Environmental Engineering courses.

Students enrolling in less than six units of Independent Study/Thesis/Project will be required to take an oral comprehensive exam. Students enrolling in six units of thesis or project may defend their thesis or project instead of taking an oral comprehensive exam.

## **CIVIL AND ENVIRONMENTAL ENGINEERING COURSES**

Courses are designated as EGCE in the class schedule

### **201 Statics (3)**

Prerequisites: MATH 150B, PHYS 225. Vectorial treatment of statics of particles and rigid bodies. Free body diagrams. Applications to problems of equilibrium (two and three dimensions) of structural and mechanical force systems. Trusses, frames and machines. Friction problems. Centroids and moments of inertia.



### **206 Computer-Aided Architectural and Civil Engineering Drafting (1)**

Architectural and civil engineering drawing with the aid of computer-aided drafting techniques; grading plans, engineering drawings (including standard structural, electrical and hydraulic details) of buildings, bridges, dams and civil engineering structures. Bill of Materials. (3 hours laboratory)

### **214 Engineering Surveying (2)**

Corequisite: EGCE 214L. Basis of plane surveying. Distance measurement using tapes and EDM. Leveling. Measurement of angles and directions. Traverse and topographic survey and computations. Applications in highway curves, construction surveys and land surveys. Principles of stadia.

### **214L Engineering Surveying Laboratory (1)**

Corequisite: EGCE 214. Field practice of measuring distance, difference of elevation, and horizontal and vertical angles using tapes, EDM, automatic levels, theodolites and total stations. (3 hours laboratory)

### **301 Mechanics of Materials (3)**

Prerequisites: MATH 250A, EGCE 201. Stress and deformation analysis for axial load, torsion, flexure and combined forces. Analysis of simple statically indeterminate structures. Deflection and stress analysis of beams. Stability of columns. Strain energy and ultimate resistance. Interactive relationships between analysis and design.

### **302 Dynamics (3)**

Prerequisites: MATH 250A, EGCE 201. Kinematics and kinetics of particles and rigid bodies, kinetics of rigid bodies in three dimension, Newton's laws, work and energy, impulse and momentum. Solution of problems using vector approach.

### **305 Failure of Building and Structure Due to Earthquakes and After Effects (3)**

Prerequisite: one course from General Education Category B.4 or B.1. Geological aspects of earthquakes as they apply to building safety; introduction to earthquake-related problems and building damages cause by historic earthquakes. Destruction aspects of earthquakes, preparedness for large earthquakes and how to protect structural and non-structural parts of buildings. (Same as GEOL 305)

### **308 Engineering Analysis (3)**

Prerequisites: PHYS 226 and MATH 250B or equivalent. Fundamentals and engineering applications of Fourier transforms, Laplace transforms, complex analysis, vector analysis; engineering applications. (Same as EGEE/EGGN/EGME 308)

### **324 Soil Mechanics (3)**

Prerequisite: EGCE 301. Soil properties and soil action as related to problems encountered in engineering structures; consolidation, shear strength, stability and lateral earth pressures.

### **324L Soil Mechanics Laboratory (1)**

Prerequisites: ENGL 101, EGCE 324. Behavior and properties of soils. Application to foundation design, liquefaction and seepage.

### **325 Structural Analysis (3)**

Prerequisite: EGCE 301. Forces and displacements in statically determinate and indeterminate elastic structures by force and displacement methods. Approximate methods of analysis. Matrix formulation of structural analysis and computer applications. Introduction to structural design.

### **325L Structural Analysis Laboratory (1)**

Prerequisites: ENGL 101, EGCE 325. Principles of model analysis and similitude. Influence lines for reactive and internal forces; generalized displacements of statically indeterminate structures. Nonprismatic members. (3 hours laboratory)

### **377 Civil Engineering Materials Laboratory (1)**

Prerequisites: EGCE 324, 325. Behavior and properties of most common materials, e.g., steel, concrete, wood, masonry and asphalt. Mix design of asphalt and concrete. Determination of strain and stress using strain gages. Specimen testing according to ASTM. Material properties determination. Safety, reliability, and design considerations. (3 hours laboratory)

### **401 Engineering Economics and Professionalism (3)**

(Same as EGCP/EGEE 401)

### **408 Reinforced Concrete Design (3)**

Prerequisite: EGCE 325. Design for bending, shear, axial force, torsion and combined loading. Beam, columns, slab and foundation design for ultimate strength and serviceability requirements. Prestressed concrete design. Safety, reliability and cost considerations. Design project conforming to latest ACI code. Professional computer program. Not available for graduate degree credit. (2 hours lecture, 3 hours lab)

### **411 Structural Dynamics (3)**

Prerequisites: EGCE 308, 325. Free and forced vibrations of discrete and continuous systems. Matrix formulation and normal coordinates analysis. Response of structures to impulse and earthquake loads. Application to structural design problems and comparison with code prescribed forces.

### **418 Foundation Design (3)**

Prerequisites: EGCE 324, 408. Footings and retaining walls design. Mat and piled foundations for structures. Design project to standards of professional practice using latest codes and standards. Consideration for safety, reliability and cost.

### **428 Engineering Hydraulics (3)**

Prerequisite: EGCE 302. Incompressible fluid flow in closed conduits and open channels. Hydrostatics, energy and hydraulic grade lines. Momentum, friction formulas, pipelines, uniform flow and water surface profiles. Design of pipes and open channels. Computer solutions. Not available for graduate degree credit.

**428L Engineering Hydraulics Laboratory (1)**

Prerequisites: ENGL 101, EGCE 428. Introduction to experimental hydraulics in open channel and pipe flows, including measuring discharge, depth, velocity, force and friction coefficients. Hydraulic model laws and report writing. (3 hours laboratory)

**430 Structural Steel Design (3)**

Prerequisite: EGCE 325. Design for bending, torsion, shear, axial forces, combined loadings. Design of built-up girders, composite construction. Design of shear and moment connections. Design project using professional practice standards. LRFD method. Safety, reliability and cost considerations. Professional computer program. Not available for graduate degree credit. (2 hours lecture, 3 hours laboratory)

**431L Advanced Structural Laboratory (1)**

Prerequisites: EGCE 325L, and EGCE 408 or 430. Fundamentals of earthquake engineering and soil structure interaction; design of lateral bracing for model buildings. (3 hours laboratory)

**432 Computer-Aided Analysis and Design in Civil Engineering (3)**

Prerequisites: EGCE 206, 324, 325. Computer-aided analysis and design in various branches of civil engineering. Introduction of finite element methods with computer techniques. Application of professional computer programs.

**435 Design of Hydraulic Structures (3)**

Prerequisite: EGCE 428. Applications of hydraulic principles to design of various structures, including spillways, energy dissipaters, outlet works, storm drains, culverts and water distribution systems. Use of computers in design process.

**436 Engineering Hydrology (3)**

Corequisite: EGCE 428. Hydrologic cycle with applications to hydrologic design of engineering structures. Rainfall, stream flow, ground water, surface runoff, hydrographs, flood routing, frequency distributions and design hydrographs.

**441 Environmental Engineering (3)**

Prerequisite: BIOL 101 or CHEM 115. Planning and controlling the environment; wastewater treatment and disposal; solid waste management; air pollution; radiation protection; housing and residential environment.

**463 Precast and Prestressed Concrete Design (3)**

Prerequisite: ECCE 408. Prestressed concrete design and analysis for conventional and lateral loading. Designing reinforced and prestressed structural and architectural elements. Safety and economy. Connection design for earthquake and wind loadings. Design projects using professional practice standards including latest codes. (2 hours lecture, 3 hours laboratory)

**463L Precast and Prestressed Concrete Design Lab (1)**

Prerequisites: EGCE 408 and EGCE 463 or equivalent. Behavior of prestressed and reinforced concrete members subjected to the different types of loadings. Observing elastic and ultimate strength behavior, deflection crack propagation and collapse. Observing prestressing operation and camber. (3 hours laboratory)

**465 Planning and Control of Engineering Construction Projects (3)**

Prerequisite: senior standing. Overview of construction project management; construction scheduling fundamentals: bar charts, CPM, PERT; schedule control: manual vs. computer systems, reports, schedule maintenance; cost control: code of accounts, control base, budgets, forecasting, reports, computer systems; applications in construction projects.

**466 Public Transit Systems Planning and Operations (3)**

Prerequisite: senior standing in Civil Engineering. Urban passenger transportation modes, paratransit, special modes, vehicles characteristics and motion, highway transit mode, rail transit mode, new concepts, transit system performance (capacity, productivity, efficiency and utilization, organization and financing).

**468 Engineering Construction (3)**

Prerequisite: EGCE 325. Engineering construction planning equipment and methods. Construction management. Critical path method. Construction of buildings, bridges, highways, foundations and dams. Consideration for safety and reliability.

**481 Remediation of Contaminated Soil and Groundwater (3)**

Prerequisite: EGCE 441 or equivalent, or enrollment in M.S. Environmental Engineering program. Site assessment, green technologies, design for soil remediation systems and design for groundwater remediation systems. One or more sections offered online.

**482 Wastewater Treatment and Water Reclamation (3)**

Prerequisite: EGCE 441 or enrollment in M.S. Environmental Engineering program. Principles of anoxic, aerobic and anaerobic biological processes and treatment. Stepwise development and process design equipment selection, economic evaluation, green technologies and operating guidelines for wastewater treatment. Offered online only.

**493 Structural Systems Emphasis on Highrise Structures (3)**

Prerequisite: EGCE 408, 430. Structural concepts and systems for buildings and complex structures and their behavior under loads. Roof, floor, wall systems. Characteristics and design concepts of complex structures and high-rise buildings. Design project. Latest building codes and computer application. Sustainability and green building.

**494 Design of Civil Engineering Structures (3)**

Prerequisites: EGCE 408, 430. Corequisites: EGCE 418, 494L. Timber, reinforced masonry, reinforced concrete and steel design. Use of Uniform Building Code and standards. Design of buildings and bridges. Design projects to standards of professional practice. Reliability, safety and cost consideration. Computer application. (2 hours lecture, 3 hours laboratory)

**494L Design of Civil Engineering Structures Laboratory (1)**

Corequisite: EGCE 494. Design of bridges according to AAS-HTO code. Design project to the standards of professional practice. (3 hours laboratory)

**496 Architectural Design (3)**

Prerequisite: EGCE 408 or 430 or senior standing or consent of instructor and department head. History of architectural design. Systems-based design process: aesthetic, functional, environmental and behavioral aspects. Urban planning and design. Case studies. Architectural design project to the standards of professional practice.

**497 Senior Projects (1-3)**

Prerequisites: senior standing in engineering and formal approval by adviser and department head. Independent design projects. Formal report to be submitted after completion of project work.

**499 Independent Study (1-3)**

Prerequisites: senior standing in engineering and formal approval by adviser and department head. Special topics in civil engineering. Formal report to be submitted after completion of independent study.

**501 Analytical Methods for the Design of Civil Engineering Systems (3)**

Prerequisite: graduate standing or equivalent. Applying linear and dynamic programming principles to the design of pipelines, irrigation systems, water-resources and traffic-flow control problems. Probabilistic network analysis. First order and advanced first order second moment reliability methods. Probabilistic design.

**509 Theory of Plates and Shells (3)**

Prerequisite: EGME 438 or equivalent. Theory of thin plates subjected to transverse loads. Analysis of plates of circular, rectangular and other shapes. Theory of thin shells. Shells of revolution. Shells of translation.

**510 The Finite Element Method (3)**

Prerequisites: EGCE 517 and 533 or equivalent. Formulating finite elements for analyzing plane stress and strain problems, axisymmetric bodies, plates and shells. Conforming and non-conforming shape functions. Computer applications to complex structural systems under static and dynamic loads.

**515 Solid Waste Management, System Design and Sustainability (3)**

Prerequisite: EGCE 436 or equivalent, or enrollment in M.S. Environmental Engineering program. Industrial waste treatment and disposal, waste minimization, process selection, control, green technologies and resource recovery. Design of liners, gas and leachate collection and removal systems in landfills. Offered online only.

**517 Theory of Elasticity (3)**

Prerequisite: EGME 438 or equivalent. Stress and strain. Equations of elasticity. Extension, torsion and flexure of beams. Two-dimensional elastostatic problems. Variational methods and energy theorems. Elementary three-dimensional elastostatic problems. Introduction to thermoelasticity and wave propagation.

**532 Earthquake Engineering (3)**

Prerequisites: EGCE 411 and, 533 or equivalent. Earthquake motions; response spectra; computational methods and computer applications for response of structural systems. Energy absorption capacity of materials and structural components. Soil structure interaction. Seismic design and evaluation of current building codes.

**533 Matrix Methods of Structural Analysis (3)**

Prerequisites: EGCE 325, EGGN 403. Matrix formulation of structural analysis using the direct stiffness approach. Comparing flexibility and stiffness approaches. Computer-aided analysis of complex structural systems under static and dynamic loads. Stability analysis. Introduction to the finite element method.

**534 Advanced Construction Methods and Techniques (3)**

Prerequisites: EGCE 408, 430. Methods and equipment for constructing high-rise buildings, space structures, folded plates, shells and suspension systems. Modularization. Quality control and construction failures.

**537 Groundwater and Seepage (3)**

Prerequisite: EGCE 436 or equivalent. Equations governing flow of liquid in porous media. Seepage through dams and under structures, flow in confined and unconfined aquifers, steady and unsteady flow, well fields, flow nets, computer solutions, sea water intrusion, recharge, groundwater pollution.

**538 Construction Methods and Equipment for Heavy Construction Engineering (3)**

Prerequisites: EGCE 408, 418. Methods and equipment for constructing foundations, highways, airfields, bridges, ports, harbors, dams, nuclear power plants and industrial facilities. Quality control and construction failures.

**539 Preconstruction Design Evaluation (3)**

Prerequisite: EGCE 534 or equivalent. Cost benefit, preconstruction scheduling and constructability modifications in design, specifications and construction methods. Value Engineering.

**544 Advanced foundation engineering (3)**

Prerequisite: EGCE 418. Design foundations for earthquake loading and problematic soils; design piles and caissons, ground surface subsidence, slope stability and stabilization, anchored bulkheads and dam sections.

**546 Surface Water Pollution and Control (3)**

Prerequisite: EGCE 436 or equivalent, or enrollment in M.S. Environmental Engineering program. Sources, quality and quantity of storm water runoff, best management practices (BMPs), system design of structural BMPs, green technologies, design for wastewater discharge into rivers, lakes and oceans. Offered online only.

**549 Theory of Elastic Stability (3)**

Prerequisites: EGCE 509 and 517 or equivalent. Critical buckling loads of columns, beam-columns, frames, plates and shells. Lateral stability of beams. Torsional buckling of open wall sections.

**550 Major Commercial Project Development and Management (3)**

Prerequisite: any 400-level management course approved by the department head. Process of major commercial project development; macroeconomics aspects; project initiation and implementation, construction management systems, schedule, cost and quality control, control of long-lead equipment and materials, construction disputes and claims, case studies.

**556 Construction Cost Control, Scheduling and Planning (3)**

Prerequisite: EGCE 465 or 468 or equivalent. Systems approach for estimating, scheduling, cost comparison, risk analysis and cost control. Project feasibility studies and alternative approaches. Project control, baseline establishment, cost and claim management.

**557 Cost Estimating and Bidding Strategy (3)**

Management and cost control of large capital projects. Capital cost estimation, value prediction and control, cost and schedule control and management of mega projects.

**559 Environmental and Public Transportation Regulations (3)**

Prerequisite: EGCE 441 or equivalent. Environmental regulations, clean air act, intermodal surface transportation efficiency act of 1991, Federal Transit Administration project planning guidelines, planning for public transit and environmental requirement, developing required environmental documents; procedure for major investment studies; future of public transportation. Project.

**563 Advanced Prestressed and Reinforced Concrete Design (3)**

Prerequisite: EGCE 408 or 463. Prestressed concrete theory. Continuous prestressed concrete members, flat plate systems, vierendeel systems, application of unbounded posttensioning – theory and design. Yield line theory, limit analysis and cracking of concrete. Designing prestressed dome roof, barrel shell and hyperbolic paraboloid shell. Design project to standards of professional practice. Computer application. (2 hours lecture, 3 hours laboratory)

**566 Design of Tall Buildings (4)**

Prerequisites: EGCE 408 or 430; EGCE 533 or equivalent. Characteristics, design criteria and safety provisions of tall buildings. Selecting, optimizing and analyzing framing systems. Design standards, constructability, wind and seismic considerations. Design project to the standards of professional practice. Computer application.

**575 Data Mining in Sustainability (3)**

Expert systems and artificial intelligence techniques in construction engineering; expert systems for: safety evaluation of structures during construction, site selection, construction decision making, and construction schedule analysis; project monitoring; claims and disputes.

**583 Air Pollution Control Engineering (3)**

Prerequisite: EGCE 441 or enrollment in M.S. Environmental Engineering program. Sources and impacts of air pollutants, methods of sampling and analysis, air dispersion modeling, control techniques and system design for common air pollutants, climate changes, green technologies and greenhouse emission control. Offered online only.

**597 Project (1-6)**

Prerequisites: Classified graduate status and formal approval of Civil Engineering Graduate Committee, graduate adviser and department head.

**598 Thesis (1-6)**

Prerequisites: classified graduate status and formal approval of Civil Engineering Graduate Committee, graduate adviser and department head. (Maximum of 3 units per semester)

**599 Independent Graduate Research (1-3)**

Prerequisites: classified graduate status and formal approval of Civil Engineering Graduate Committee, graduate adviser and department head.





# Communications

College of Communications

## INTRODUCTION

Effective ethical communications are essential for the well being of a democratic society. Thus, there is a need for persons trained in the theory and practice of informing, instructing and persuading through communications media.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in communications:

### Functional knowledge

- Demonstrate skills and knowledge for entry into professional practice and/or advanced academic programs

### Critical thinking and research skills

- Apply critical thinking, research and analysis to meet personal, scholarly, and professional goals

### Written and oral proficiencies

- Demonstrate written and oral proficiency appropriate to the entry level of professional practice

### Information technology skills

- Demonstrate effective use of communications tools and technologies appropriate to the entry level of professional practice

### Theoretical foundations of communications

- Apply appropriate concepts, models and theories of communications to personal and professional situations

### Diversity awareness

- Exhibit sensitivity to diversity through communications practices

### Historical, legal and ethical foundations of communications

- Demonstrate a basic knowledge of historical, legal, and ethical issues that affect professional practices

## BACHELOR OF ARTS IN COMMUNICATIONS (120 UNITS)

The Communications major totals 36 units: 9 units of core requirements; and 27 units in a chosen concentration. In addition, 12 units of collateral upper-division coursework in other departments are required. All prerequisite courses must be completed with a "C" (2.0) or better. A minimum of 72 units must be taken outside of Communications, and student must meet the university General Education requirements.

## DEPARTMENT CHAIR

Diane F. Witmer

## DEPARTMENT OFFICE/WEBSITE

College Park 400

657-278-3517

[communications.fullerton.edu/  
departments/comm](http://communications.fullerton.edu/departments/comm)

## PROGRAMS OFFERED

Bachelor of Arts in Communications

Concentrations:

Advertising

Entertainment and Tourism

Communications

Journalism

Photocommunications

Public Relations

Minors:

Advertising

Journalism

Public Relations

Master of Arts in Communications

Concentrations:

Mass Communications Research  
and Theory

Professional Communications

Communications in Tourism and  
Entertainment

## FACULTY

Carol Ames, Genelle Belmas, William Briggs, Jeff Brody, xtine burrough, Pamela Caldwell, Thomas Clanin, Carolyn Coal, Jim Collison, David DeVries, Emily Erickson, Tony Fellow, Brent Foster, Dennis Gaschen, Beth Georges, Kuen-Hee Ju-Pak, Dean Kazoleas, Cynthia King, Paul Lester, Gail Love, Jay Moon, Coral Ohl, Henry Puente, Jason Shepard, Nancy Snow, Andi Stein, Doug Swanson, Laura Triplett, Edgar Trotter, Diane Witmer, Gerald Wright, Mark Wu, Fred Zandpour

## Communications Core

All students pursuing a Bachelor of Arts in Communications, regardless of concentration or emphasis, must fulfill these required courses.

### *Required coursework (6 units)*

COMM 233 Mass Communications in Modern Society (3)

COMM 407 Communications Law (3)

### *Plus three units from:*

COMM 300 Visual Communication (3)

COMM 310 Mass Media Ethics (3)

COMM 315 Mass Media and Ethnic Groups (3)

COMM 333 Mass Media Effects (3)

COMM 410 Principles of Communication Research (3)

COMM 422 Communications Technologies (3)

COMM 425 History and Philosophy of American Mass Communication (3)

COMM 426 Global Media Systems (3)

COMM 480 Persuasive Communications (3)

## CONCENTRATIONS

### Advertising

#### *Breadth Requirement (3 units)*

COMM 410 Principles of Communications Research (3)

#### *Required Courses (18 units)*

COMM 350 Principles of Advertising (3)

COMM 351 Writing for the Advertising Industry (3)

COMM 352 Advertising Media (3)

COMM 353 Advertising Creative Strategy and Execution I (3)

COMM 451A, B or C Advertising Campaigns (3)

COMM 495T Mass Media Internship (3)

Plus six units from – COMM 317, 361, 380, 415T, 425, 446, 450, 452, 453, 454, 455, 456, 457. At least three of the six units must be 450 or higher.

### Entertainment and Tourism Communications

#### *Breadth Requirement (3 units)*

COMM 410 Principles of Communications Research (3)

#### *Required Courses (15 units)*

COMM 101 Writing for Mass Media (3)

COMM 346 Introduction to Entertainment and Tourism Studies (3)

COMM 446 Entertainment and Society (3)

COMM 449 Capstone in Entertainment and Tourism Studies (3)

COMM 495T Mass Media Internship (3)

Plus one writing course from – COMM 301, 334, 351, 362, 471

Plus three units from Section A – COMM 436, 447, 448T, 465, 497T

Plus three additional units from Section A, above, or Section B – COMM 317, 333, 350, 361, 380, 425, 422, 426

## Journalism

### *Breadth Requirement (3 units)*

COMM 425 History and Philosophy of American Mass Communication (3)

### *Required Courses (15 units)*

COMM 101 Writing for the Mass Media (3)

COMM 201 Reporting for Mass Media I (3)

COMM 202 Reporting for Mass Media II (3)

COMM 471 News Media Production (3)

OR COMM 472 Advanced Electronic News (3)

COMM 495T Mass Media Internship (3)

Plus nine units from – COMM 317, 325, 331, 332, 334, 335, 371, 372, 380, 433, 434, 435, 436, 437, 438T, 439, 461, 471, 472

## Photocommunications

### *Breadth Requirement (3 units)*

COMM 300 Visual Communication (3)

### *Required Courses (15 units)*

COMM 101 Writing for the Mass Media (3)

COMM 317 Digital Foundations (3)

COMM 444 Capstone for Visual Communications (3)

COMM 495T Mass Media Internship (3)

Plus one writing course from – COMM 301, 334, 362

Plus nine units from – COMM 319, 321, 380, 409, 421, 434, 471, 481

## Public Relations

### *Breadth Requirement (3 units)*

COMM 410 Principles of Communications Research (3)

### *Required Courses (15 units)*

COMM 101 Writing for Mass Media (3)

COMM 361 Principles of Public Relations (3)

COMM 362 Public Relations Writing (3)

COMM 464A or B Public Relations Management (3)

COMM 495T Mass Media Internship (3)

Plus one writing course from – COMM 301, 334, 462, 471

Plus three units from Section A – COMM 425, 465, 467, 468, 469, 470, 497T

Plus three additional units from Section A, above, or Section B – COMM 317, 331, 346, 350, 380, 434, 437, 446

## WRITING REQUIREMENTS

All communications majors must satisfy both departmental and university writing requirements. For the department Writing Requirement, each concentration requires one or more writing courses. Consult an adviser or concentration checklist.

University Writing Requirement: The coursework portion of the university's upper-division baccalaureate writing requirement for communications majors may be met by satisfactory completion of any one of COMM 301, 334, 335, 351, 362, 371, 435, 436, 438T or 471. Students must earn a "C" (2.0) or better in the course that is used to fulfill the university's upper-division writing requirement.

## INTERNSHIP REQUIREMENTS

The Department of Communications has always recognized the beneficial attributes of an internship. Students intern at sites in Orange and Los Angeles counties, as well as at national and international sites. Students must meet the following prerequisites to meet the internship requirement:

- Communications major
- Senior standing 2.25 GPA cumulative and CSUF
- Specific prerequisites for each area of concentration – which are not to be taken concurrently with the internship. They include:

### Advertising

Required – COMM 350, 351, 352, 353

Recommended – COMM 317

### Entertainment and Tourism Communications

Required – COMM 346, 446

Recommended – COMM 334, 335

### Journalism

Required – COMM 372 or 471

Recommended – COMM 334, 335

### Photocommunications

Required – COMM 319, 380 or 409

Recommended – COMM 321, 421 or 481

### Public Relations

Required – COMM 361, 362

Recommended – COMM 317, 464

## COMMUNICATIONS MINORS

The department offers three options for a communications minor for students NOT majoring in communications. Students majoring in communications cannot minor in communications.

### MINOR IN ADVERTISING (21 UNITS)

COMM 233 Mass Communications in Modern Society (3)

COMM 350 Principles of Advertising (3)

COMM 352 Advertising Media (3)

COMM 353 Creative Strategy and Execution I (3)

COMM 451A, B or C Advertising Campaigns (3)

Plus 6 units, approved by two advisers, from – COMM 380, 407, 415T, 425, 450, 452, 453, 455, 457 or 480

### MINOR IN JOURNALISM (21 UNITS)

Required courses for a Minor in Journalism must be taken in sequence. Each course builds upon the other. The three required journalism courses provide a core of information for beginning journalism students.

COMM 233 Mass Communications in Modern Society (3)

COMM 101 Writing for the Mass Media (3)

COMM 201 Reporting for Mass Media I (3)

COMM 202 Reporting for Mass Media II (3)

Plus three units from – COMM 310, 407 or 425

### Print Journalism Track

COMM 471 News Media Production (3)

Plus three units from – COMM 331, 332, 334, 335, 380, 434, 435, 436, 437, 438T

### Broadcast Journalism Track

COMM 372 Television News Production (3)

Plus three units from – COMM 331, 334, 335, 371, 380, 435, 436, 438T, 472

### MINOR IN PUBLIC RELATIONS (21 UNITS)

The minor in Public Relations offers students the opportunity to engage in a systematic program of study in the field of public relations, to complement their major field of study.

COMM 101 Writing for Mass Media (3)

COMM 233 Mass Communications in Modern Society (3)

COMM 361 Principles of Public Relations (3)

COMM 362 Public Relations Writing (3)

COMM 464 Public Relations Management (3)

Plus two courses from – COMM 407, 410, 425, 465, 467, 468, 469, 470, 480, 497T

### MASTER OF ARTS IN COMMUNICATIONS (30 UNITS) (MASS COMMUNICATIONS RESEARCH AND THEORY)

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants must have earned a minimum undergraduate GPA of 3.0 and minimum GRE score of 153 on the verbal portion. If the preparatory work was in a language other than English, a minimum TOEFL score of 550 (paper) or 80 (Internet) is also required. The following courses or their equivalents must be completed before undertaking graduate courses:

- Communications writing (COMM 201, 301, 351 or 362)
- Introductory course in communications or area of specialty (COMM 233, 332, 350 or 361)
- COMM 410 Principles of Communication Research

*Note:* Undergraduate prerequisite courses must be completed and do not count toward the graduate degree.

University writing requirements must be met as described on the Graduate Studies website: [fullerton.edu/graduate/](http://fullerton.edu/graduate/)

A study plan must be filed before the first nine units of course-work are completed.

### **MASTER OF ARTS IN COMMUNICATIONS (30 UNITS) (PROFESSIONAL COMMUNICATIONS)**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, each applicant must have a minimum undergraduate GPA of 2.75 and minimum GRE score of 153 on the verbal portion. If the preparatory work was in a language other than English, a minimum TOEFL score of 550 (paper) or 80 (Internet) is also required. At least one year of professional experience related to the field of communication is required. The following courses or their equivalents must be completed before undertaking graduate courses:

- Communications writing (COMM 201, 301, 351 or 362)
- Introductory course in communications or area of specialty (COMM 233, 332, 350 or 361)
- COMM 410 Principles of Communication Research

*Note:* Undergraduate prerequisite courses must be completed and do not count toward the graduate degree.

### **MASTER OF ARTS IN COMMUNICATIONS (30 UNITS) (TOURISM AND ENTERTAINMENT)**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, each applicant must have a minimum undergraduate GPA of 2.75 and minimum GRE score of 153 on the verbal portion. If the preparatory work was in a language other than English, a minimum TOEFL score of 550 (paper) or 80 (Internet-based) is also required. The following courses or their equivalents must be completed before undertaking graduate courses and do not count toward the graduate degree:

- Communications writing (COMM 201, 301, 351 or 362)
- Introductory communications course (COMM 233, 332, 350 or 361)
- COMM 410 Principles of Communication Research

### **Graduate Standing – Classified**

A student admitted in conditionally classified standing may be granted classified standing upon the development of an approved study plan and satisfactory completion of prerequisite coursework. Satisfactory coursework or its equivalent in the following may be taken concurrently with degree requirements if not completed prior to classification:

- Communications writing (COMM 201, 301, 351 or 362)
- Introductory course in communications (COMM 233, 332, 350 or 361)
- COMM 410 Principles of Communication Research (3)

### **Study Plan**

Students are required to complete their approved studies with a minimum grade-point average of 3.0, including 21 units in 500-level communications courses. A maximum of nine units may comprise 400-level courses appropriate to the student's area of interest.

The candidate must develop a program of study in consultation with a Department of Communications graduate adviser. The candidate must plan the thesis (6 units) or project (3 units) with a committee. The committee includes at least two faculty members from the Department of Communications.

### **COMMUNICATIONS COURSES**

Courses are designated as COMM in the class schedule.

#### **101 Writing for Mass Media (3)**

Prerequisites: ENGL 101 or equivalent with a "C" (2.0) or better; typing ability. Principles and practices of writing for major types of mass communications media. Content, organization, conciseness and clarity (2 hours lecture, 2 hours laboratory). One or more sections offered online.

#### **201 Reporting for Mass Media I (3)**

Prerequisite: COMM 101 or equivalent. Develop expertise in news reporting, including computer-assisted reporting and writing techniques, with an emphasis on print and Web reporting and writing. Students will have an opportunity to write for the Daily Titan.

#### **202 Reporting for Mass Media II (3)**

Prerequisite: COMM 101. Develop expertise in advanced news reporting and writing techniques, with an emphasis on the Web, radio and television. Learn basics of visual journalism storytelling, including basic elements of shooting videotape, recording audio, editing video and audio tape, and building news websites. Opportunities to contribute to the Daily Titan, Titan Online and/or OC News will be provided.

#### **233 Mass Communication in Modern Society (3)**

Prerequisite: completion of General Education (G.E.) Category D.1. Internet, newspapers, magazines, film, radio and television; their significance as social instruments and economic entities in modern society. One or more sections offered online.



### **300 Visual Communication (3)**

Prerequisite: completion of G.E. Category C.1 or C.2. Social and cultural analysis of the meaning, production and consumption of visual information in a modern media society. Still, moving, television, graphic design, cartoon and computer images will be analyzed in terms of technical, commercial and cultural considerations. Must pass with at least a "C" (2.0). One or more sections offered online.

### **301 Writing for Broadcasting and Film (3)**

Prerequisites: ENGL 101 or equivalent with a "C" (2.0) or better; typing ability. Theory and principles of writing in the broadcast and film media. (2 hours discussion, 1 hour activity)

### **310 Mass Media Ethics (3)**

Prerequisite: junior standing. Moral and professional conduct within various communications contexts. Examine cases involved with advertising, broadcast journalism, film, photojournalism, print journalism, public relations, television and the World Wide Web. One or more sections offered online.

### **315 Mass Media and Ethnic Groups (3)**

Representations of various ethnic and racial groups in advertising, news, film and television. Become more critical consumers of the media.

### **317 Digital Foundations (3)**

Prerequisite: completion of G.E. Category C.1 or C.2. Convergence of the basic principles and practices of digital photography, digital imaging, graphic design and webpage production for creative visual problem solving. One or more sections offered online. (2 hours lecture, 2 hours laboratory)

### **319 Visual Reporting (3)**

Prerequisite: COMM 317. Image creation for publication in print and/or screen media. Convergence of the basic principles and practices of digital photography, digital imaging, graphic design and webpage production for journalism-based visual problem solving. (2 hours lecture, 3 hours laboratory)

### **321 Studio Photography (3)**

Prerequisite: COMM 317. Creative and effective use of images in print and/or screen publications within advertising, public relations, entertainment studies and other commercial, persuasive communication contexts. (2 hours lecture, 3 hours laboratory)

### **331 News Literacy (3)**

Prerequisite: COMM 233. Provides a foundation in news literacy: using critical thinking skills to judge the reliability and credibility of information reports, whether via print, television, radio or Internet. Students will read and deconstruct a variety of news stories to determine their level of transparency and trustworthiness.

### **332 Editing and Design (3)**

Prerequisite: COMM 201. Principles and practice of newspaper editing: copy improvement, headline writing, news photos and cutlines, wire services, typography, copy schedules and control, page design and layout, law and ethics. (2 hours lecture, 3 hours laboratory)

### **333 Mass Media Effects (3)**

Prerequisite: completion of G.E. Category D.1. The role mass media communications play in all human activity with heavy emphasis on the effects of mass media on the political, social and economic fabric of America.

### **334 Feature Article Writing (3)**

Prerequisite: COMM 101 with a "C" (2.0) or better. Nonfiction writing for newspapers and magazines; sources, methods and markets.

### **335 Public Affairs Reporting (3)**

Prerequisite: COMM 201 with a grade of "C" (2.0) or better. COMM 407 recommended. Reporting public interest news such as courts, education, finance, government, police and urban problems.

### **346 Introduction to Entertainment and Tourism Studies (3)**

Introduction to the entertainment industry. Apply entertainment and persuasion theory. Learn about career opportunities in entertainment-related fields. Explore tasks, skill sets, demands and rewards associated with different entertainment professions. (Same as THTR 346)

### **350 Principles of Advertising (3)**

Functions, strategies, ethics, technology and media relevant to the advertising industry, as well as concepts in international, intercultural and integrated marketing communication.

### **351 Writing for the Advertising Industry (3)**

Prerequisite: ENGL 101. Develop written communications and critical thinking skills essential for success in all advertising-related careers. Compose persuasive letters, reports, proposals and news releases. Grammar and language skills. Students must achieve a "C" (2.0) or better to continue taking advertising courses. (2 hours lecture, 2 hours laboratory)

### **352 Advertising Media (3)**

Prerequisites: COMM 350 and junior standing. Plan, execute and control advertising media programs. Basic data and characteristics of the media. Buying and selling process, techniques and methods in media planning process. Audience measurement and media analysis.

### **353 Advertising Creative Strategy and Execution I (3)**

Prerequisites: ENGL 101, COMM 350 and junior standing. Write copy and lay out advertisements, based on study of sales appeals, attention factors and illustrations. (2 hours lecture, 2 hours activity)

### **361 Principles of Public Relations (3)**

Prerequisite: junior standing. Social, behavioral, psychological, ethical, economic and political foundations of public relations, and the theories of public relations as a communications discipline. One or more sections offered online.

### **362 Public Relations Writing (3)**

Prerequisites: COMM 101 and 361, both with a grade of "C" (2.0) or better; junior standing; typing ability. Communications analysis, writing for business, industry and nonprofit organizations. Creating effective forms of public relations communication. One or more sections offered online.

### **371 Radio News Production (3)**

Prerequisite: COMM 202. Writing, producing, planning, taping, editing and evaluating radio news. (2 hours lecture, 3 hours laboratory)

### **372 TV News Production (3)**

Prerequisite: COMM 202. Writing, production and evaluation of television news. Discussion of TV reporting techniques and problems. Cover events and produce TV news in lab. (2 hours lecture, 3 hours laboratory)

### **380 Interactive Media Design (3)**

Prerequisite: COMM 317. Underlying design concepts and production techniques for creating interactive multimedia presentations for educational lessons, commercial applications and online publications. (2 hours lecture, 2 hours laboratory)

### **407 Communications Law (3)**

Prerequisites: COMM 233 and junior standing. Anglo-American concept of freedom of speech and press; statutes and administrative regulations affecting freedom of information and publishing, advertising and telecommunication. Libel and slander, rights in news and advertising, contempt, copyright and invasion of privacy. One or more sections offered online.

### **409 Advanced Visual Reporting (3)**

Prerequisite: COMM 319. Advanced visual reporting. Extensive use of cameras for photographic reporting; evaluation and preparation of pictures for publication for both print and screen media. Field/laboratory experience in digital photography and processing. (2 hours lecture, 3 hours laboratory)

### **410 Principles of Communication Research (3)**

Prerequisites: COMM 233 and junior standing. Research methods used to assess the effects of print, broadcast and film communications on audience attitudes, opinions, knowledge and behavior. Research design and data analysis in communications research.

### **415T Current Issues in Advertising (3)**

Prerequisites: COMM 233, 350 or 361; permission of instructor. Variety of current advertising topics in all fields of communications. Professional problems, global issues, critical analysis and special skills are presented to supplement the curriculum and enhance the understanding of, and appreciation for, advertising concepts.

### **421 Advanced Studio Photography (3)**

Prerequisite: COMM 321. Students will prepare an advanced portfolio of images for print and/or screen publications that demonstrates their ability to produce professional quality illustrative assignments within advertising, public relations, entertainment studies and other commercial, persuasive communication contexts. (2 hours lecture, 3 hours laboratory)

### **422 Communications Technologies (3)**

Prerequisite: COMM 233. Issues surrounding communications technologies. Recent developments in technology, impact of government, industry and economic factors, historical overview and implications for social change. Technological developments. Applications to all areas of mass communications.

### **425 History and Philosophy of American Mass Communication (3)**

Prerequisites: COMM 233 and junior standing. American mass communication; newspapers and periodicals through radio and television; ideological, political, social and economic aspects. Not available for graduate degree credit. One or more sections offered online.

### **426 Global Media Systems (3)**

Prerequisites: COMM 233 and junior standing. Major mass communication systems, both democratic and totalitarian, and the means by which news and propaganda are conveyed internationally.

### **433 Working in the Magazine Industry (3)**

Prerequisite: COMM 233. Overview of the inner working of the magazine industry. How the magazine industry functions and what is involved in the creation and production of magazines.

### **434 Magazine Editing and Production (3)**

Prerequisite: COMM 201. Students produce Tusk, the magazine of Cal State Fullerton, and learn about the dynamics of magazine production and the magazine industry. Students work together in a professional setting to produce a high quality magazine.

### **435 Opinion Writing (3)**

Prerequisites: ENGL 101 or equivalent with a "C" (2.0) or better, upper-division writing course, and junior standing. Techniques of editorial writing and opinion writing, including personal essays, for print, broadcast and Internet. Role of punditry in television news and on TV and radio talk shows, and how this might affect public perceptions of the media.

**436 Reporting on the Entertainment Industry (3)**

Prerequisite: COMM 101. Developing expertise in reporting and writing on the entertainment industry. Understanding the economics, business models, legal aspects and culture of the industry.

**437 Advanced Magazine Writing (3)**

Prerequisite: COMM 334. Practical experience in reporting and writing long, in-depth feature articles for professional magazines. Challenges of researching and writing for specialized audiences and the business of freelancing. Techniques for improving clarity, brevity, cohesion and emphasis.

**438T Specialized Reporting (3)**

Prerequisite: COMM 201 or 202. Varied topic course designed to teach advanced reporting and writing skills in specialized areas. Combine an awareness of techniques and resources with an abundance of writing models and field experiences.

**439 Literacy Journalism (3)**

Prerequisite: COMM 334. Literary journalism in theory and practice. The works of literary journalism, elements of the genre and its historical development. Student will produce two major projects during the semester.

**444 Capstone for Visual Communications (3)**

Prerequisites: COMM 319, 321 or 380. Synthesize skills in interactive media design, studio photography and visual reporting. Work individually and in collaboration to produce a visual culture research paper, an individual skills-based project and a collaborative visual research project.

**446 Entertainment and Society (3)**

Prerequisites: COMM 233; COMM/THTR 346 or MGMT 365. In-depth exploration of the role of entertainment in modern society. Audience uses, motivations and individual preferences for entertainment. Theories and research regarding the form and function of entertainment and entertainment media.

**447 Tourism and Travel (3)**

Prerequisites: COMM 346, 350, 361, MGMT 339, MKTG 351 or THTR 200. Concepts, tools and techniques necessary for understanding the tourism and travel industry and its promotional communications. Trends and issues of tourism and travel and the unique problems and opportunities of this field. One or more sections offered online.

**448T Entertainment Industry Studies (3)**

Prerequisites: COMM 233; COMM/BUAD/THTR 346. Variable topics course focusing on specific entertainment industries, issues, organizations, trends and/or functions. May be repeated twice with a different topic.

**449 Capstone in Entertainment and Tourism Studies (3)**

Prerequisite: COMM 346 or equivalent. Prepares for careers in the entertainment industry by combining theory with applied principles and analytical skills in examining and developing case studies. Students plan and execute their own campaigns and projects. One or more sections offered online. (Same as THTR 449)

**450 Advertising and Brand Communication Management (3)**

Prerequisites: COMM 350, 352, 353. Theory and techniques for planning, directing and evaluating advertising and brand communication programs, with emphasis on media-message strategies. Managerial approach with case studies to the solution of brand communications problems.

**451A Advertising Campaigns – AAF Competition (3)**

Prerequisites: COMM 350, 352, 353 and consent of instructor. Advertising campaigns, including applied research, writing and utilization of print and electronic mass media. Design of complete campaigns from idea to prediction readiness. Must pass with at least a “C” (2.0).

**451B Advertising Campaigns – Local Focus (3)**

Prerequisites: COMM 350, 352, 353. Advertising campaigns, including applied research, writing and utilization of print and electronic mass media. Design complete campaigns from idea to prediction readiness. Must pass with at least a “C” (2.0).

**451C Advertising Campaigns – TitanCom Agency (3)**

Prerequisites: Advertising majors – COMM 350, 352, 353; Public Relations majors – COMM 361, 362. Advertising campaigns, including applied research, writing and utilization of print and electronic mass media. Design complete campaigns from idea to prediction readiness. Must pass with at least a “C” (2.0).

**452 Advanced Media Strategy and Tactics (3)**

Prerequisite: COMM 350, 352. Further education in advertising media. Integrate theories from related disciplines, such as communications, marketing and psychology to illustrate better ways to use media as a competitive tool in business.

**453 Advertising Creative Strategy and Execution II (3)**

Prerequisites: COMM 350, 353 and 317 or 358, or equivalent approved by advertising adviser. Advanced advertising projects involving application and execution of creative advertising strategies for mass media, including theory and practice of writing copy, and preparing comprehensive layouts and completed scripts. Group discussions, labs and individual conferences.

**454 Advertising Media Sales (3)**

Prerequisites: COMM 350 and 353; or COMM 332 and either 217 or 358; or MKTG 351 and any 300-level graphics, layout or design course. Prepares for careers in advertising media sales, including radio, television, newspaper, magazine, new media and the Internet. Personal sales techniques and media sales strategies are presented for each medium.

#### **455 Internet Advertising and Promotional Communications (3)**

Prerequisites: COMM 350, 352, 353. Internet advertising and marketing issues and ideas. Evaluate, develop and execute Internet-based advertising and promotional campaigns.

#### **456 Advertising Account Planning (3)**

Prerequisites: COMM 353, 410. Apply principles of research, consumer behavior and creative concept development to advertising and brand communication campaigns. Field study and case application facilitate the process of the planner's consumer advocacy function.

#### **457 Broadcast Advertising (3)**

Prerequisites: COMM 350, 353, junior standing. Theoretical and practical exposure to the field of broadcast advertising from an agency perspective, including positioning, creative brief writing, strategy, script development and analysis, storyboarding and pitching.

#### **462 Advanced Writing in Public Relations (3)**

Prerequisite: COMM 362 with a "C" (2.0) or better. Further refines writing skills related to advanced public relations tactics, including the use of social media.

#### **464A Public Relations Management: Agency (3)**

Prerequisites: Public Relations majors – COMM 361, 362, junior standing; Advertising majors – COMM 350, 352, 353. Analyze systems and strategies for planning public relations campaigns and solving/preventing problems. Individual, team case studies, in corporate development of proposals; actual use of tools in addition to role playing presentations to management. Must pass with at least a "C" (2.0).

#### **464B Public Relations Management (3)**

Prerequisites: COMM 361, 362, junior standing. Analyze systems and strategies for planning public relations campaigns and solving/preventing problems. Individual, team case studies, in corporate development of proposals; actual use of tools in addition to role playing presentations to management. Must pass with at least a "C" (2.0).

#### **465 Entertainment Public Relations (3)**

Prerequisites: COMM 361 or COMM/THTR 346. Public relations strategies and tactics as used in the entertainment industry, including media relations, talent relations, special events, high visibility techniques, presentation and dealing with adverse situations.

#### **467 Public Relations Agency Seminar (3)**

Prerequisites: COMM 101, 361 and junior standing. Psychology and functions of client counseling, proposal writing, new business development, agency management, servicing clients, evaluation of methods, reporting results, and legal and ethical concerns.

#### **468 Corporate and Nonprofit Public Relations (3)**

Prerequisites: COMM 101, 361. Public relations strategies and tactics used in today's increasingly sophisticated and maturing corporate and nonprofit marketplaces. This advanced course, which relies heavily on professional guest speakers and in-class simulations/exercises, encompasses a host of specific topics, such as fundraising, corporate and social responsibility, media relations, and technology and ethical issues.

#### **469 Crisis Communications (3)**

Prerequisites: COMM 233, junior standing. Practical experience in preparing for and responding to crisis situations across a wide variety of contexts. Theory and practice of organizational issue management, crisis planning and crisis response. Current and future challenges of issue/crisis management.

#### **471 News Media Production (3)**

Prerequisites: COMM 201, 319, 321 or 380. Class members constitute the editorial staff of the university newspaper and receive training in print, online and magazine-style journalism. Meets four hours per week for critiques in news reporting, writing, editing and makeup, followed by production. (More than 9 hours laboratory)

#### **472 Advanced Electronic News Production (3)**

Prerequisite: COMM 372. Advanced news writing and production for television, radio and web. Students develop their electronic news production skills by working on "OC News," daily television, radio and web newscasts. (2 hours lecture, 3 hours laboratory) May be repeated once for credit.

#### **480 Persuasive Communications (3)**

Prerequisites: COMM 233 and junior standing. Persuasive communications applied to mass communication. The communicator, audience, message content and structure, and social context in influencing attitudes, beliefs and opinions.

#### **481 Advanced Interactive Media Design (3)**

Prerequisite: COMM 380. Interactive media design for various platforms and design topics such as interactive narratives, experience design, usability and accessibility and productive interaction. Students will learn to use current interactive media protocols to develop projects for interactive audiences. (2 hours lecture, 2 hours laboratory)

#### **495T Mass Media Internship (3)**

Prerequisites: senior standing; communications major; 2.25 GPA overall and in major.; For specific prerequisites for each concentration, visit: [communications.fullerton.edu/students/internships.asp](http://communications.fullerton.edu/students/internships.asp). Supervised internship according to concentration. Select from a wide variety of communications media, industries, agencies and nonprofit organizations. See the department section "Internship Requirements" in this catalog or, the internship website. Credit/No Credit Only.



**496 Student-to-Student Tutorial (1-3)**

Prerequisites: consent of instructor and previous superior performance in a similar or equivalent course. Under faculty supervision, provides tutorial assistance in a communications course. May involve small group demonstrations and discussions, individual tutoring and evaluation of student performance as appropriate. May be repeated for a maximum of four units either separately or in combination with COMM 499.

**497T Event Planning and Management (3)**

Prerequisite: COMM 361, 346 or 350, or BUAD 301 or 346. Plan, produce and promote public events to meet communication objectives. Hands-on applications to COMM Week, film festivals or other events. May be repeated once for extra elective units only.

**499 Independent Study (1-3)**

Prerequisite: consent of department chair. Individually supervised mass media projects and research on campus and in the community. May involve newspaper and magazine publishers, radio and television stations, and public relations agencies. May be repeated up to a maximum of four units either separately or in combination with COMM 496.

**500 Theory and Literature of Communications (3)**

Prerequisite: conditional classified status. Theories and research on communication processes and effects; source, media, message, audience and content variables; types, sources and uses of communication literature. Graduate seminar.

**507 Communications Research Design and Analysis (3)**

Pre- or corequisite: COMM 500. Develops a working knowledge of data collection and analysis techniques in both quantitative and qualitative research methods. Material and presentation are developed for practical application to all professional fields of communication.

**508 Humanistic Research in Communications (3)**

Prerequisites: COMM 410, 500. Humanistic methods of study in communications: historical research and critical analysis applied to problems, issues and creative works in communication. Graduate seminar.

**509 Social Science Research in Communications (3)**

Prerequisites: COMM 410, 500. Social-scientific research design and analysis and the study of communication processes and effects. Graduate seminar.

**515T Professional Problems in Specialized Fields (3)**

Prerequisite: COMM 500. Selected topics and issues in the field of mass communications. Subjects vary each semester. May be repeated with a different topic.

**516 Media Audience Behavior (3)**

Prerequisite: COMM 500. In-depth analysis of the types, attitudes and behaviors of media audiences. Theories from psychology, marketing, anthropology and communications are integrated for comprehensive understanding of why people consume media and performance. Appropriate for all Communications disciplines.

**517 Ethical Problems of the Mass Media (3)**

Prerequisite: COMM 500. Criticisms of specific functions of the mass media and public relations. Consists of three sections: history of criticism; problem areas of the media; and practitioner response to criticism. Offered online only.

**518 Public Relations Theory (3)**

Prerequisite: COMM 500. Cutting-edge communication and organizational theories and vital emerging issues influencing the field of public relations. Special focus on contemporary public relations models and practitioner roles. One or more sections offered online.

**520C Public Relations (3)**

Prerequisites: COMM 500, 518 and six units of study plan courses in area of specialization. Under supervision of a faculty member, plan, design, conduct and evaluate a team project in their field of specialization.

**525 Advanced Communications Management (3)**

Prerequisite: COMM 500. Up-to-date assessment of general management and communications management techniques, and helps equip for management positions in advertising, journalism, public relations and broadcasting.

**527 Politics and Mass Media (3)**

Prerequisite: COMM 500. Nature of the relationship between the mass media and politics. Particular attention to the role and impact of the mass media in political election campaigns and policy making.

**530 Communications Technologies (3)**

Prerequisite: COMM 500. Emerging communications technologies that are transforming professional practices associated with various communications industries. Recent technological developments, corporate and government policies affecting their use, and social consequences of current and projected applications. One or more sections offered online.

**534 American Media History (3)**

Prerequisite: COMM 500. History of American mass media, from McCarthy to the present – a period that marked the birth of television and the maturation of investigative journalism in shaping American attitudes about government and society.

**536 International Communications (3)**

Prerequisite: COMM 500. Comparative examination of communications policies and practices in different national settings. Provides future practitioners with an understanding of cross-national variations in communication policies and how they shape communication industries and practices.

**541 Film Criticism (3)**

Prerequisite: COMM 500. Graduate foundation course in screenwriting that examines methods of evaluating and critiquing motion picture screenplays and films for a variety of Hollywood genres.

**550 Advertising in Modern Society (3)**

Prerequisite: COMM 500. Assessing the impact of advertising on society, the culture and economy. Philosophical rather than technical examinations of critical issues and problems, such as economic and social effects of advertising, effects of value and life styles, ethics and regulation.

**560 Socio-Cultural Implications of Tourism and Entertainment (3)**

Purpose, devolvement and communication of tourism and travel products and their effects on communities and individuals. Economic, social, cultural and environmental impact on the local, national and global levels. One or more sections offered online.

**561 Tourism: Professional Practices and Issues (3)**

Legislation, law, ethics and social values and their effects on tourism destinations and attractions. Self-regulation and communication efforts of the industry, as well as specialized legal and ethical requirements. One or more sections offered online.

**562 Destination Development and Communications (3)**

Strategies that tourist destination organizations use to plan and communicate when working with various entities. Importance of government and industry relationships and how their interactions affect the formation of government policy. One or more sections offered online.

**563 Tourism Venues and Attractions (3)**

Communication efforts in developing entertainment themes in tourism destinations, venues and attractions to draw attention and audiences. Different public relations and advertising principles used in targeting media and specific publics. One or more sections offered online.

**595 Graduate Mass Media Internship (3)**

Prerequisites: COMM 500, and COMM 508 or 509, and consent of graduate adviser. Supervised practical work experience with media outlets, advertising and promotion agencies, public relations firms, film companies, etc. Involves cooperative efforts of departmental faculty and employers. Exposure to current and innovative techniques in research, management and creative activities while offering practical experience.

**597 Project (3)**

Prerequisite: consent of graduate coordinator. Completion of creative project in a sequence beyond regularly offered coursework.

**598 Thesis (3 or 6)**

Prerequisite: consent of graduate coordinator. Completion of a thesis in a sequence beyond regularly offered coursework.

**599 Independent Graduate Research (1-3)**

Prerequisite: consent of graduate coordinator. Individually supervised mass media projects or research for graduate students. May be repeated.



# Comparative Religion

College of Humanities and Social Sciences

## INTRODUCTION

The mission of the Department of Comparative Religion is to describe and interpret the developments, worldviews and practices of religious traditions in a non-sectarian, academic manner for the benefit of students, faculty from other fields and the greater Orange County community.

Within a public university, religion must be approached with academic objectivity and without favoritism for any one tradition. Yet, religion must also be studied with sensitivity and empathy for the millions of believers whose lives are shaped by their faith.

Comparative Religion examines the spiritual quest of humankind, especially as it has manifested itself in the world's living religions. These include Hinduism, Buddhism, Sikhism, Judaism, Christianity, Islam and other less familiar traditions. No other academic field looks at the origins, sacred writings, rituals, beliefs and world views of the various religions for their own sake rather than as an aspect of another field of study.

The Bachelor of Arts in Religious Studies is designed for those who: (1) want a humanities undergraduate background focusing on religion as a preparation for further study in such fields as education, law, social work, counseling and government service; (2) wish to pursue graduate studies in religion with the aim of teaching and/or conducting research in the subject; (3) are considering a career in various religious ministries or in religious education.

Because the major consists of 36 units of coursework (less than some other fields), it may be possible to add a second major in, for example, Communications, History or Philosophy. Such double majors may strengthen a student's job preparation or background for graduate studies.

Minors in religion are offered in four areas, depending on a student's particular interest: Religious Studies (comparative emphasis); Christian Studies; Jewish Studies; and Islamic Studies.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in Comparative Religion:

### Ability to conduct research and interpret materials

- Analyze written materials related to the study of religion
- Acquire information literacy in the study of religion

### Effective communication

- Write well-organized critical and analytical research papers related to the study of religion
- Speak clearly and effectively using relevant and adequate supporting evidence

## DEPARTMENT CHAIR

Paul J. Levesque

## DEPARTMENT OFFICE/WEBSITE

University Hall 313

657-278-2442

[religion.fullerton.edu](http://religion.fullerton.edu)

## PROGRAMS OFFERED

Bachelor of Arts in Religious Studies  
Minor in Religious Studies  
Minor in Christian Studies  
Minor in Islamic Studies  
Minor in Jewish Studies

## FACULTY

M. Zakyi Ibrahim, Paul Levesque,  
James Santucci, Jeanette Reedy Solano,  
Bradley Starr

### **Demonstrate an understanding of religious traditions**

- Describe the basic teachings and practices of major religious traditions, and compare and contrast the principal similarities and differences between them
- Identify the history and development of specific religions and their contemporary relevance
- Compare key theories and theorists in the study of religion
- Interpret key thinkers and figures within religious traditions

### **BACHELOR OF ARTS IN RELIGIOUS STUDIES (120 UNITS)**

The Bachelor of Arts in Religious Studies requires 36 units in the major, all of which must be completed with a “C” (2.0) or higher.

#### **Lower-Division Requirements (9 units)**

##### *Introduction to the Study of Religion (3 units)*

CPRL 105 Religion and the Quest for Meaning (3)

CPRL 110 Religions of the World (3)

##### *Introduction to Western Religious Traditions (3 units)*

CPRL 200 Introduction to Christianity (3)

CPRL 201 Introduction to the New Testament (3)

CPRL 210 Introduction to Judaism (3)

CPRL 250 Introduction to Islam (3)

##### *Introduction to Non-Western Religious Traditions (3 units)*

CPRL 270T Introduction to the Asian Religions (3)

CPRL 280 Introduction to Buddhism (3)

#### **Upper-Division Requirements (27 units)**

##### *Methods and Concepts (6 units)*

CPRL 300 Methods of Studying Religion (3)

CPRL 485T Major Religious Thinkers and Concepts (3)\*

##### *Development of Western Religious Thought (6 units)*

CPRL 350T Major Christian Traditions (3)

CPRL 351 History and Development of Early Christian Thought (3)

CPRL 352 History and Development of Modern Christian Thought (3)

CPRL 361 History and Development of Jewish Thought: Biblical and Rabbinical Eras (3)

CPRL 362 History and Development of Jewish Thought: Medieval and Modern Eras (3)

CPRL 371 History and Development of Islamic Thought: The Beginning to 1258 (3)

CPRL 372 History and Development of Islamic Thought: 1259 to Modern Times (3)

HIST/CPRL 412A History of the Christian Church to the Reformation (1517) (3)

HIST/CPRL 412B History of the Christian Church from the Reformation to the Present (3)

HIST/CPRL 412C History of the Jews (3)

HIST/CPRL 417B Roman Empire (3)

HIST 420 The Byzantine Empire (3)

HIST/CPRL 425B The Reformation (3)

HIST/CPRL 435A The Holocaust (3)

HIST/CPRL 466A Islamic Civilization: Arab Era (3)

HIST/CPRL 466B Islamic Civilization: Imperial Age (3)

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\*May be taken only after completing 15 units in Comparative Religion, including CPRL 105 or 110 and 300, and junior standing.

##### *Development of Non-Western Religious Thought (6 units)*

AFAM/CPRL 325 African American Religions and Spirituality (3)

AFAM/CPRL 337 American Indian Religions and Philosophy (3)

CPRL 341 Hindu Tradition to 400 B.C.E. (3)

CPRL 342 Hindu Tradition from 400 B.C.E. (3)

PHIL 350 Asian Philosophy (3)

CPRL/PHIL 354T Topics in Buddhism (3)

CPRL 370 New Religious Movements in the U.S.A. (3)

HIST/CPRL 465A History of India (3)

HIST/CPRL 465B History of India (3)

##### *Experience of Religion (6 units)*

CPRL 306 Contemporary Practices of the World's Religions (3)

CPRL 311 Religion and Film (3)

CPLT/CPRL 312 The Bible as Literature (3)

CPRL 335 Judaism, Christianity, and Islam Compared (3)

PHIL/CPRL 348 Philosophy of Religion (3)

CPRL 358 Comparative Mysticism (3)

CPRL 367 Religion in Latino/a Life (3)

CPRL 373 Women in Islam (3)

CPRL 374 Issues in Contemporary Islam (3)

CPRL 375 Conceptions of the Afterlife (3)

CPRL 380 Religion and Violence (3)

CPRL/POSC 381 Religion and Politics in the United States (3)

CPRL 397 Religion and Science (3)

CPRL 400 Religion, the Media, and Contemporary Culture (3)

SOCI/CPRL 458 Sociology of Religious Behavior (3)

##### *Textual Studies (3 units)*

CPRL 330T Hebrew Scriptural Studies (3)

CPRL 331T New Testament Studies (3)

CPRL 401T Studies in Religious Texts (3)



## Writing Requirement

The course requirement of the university upper-division baccalaureate writing course is met through CPRL 485T. It is highly recommended that students majoring in Religious Studies pursue the study of classical languages such as Arabic, Greek, Hebrew, Latin and Sanskrit when such languages are offered.

## MINOR IN RELIGIOUS STUDIES (21 UNITS)

### Lower-Division Requirements (9 units)

*Introduction to the Study of Religion (3 units)*

CPRL 105 Religion and the Quest for Meaning (3)

CPRL 110 Religions of the World (3)

*Introduction to Western Religious Traditions (3 units)*

CPRL 200 Introduction to Christianity (3)

CPRL 201 Introduction to the New Testament (3)

CPRL 210 Introduction to Judaism (3)

CPRL 250 Introduction to Islam (3)

*Introduction to Non-western Religious Traditions (3 units)*

CPRL 270T Introduction to the Asian Religions (3)

CPRL 280 Introduction to Buddhism (3)

### Upper Division (12 units)

*Core Requirements (3 units)*

CPRL 300 Methods of Studying Religion (3)

*Elective Courses (9 units)*

Any nine units of upper-division courses in Comparative Religion. It is highly recommended that students minoring in Religious Studies pursue the study of classical languages such as Arabic, Greek, Hebrew, Latin, and Sanskrit when such courses are offered.

## MINOR IN CHRISTIAN STUDIES (21 UNITS)

### Required Courses (12 units)

CPRL 200 Introduction to Christianity (3)

CPRL 300 Methods of Studying Religion (3)

CPRL 351 History and Development of Early Christian Thought (3)

CPRL 352 History and Development of Modern Christian Thought (3)

### Elective Courses (9 units), three of the following:

CPRL 201, 311, 331T, 335, 350T, 358, 367, 375, 380, 381, 397, 400, 485T\*, 499\*

CPLT/CPRL 312

AFAM/CPRL 325

HIST 420

HIST/CPRL 412A, 412B, 417B, 425B

SOCI/CPRL 458

It is highly recommended that students minoring in Christian Studies pursue the study of classical languages such as Greek, Hebrew, and Latin when such courses are offered.

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\*When content pertains to the Christian tradition.

## MINOR IN ISLAMIC STUDIES (21 UNITS)

### Required Courses (12 units)

CPRL 250 Introduction to Islam (3)

CPRL 300 Methods of Studying Religion (3)

CPRL 371 History and Development of Islamic Thought:  
The Beginning to 1258 (3)

CPRL 372 History and Development of Islamic Thought:  
1259- Modern Times (3)

### Elective Courses (9 units), three of the following:

AFAM/CPRL 325

CPRL 335, 373, 374, 375, 380, 381, 400, 401T\*, 485T\*, 499\*

HIST 468

HIST/CPRL 466A, 466B

SOCI/CPRL 458

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\*When content pertains to the Islamic tradition

## MINOR IN JEWISH STUDIES (21 UNITS)

### Required Courses (12 units)

CPRL 210 Introduction to Judaism (3)

CPRL 300 Methods of Studying Religion (3)

CPRL 361 History and Development of Jewish Thought:  
Biblical and Rabbinical Eras (3)

CPRL 362 History and Development of Jewish Thought:  
Medieval and Modern Eras (3)

### Elective Courses (9 units), three of the following:

CPLT/CPRL 312

CPRL 330T, 335, 358, 375, 380, 381, 400, 485T\*, 499\*

HIST 467, 468

HIST/CPRL 412C, 435A

SOCI/CPRL 458

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\*When content pertains to the Jewish tradition.

## COMPARATIVE RELIGION COURSES

Courses are designated as CPRL in the class schedule.

### 105 Religion and the Quest for Meaning (3)

Nature of religious experience as the human pursuit of meaning and transcendence, exploring its central themes, phenomena and questions; its principal types of figures and communities; and its major categories of sacred rituals, objects, seasons and places.

### 110 Religions of the World (3)

Introduction to at least five religious world views from an historical and comparative perspective, with descriptive analysis of their belief system, moral code and symbolic rituals: Judaism, Christianity, Islam, Hinduism and Buddhism. One or more sections offered online. (Same as PHIL 110)

### 200 Introduction to Christianity (3)

Overview of the Christian tradition, including Orthodox, Roman Catholic and Protestant expressions. Foundational councils, creeds, scriptures, ideas and worship styles. One or more sections offered online.

### 201 Introduction to the New Testament (3)

Textual and historical study of the origins and content of the New Testament in the context of first-century Christianity. One or more sections offered online.

### 210 Introduction to Judaism (3)

The Jewish tradition – its scriptures, laws, customs, holidays and world view in their historical setting.

### 246A Basic Hatha Yoga (2)

(Same as KNES 246A)

### 246B Intermediate Hatha Yoga (2)

(Same as KNES 246B.)

### 250 Introduction to Islam (3)

Religion of Islam, its background and main teachings: the rise of Islam; the caliphate; Islamic theology, teachings, mysticism and philosophy. One or more sections offered online.

### 270T Introduction to the Asian Religions (3)

Main teachings of a major South Asian, Far Eastern or “Oriental” religion per semester. Such religions as Jainism, Hinduism, Taoism, Shintoism and Zoroastrianism will be discussed. May be repeated for credit with different subject matter. One or more sections offered online.

### 280 Introduction to Buddhism (3)

Introduction to the origins and development of Buddhism. Discussion of the major teachings found in all traditions of Buddhism, the three major traditions of Buddhism and the position of Buddhism in the U.S. One or more sections offered online.

### 300 Methods of Studying Religion (3)

Prerequisite: completion of any lower-division CPRL course or instructor approval. Academic study of religion to include: the definition, functions and varieties of religion; the methods used to study it; and key figures who have shaped the development of this discipline.

### 301 Sanskrit (3)

(Same as LING 301)

### 306 Contemporary Practices of the World's Religions (3)

Prerequisite: completion of General Education (G.E.)

Category C.2. Comparative study of how the beliefs, practices and moral codes of the world's major religions influence the way nations and individuals behave in the spheres of daily life, culture, ethics, business and politics.

### 311 Religion and Film (3)

Prerequisites: completion of any lower-division CPRL or RTVF course. Religion and religious themes in film – a powerful medium through which we explore the meaning of life, relationships, moral quandaries and ontological issues.

### 312 The Bible as Literature (3)

(Same as CPLT 312)

### 322 Asian Pacific Americans and Religion (3)

(Same as ASAM 322)

### 325 African-American Religions and Spirituality (3)

(Same as AFAM 325)

### 330T Hebrew Scriptural Studies (3)

Specific areas of Hebrew Scriptures, such as major and minor prophets, Psalms, values of wisdom writers, books of the Old Testament. May be repeated for credit with different subject content.

### 331T New Testament Studies (3)

Specific areas of the New Testament, such as the Synoptic Gospels, Pauline Corpus, Johannine Corpus, etc. May be repeated for credit with different subject matter.

### 335 Judaism, Christianity and Islam Compared (3)

Comparative study of the three great monotheistic traditions: Judaism, Christianity and Islam; their beliefs, practices and structures.

### 337 American Indian Religions and Philosophy (3)

(Same as AFAM 337)

### 341 Hindu Tradition to 400 B.C.E. (3)

Prerequisite: completion of G.E. Category C.2. Hindu thought in its earliest period. Subjects will include an overview of Vedic literature, especially its religious content and the major rituals of the early Veda; philosophical developments in the Upanisads or later Veda; and related sacred writings. One or more sections offered online.

**342 Hindu Tradition from 400 B.C.E. (3)**

Prerequisite: completion of G.E. Category C.2. Hindu thought after the Vedic period. Subjects will include the beginnings of Hindu philosophies, classical Hindu practice, devotionism, modern or neo-Hindu groups appearing in the 19th century, and the contributions of thinkers such as Ramakrishna and Gandhi. One or more sections offered online.

**348 Philosophy of Religion (3)**

(Same as PHIL 348)

**350T Major Christian Traditions (3)**

Prerequisite: completion of G.E. Category C.2. Catholicism, Protestantism, Eastern Christianity or Post-Reformation Communities; historical development and self-understanding, liturgy, creeds, moral norms, canon laws and outstanding figures. May be repeated for credit with different content.

**351 History and Development of Early Christian Thought (3)**

Prerequisite: completion of the G.E. Category C.2. Historical study of the diversity of Christian beliefs, movements and key figures from New Testament times to the late Middle Ages, including such topics as important creeds and councils, spiritual movements, and central figures such as Augustine and Aquinas.

**352 History and Development of Modern Christian Thought (3)**

Prerequisite: completion of G.E. Category C.2. Historical study of the diversity of Christian beliefs, movements and key figures from the late Middle Ages to the present, including such topics as the context and thinkers of the Reformation era, post-Reformation controversies, and recent debates and trends.

**354T Topics in Buddhism (3)**

Prerequisite: CPRL 105, 110 or 280. Historical survey of Buddhist doctrines, schools and practices in a particular region or regions, which are: South Asia, Tibet, China, Japan, Korea and Southeast Asia. May be repeated for credit with different content. (Same as PHIL 354T)

**358 Comparative Mysticism (3)**

Prerequisite: CPRL 105, 110 or equivalent. Comparative survey of mysticism as a recurring phenomenon within major religious traditions. Included are selected writings and representative male and female figures, analyzed from philosophical and psychological viewpoints. Definitions, terms, metaphors, techniques, and stages of the mystical experience.

**361 History and Development of Jewish Thought: Biblical and Rabbinical Eras (3)**

Prerequisite: completion of G.E. Category C.2. Hebrew Scriptures in their historical context, of the development of rabbinical Judaism and the Talmud, and of Judaism in the Christian and Muslim worlds down to the close of the Spanish "Golden Age" (1150).

**362 History and Development of Jewish Thought: Medieval and Modern Eras (3)**

Prerequisites: completion of G.E. Category C.2. Maimonides' legacy, the impact of mysticism, rise of anti-Semitism, emancipation of European Jews, the Holocaust, Israel's founding and history, and contributions of Jews to American culture.

**367 Religion in Latino/a Life (3)**

Prerequisite: completion of G.E. Category C.2. National and international expressions of Latino/a religiosity – from popular religion to Marian devotion to curanderismo – are explored through film, historical documents, poetry, theology, art, sociology and ethnic studies. (Same as CHIC 367)

**370 New Religious Movements in the U.S.A. (3)**

Beliefs, history, ritual and organizational make-up of non-traditional modern religions in America, such as Scientology, the Unification Church, Hare Krishna (ISKCON) and Rajneeshism as presented by guest speakers. Discussion of "cult," "sect" and the occult will comprise portion of course.

**371 History and Development of Islamic Thought: The Beginning to 1258 (3)**

Prerequisite: Completion of G.E. Category C.2. Islamic theology, law, culture and spirituality up to the close of the classical period in 1258. Interpretation of the Qur'an, formation of Hadith literature, development of Islamic law, divisions within Islam, rise of mysticism, contributions to science and art.

**372 History and Development of Islamic Thought: 1259 to Modern Times (3)**

Prerequisite: Completion of G.E. Category C.2. Islamic thought from the close of the classical period to the present, with emphasis on 20th century developments. Emergence of modern Middle East, reform movements, Islamic response to nationalism and modernity, recent Islamic resurgence.

**373 Women in Islam (3)**

Prerequisite: Completion of G.E. Category C.2. Status and roles of Muslim women from the perspectives of the basic Islamic texts (The Qur'an and Prophetic Traditions). Topics include rights, marriage and divorce, seclusion and dress codes, and religious, economic and socio-political participation.

**374 Issues in Contemporary Islam (3)**

Prerequisite: Completion of G.E. Category C.2. Some of the contentious issues in Islam. Topics include the concepts of piety, peace, jihad, fundamentalism, terrorism, democracy, human rights, leadership of women and sexuality; the intellectual arguments surrounding these topics.

**375 Conceptions of the Afterlife (3)**

Prerequisites: completion of G.E. Category C.2; CPRL 110 recommended. How selected religious traditions have sought to answer the question “What happens when I die?” Resurrection, reincarnation, immortality of the soul, heaven and hell. One or more sections offered online.

**380 Religion and Violence (3)**

Prerequisites: completion of G.E. Categories C.2 and D.1. Interdisciplinary exploration of major theories, developments and documents connected to the relationship between religious practices and motivations for engaging in, preventing or rejecting violent behavior.

**381 Religion and Politics in the United States (3)**

Prerequisite: completion of G.E. Category D.1. Relationship of politics and religion, especially in the U.S. The colonial and constitutional experience, Supreme Court decisions on religious issues, the principal theorists of moral discourse in the public forum, contemporary issues of concern. (Same as POSC 381)

**397 Religion and Science (3)**

Prerequisites: completion G.E. Categories B.1 and B.2; C.2. Historical and contemporary interaction of religion and science through a study of religious thought and scientific method. Topics will include the scientific revolution, evolutionary theory and Quantum physics as these relate to religious faith.

**400 Religion, the Media, and Contemporary Culture (3)**

Prerequisite: AMST 201 or COMM 233 or HIST 180 or CPRL 105 or 110. Religion reporting in the secular media; the religious press in America; the influence of the media, both secular and religious, on the shaping of society's values; ethical dilemmas faced by reporters.

**401T Studies in Religious Texts (3)**

Prerequisite: CPRL 105 or 110. Study and interpretation of a selected portion of the scriptures of a particular religion, for example, the Hebrew Bible/Old Testament, the New Testament, the Qur'an, the Veda, the Pali Canon.

**412A History of the Christian Church to the Reformation (1517) (3)**

(Same as HIST 412A)

**412B History of the Christian Church From the Reformation to the Present (3)**

(Same as HIST 412B)

**412C History of the Jews (3)**

(Same as HIST 412C)

**417B Roman Empire (3)**

(Same as HIST 417B)

**425B The Reformation (3)**

(Same as HIST 425B)

**435A The Holocaust (3)**

(Same as HIST 435A)

**458 Sociology of Religious Behavior (3)**

(Same as SOCI 458)

**465A History of India (3)**

(Same as HIST 465A)

**465B History of India (3)**

(Same as HIST 465B)

**466A Islamic Civilization: Arab Era (3)**

(Same as HIST 466A)

**466B Islamic Civilization: Imperial Age (3)**

(Same as HIST 466B)

**485T Major Religious Thinkers and Concepts (3)**

Prerequisites: 15 units in CPRL, including CPRL 105 or 110 and 300, and junior standing or approval of undergraduate adviser. Religious thinkers and concepts dealing with Western, Eastern and non-traditional religious ideas from ancient to modern times. Fulfills university upper-division baccalaureate writing requirement. May be repeated with different content.

**499 Independent Study (1-3)**

Supervised research projects in Comparative Religion to be taken with consent of instructor and the department chair. May be repeated for credit.



# Computer Engineering

College of Engineering and Computer Science

## INTRODUCTION

The undergraduate program in Computer Engineering at CSUF provides students with a strong theoretical and practical background in the computer hardware and software aspects of computer-based systems, along with the engineering analysis, design and implementation skills necessary to work between the two. The curriculum is based on an engineering philosophy, with emphasis on hardware more than software. Topics integrated into the curriculum include digital systems, computer organization and architecture, processor interfacing techniques, VHDL design, advanced electronics and embedded system design. Elective courses required by the program allow students to specialize in key engineering technology and computer science areas. The program also requires two semesters of multidisciplinary senior design project. The computer engineering program is designed to develop an ability to apply design and analysis knowledge to the practice of computer engineering in an effective and professional manner.

The proliferation of embedded systems in an increasing array of industrial products assures a ready market for graduates in the computer engineering discipline. Computer engineers are employed in a wide range of industries, including VLSI chip design and manufacturing, autonomous systems, consumer electronics, expert systems, smart devices, digital signal processing (DSP) systems, computer manufacturing from PDAs to super computers, and automatic controls. A majority of products, such as airplanes, automobiles, home appliances, consumer electronics, robots etc., use computers and employ computer engineers in their designs. Computer engineers are also needed in the design and implementation of computer networks for business, industrial and governmental institutions.

The Bachelor of Science degree in Computer Engineering is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and outcomes have been established for students pursuing a degree in Computer Engineering:

### Program Educational Objectives

- A. Technical Growth – Graduates will be successful in modern engineering practice, integrate into the local and global workforce, and contribute to the economy of California and the nation
- B. Professional Skills – Graduates will continue to demonstrate the professional skills necessary to be competent employees, assume leadership roles, and have career success and satisfaction
- C. Professional Attitude and Citizenship – Graduates will become productive citizens with high ethical and professional standards, who make sound engineering or managerial decisions, and have enthusiasm for the profession and professional growth

### PROGRAM COORDINATOR

Susamma Barua

### PROGRAM OFFICE/WEBSITE

Engineering 100G  
657-278-5987  
[fullerton.edu/ecs/cpe](http://fullerton.edu/ecs/cpe)

### PROGRAM OFFERED

Bachelor of Science in Computer  
Engineering

### PROGRAM FACULTY

Susamma Barua, Bin Cong, José Cruz  
Kenneth John Faller II, Kiran George,  
Mohinder Grewal, Pradeep Nair,  
Raman Unnikrishnan

## Student Outcomes

- (a) The ability to apply knowledge of mathematics, science and engineering
- (b) The ability to design and conduct experiments, as well as to analyze and interpret data
- (c) The ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (d) The ability to function on multi-disciplinary teams
- (e) The ability to identify, formulate, and solve engineering problems
- (f) An understanding of professional and ethical responsibility
- (g) The ability to communicate effectively
- (h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context
- (i) Recognize the need for and an ability to engage in life-long learning
- (j) A knowledge of contemporary issues
- (k) The ability to use the techniques, skills and modern engineering tools necessary for engineering practice

## BACHELOR OF SCIENCE IN COMPUTER ENGINEERING (129 UNITS)

The Bachelor of Science degree in Computer Engineering includes 56 units of required courses in computer engineering/computer science/electrical engineering/general engineering, nine units of elective courses in computer engineering/computer science/electrical engineering, 34 units of foundation courses in mathematics and science, and 49 units of courses (30 unduplicated units) in General Education.

MATH 150A and MATH 270A must be completed with at least a "C" (2.0). All other mathematics and physical science courses required for the degree must be completed with at least a "C minus" (1.7) to count as prerequisite courses to engineering courses or as credit towards the degree. All core courses in the major must be passed with a "C-" (1.7) or better.

### Placement Examination

Students with a working knowledge of a high-level programming language such as C++ are encouraged to take the Computer Science placement examination to qualify for a CPSC 120 waiver.

### Computer Engineering Core (56 units)

- CPSC 120 Introduction to Programming (3)
- CPSC 121 Programming Concepts (3)
- CPSC 131 Data Structures Concepts (3)
- CPSC 253U Workshop in UNIX (1)
- CPSC 332 File Structures and Database Systems (3)

- CPSC 351 Operating Systems Concepts (3)
- EGCP 180 Digital Logic and Computer Structures (3)
- EGCP/EGEE 280 Microcontrollers (3)
- EGCP/EGEE 281 Designing with VHDL (2)
- EGCP 371 Modeling and Simulation of Signals and Systems (3)
- EGCP 381 Computer Design and Organization (4)
- EGCP/EGCE/EGEE 401 Engineering Economics and Professionalism (3)
- EGCP 441 Advanced Electronics for Computer Engineers (4)
- EGCP 450 Embedded Processor Interfacing (4)
- EGCP 470 Multidisciplinary Projects in Computer Engineering - I (1)
- EGCP 471 Multidisciplinary Projects in Computer Engineering - II (2)
- EGEE 203 Electric Circuits (3)
- EGEE 203L Electric Circuits Laboratory (1)
- EGEE 303 Electronics (3)
- EGEE 303L Electronics Laboratory (1)
- EGEE 323 Engineering Probability and Statistics (3)

### Technical Electives (9 units)

The electives shall constitute a coherent body of study consistent with the student's professional and educational objectives. Students take nine units (12 units if student receives a waiver for CPSC 120) of adviser-approved elective courses. Students may choose the elective courses from a suggested list of courses in computer engineering, computer science and electrical engineering. The electives may also include an adviser-approved free elective.

#### *Wireless Communication*

CPSC 433, 471

EGEE 443, 460

#### *Very Large Scale Integration (VLSI) and Optics*

EGEE 410, 455, 465, 480

EGCP/EGEE 456, 461

#### *Microprocessors and Microcomputer Systems*

CPSC 459

#### *Control Systems and Systems Engineering*

EGEE 416, 424, 425

#### *Global Positioning Systems (GPS)*

EGEE 483, 483L

#### *Software Engineering*

CPSC 362, 462, 463, 464, 466

#### *Database System Design*

CPSC 431, 473, 474

#### *Multimedia and Digital Game Development*

CPSC 386, 484, 486, 487, 489

### *Intelligent Systems*

CPSC 335, 481, 483

EGEE 430

### *Current Topics*

EGCP 463

### *Free Elective*

Adviser-approved course (3)

## **Requirements in Related Fields (34 units)**

### *Mathematics Requirement (19 units)*

MATH 150A Calculus (4)

MATH 150B Calculus (4)

MATH 250A Multivariate Calculus (4)

MATH 250B Introduction to Linear Algebra and  
Differential Equations (4)

MATH 270A Mathematical Structures I (3)

### *Science Requirement (15 units)*

PHYS 225 Fundamental Physics: Mechanics (3)

PHYS 226 Fundamental Physics: Electricity and Magnetism (3)

PHYS 227 Fundamental Physics: Waves, Optics, and Modern  
Physics (3)

PHYS 225L, 226L, 227L Fundamental Physics: Laboratory (1, 1, 1)

BIOL 101 Elements of Biology (3)

## **General Education Courses**

### *Area A: Core Competencies (9 units)*

1. Oral Communication (3)

HONR 101B, HCOM 100, 102

2. Written Communication (3)

ENGL 101

3. Critical Thinking (3)

HONR 101A, HCOM 235, PHIL 105, 106, PSYC 110,  
READ 290

### *Area B: Scientific Inquiry and Quantitative Reasoning (18 units)*

1. Physical Science (6)

PHYS 225 and 226

2. Life Science (3)

BIOL 101

3. Laboratory Experience (2)

PHYS 225L, 226L

4. Mathematics/Quantitative Reasoning (7)

MATH 150A, 270A

5. Implications and Explorations in Mathematics and Natural Sciences

Not applicable for engineering majors

### *Area C: Arts and Humanities (12 units)*

1. Introduction to Arts (3)

ART 101, 201A, 201B, 311, 312, DANC 101, MUS 100, 101

2. Introduction to the Humanities (3)

Any lower-division course in this category listed in the current  
class schedule

3. Explorations in the Arts and Humanities (3)

Any upper-division course in this category listed in the current  
class schedule

4. Origins of the World Civilizations (3)

HIST 110A or 110B, 210A, 210B

### *Area D: Social Sciences (12 units)*

1. Introduction to the Social Sciences (3)

EGCP/EGCE/EGEE 401

2. World Civilizations and Cultures

Not applicable for engineering majors

3. American History, Institutions and Values (3)

AFAM 190, AMST 201, CHIC 190, HIST 180, 190,  
HONR 201A

4. American Government (3)

HONR 201B, POSC 100

5. Explorations in Social Sciences (3)

Any upper-division course in this category listed in the current  
class schedule

### *Area E: Lifelong Learning and Self Development (3 units)*

Not applicable for engineering majors

### *Area Z: Cultural (3 Units)*

At least one star (\*) course in Sections C.3 and D.5

## **Upper-Division Writing Requirement**

Completing both of the following courses fulfills the upper-  
division English writing requirement:

EGCP 441 Advanced Electronics for Computer Engineers (4)

EGCP 471 Multidisciplinary Projects in Computer Engineering – II (2)

Written work for the two courses must meet professional  
standards. Both courses must be passed with a “C” (2.0) or better to  
satisfy the writing requirement.

## COMPUTER ENGINEERING COURSES

Computer Engineering Courses are designated as EGCP in the class schedule.

### 180 Digital Logic and Computer Structures (3)

Prerequisites: CPSC 120. Binary number system and arithmetic, computer codes, Boolean algebra, logic gates, K-map minimization, sequential circuits, memory devices, state diagram and table, computer architecture, memory, Arithmetic Logic Unit, and control unit. (2 hours lecture, 2 hours laboratory)

### 280 Microcontrollers (3)

Prerequisite: EGEE 245 or EGCP 180. Microcontrollers, microcontroller programming model and instruction set, assembler directives, writing and debugging microcontroller assembly language routines, microcontroller memory system, microcontroller communication systems. (1 hour lecture, 4 hours laboratory) (Same as EGEE 280)

### 281 Designing with VHDL (2)

Prerequisites: CPSC 120 or 121; and EGEE 245 or EGCP 180. Introduction to various modeling methods, timings, events, propagation delays and concurrency, the language constructs, data representations and formats, and physical attributes. (1 hour lecture, 2 hours laboratory) (Same as EGEE 281)

### 371 Modeling and Simulation of Signals and Systems (3)

Prerequisite: MATH 250B. Modeling and simulation of physical systems, mathematical description of systems, transfer functions, poles and zeros, frequency response, continuous and discrete-time convolution, continuous and discrete Fourier transforms, Laplace and Z transforms, Fast Fourier Transforms, simulation using Matlab.

### 381 Computer Design and Organization (4)

Prerequisites: EGCP 281, EGEE 303. Computer system, central processing unit (CPU) organization and design, instruction set and addressing modes, microprogrammed control unit design, cache memory, internal memory, virtual memory, input/output interfacing, parallel processors, superscalar processors (2 hours lecture, 4 hours laboratory).

### 401 Engineering Economics and Professionalism (3)

(Same as EGCE/EGEE 401)

### 441 Advanced Electronics for Computer Engineers (4)

Prerequisites: EGCP 281, EGEE 303. High speed CMOS, biCMOS, CPLDs, FPGAs, A/D, D/A, transducers and optics; integration of these devices into complete systems. (2 hours lecture, 4 hours laboratory)

### 450 Embedded Processor Interfacing (4)

Prerequisites: EGCP 280, 381, 441, EGEE 323, CPSC 351, MATH 270A. Techniques of interfacing based on speed, timings, synchronization, interrupts, protocols, noise and race conditions. Interfacing specifications of the processor data, address and control buses. (2 hours lecture, 4 hours laboratory)

### 456 Introduction to Logic Design in Nanotechnology (3)

Prerequisites: EGCP 180 or EGEE 245. Promising novel nanoelectronic technologies and logic primitives for such technologies, applicable basic logic design technique, design models for spatial dimensions, applicable world-level data structures, multilevel circuit design, testability and observability, tolerance and reliable computing. (Same as EGCP/EGEE 456)

### 461 Low Power Digital IC Design (3)

Prerequisite: EGCP 180 or EGEE 245 and EGEE 303. Importance of low power design; analysis of power dissipation in digital integrated circuits; circuit-level low-power techniques, logic-level low-power techniques, and system-level low-power techniques. (Same as EGEE 461)

### 463 Current Topics in Computer Engineering (3)

Prerequisites: junior/senior standing in computer engineering and consent of instructor. Topics of contemporary interest from the perspective of current research and development in computer engineering. Lectures by guest professionals.

### 470 Multidisciplinary Projects in Computer Engineering - I (1)

Corequisite: EGCP 450. First course in the two-course senior design sequence. Student teams develop a hardware/software project, from conception through implementation and testing, under an instructor's supervision. Teams first explore technology issues related to the projects and then prepare complete design proposals. (1 hour lecture)

### 471 Multidisciplinary Projects in Computer Engineering - II (2)

Prerequisite: EGCP 450, 470. Second course in the two-course senior design course in which student teams develop a hardware/software project under the supervision of the instructor. Emphasizes development of design skill, based upon previous and current courses and laboratory experience. (4 hours laboratory)

### 499 Independent Study (1-3)

Prerequisite: application for independent study approved by the instructor and the Computer Engineering Program Coordinator. Independent study or research under the direction of a full-time faculty member. May be repeated for a maximum of three units of credit.





# Computer Science

College of Engineering and Computer Science

## INTRODUCTION

The undergraduate computer science program at Cal State Fullerton offers students a comprehensive foundation that will permit them to adapt to new technologies and new ideas. The program spans a wide range, from its theoretical and algorithmic foundations to cutting-edge developments in bioinformatics, communications systems, computer security, databases, digital game design, intelligent systems, software engineering, and other exciting areas.

The program provides students with a comprehensive background to take on varied categories of work. They are offered the necessary theories, principles and practices to design and implement software that permits them to take on challenging programming jobs. They have the opportunity to become well-equipped to devise new ways to use computers. The theoretical foundations available in the program provide the background to help develop effective ways to solve computing problems. This background allows students to determine the best possible ways to store information in databases, send data over networks, and display complex images.

The Bachelor of Science degree in Computer Science is accredited by the Computing Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and student learning outcomes have been established for students pursuing a degree in Computer Science:

### Program Educational Objectives

- A. Technical Growth – Graduates will be successful in modern computing practice, integrate into the local and global workforce, and contribute to the economy of California and the nation
- B. Professional Skills – Graduates will continue to demonstrate the professional skills necessary to be competent employees, assume leadership roles, and have career success and satisfaction
- C. Professional Attitude and Citizenship – Graduates will become productive citizens with high ethical and professional standards, who make sound technical or managerial decisions, and have enthusiasm for the profession and professional growth

### Student Outcomes

- Able to apply knowledge of computing and mathematics appropriate to the discipline
- Able to analyze a problem, and identify and define the computing requirements appropriate to its solution
- Able to apply mathematical foundations, algorithmic principles, and computer science theories in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices

## DEPARTMENT CHAIR

Shawn X. Wang

## DEPARTMENT OFFICE/WEBSITE

Computer Science 522  
657-278-3700  
[cs.fullerton.edu](http://cs.fullerton.edu)

## PROGRAMS OFFERED

Bachelor of Science in Computer Science  
Master of Science in Computer Science  
Minor in Computer Science  
Master of Science in Software Engineering

## FACULTY

Susamma Barua, Ning Chen,  
James Choi, Bin Cong, David  
Falconer, Mikhail Gofman, Floyd  
Holliday, Chang-Hyun Jo, Demetrios  
Michalopoulos, Mariko Molodowitch,  
Christopher Ryu, Michael Shafae,  
Shawn Wang, Kevin Wortman

- Able to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs
- Able to apply design and development principles in the construction of software systems of varying complexity
- Able to function effectively on teams to accomplish a common objective
- Able to communicate effectively with a range of audiences
- Recognize the need for and able to engage in continuing professional development
- Able to use current techniques, skills, and tools necessary for computing practice
- Able to analyze the local and global impact of computing on individuals, organizations, and society
- Demonstrate an understanding of professional, ethical, legal, security and social issues and responsibilities

## **BACHELOR OF SCIENCE IN COMPUTER SCIENCE (124 UNITS)**

The degree program for the Bachelor of Science in Computer Science assumes that students have already obtained a working knowledge of personal computing fundamentals and applications, including word processing, spreadsheets, database systems, e-mail systems and presentation graphics.

### **Computer Science Placement Examination**

The curriculum begins with a three-course sequence covering concepts of programming and data structures. Students may have knowledge of these topics, but do not have the courses to transfer, nor AP scores to submit; thus, may take the Computer Science Placement Examination to waive one or more of these courses. The test may be taken only once, and scores are valid for two consecutive semesters.

### **Computer Science Core (46 units)**

#### *Lower-Division Core (18 units)*

CPSC 120 Introduction to Programming (3)

CPSC 121 Programming Concepts (3)

CPSC 131 Data Structures Concepts (3)

CPSC 223H Visual Basic Programming (3)

OR CPSC 223J Java Programming (3)

OR CPSC 223N C# Programming (3)

CPSC 240 Computer Organization and Assembly Language (3)

CPSC 254 UNIX and Open Source Systems (3)

#### *Upper-Division Core (28 units)*

Students must take and pass the Examination in Programming Proficiency (EPP) before taking most upper-division Computer Science courses. Students who do not pass the EPP will be required to take CPSC 301.

CPSC 311 Technical Writing for Computer Science (3)

CPSC 315 Social and Ethical Issues in Computing (1)

CPSC 323 Programming Languages and Translation (3)

CPSC 332 File Structures and Database Systems (3)

CPSC 335 Problem Solving Strategies (3)

CPSC 351 Operating Systems Concepts (3)

CPSC 362 Foundations of Software Engineering (3)

CPSC 440 Computer System Architecture (3)

CPSC 471 Computer Communications (3)

CPSC 481 Artificial Intelligence (3)

### **Elective Track Requirements (15 units)**

Select an Elective Track to support specific career goals.

#### *Multimedia and Digital Game Technologies*

CPSC 386, 484, 486, 489

Plus any three units of adviser-approved, upper-division CPSC courses

#### *Internet and Enterprise Computing Technologies*

CPSC 431, 473, 476

Plus any six units of adviser-approved, upper-division CPSC courses

#### *Software Engineering*

CPSC 462, 464; 463 OR 466

Plus any six units of adviser-approved, upper-division CPSC courses

#### *Scientific Computing*

Completing the Mathematics courses listed below also meets the requirements for a minor in Mathematics.

MATH 250A, 250B, 340, 370

Plus any three units of adviser-approved 400-level CPSC courses

#### *Custom*

With the approval of an academic adviser, students may develop a track based on their career goals or specific academic interests or specific themes. A custom track consists of upper-division Computer Science or related courses. At least nine units must be 400-level Computer Science courses with no more than three units selected from courses numbered 490-499. In addition to courses already listed in the other tracks, students may also include the following courses:

CPSC 303, 322L, 376, 433, 459, 477, 483, 485, 491T, 495, 499

### **Mathematics Requirements (18 units)**

MATH 150A,B Calculus (4,4)

MATH 270A,B Mathematical Structures (3,3)

MATH 338 Statistics Applied to Natural Sciences (4)

## Science Requirements (12 units)

### *Physical Science (8 units)*

Choose one of the following:

#### *Physics*

PHYS 225/225L Fundamental Physics: Mechanics/Laboratory (4)

PHYS 226/226L Fundamental Physics: Electricity and Magnetism/  
Laboratory (4)

#### *Chemistry*

CHEM 120A General Chemistry (5)

CHEM 125 General Chemistry for Engineers (3)

#### *Geology*

GEOL 101/101L Physical Geology/Laboratory (4)

GEOL 201/201L Earth History/Laboratory (4)

### *Biological Science (4 units)*

BIOL 101 Elements of Biology (3)

BIOL 101L Elements of Biology Laboratory (1)

## General Education

Because of high unit requirements for a major in Computer Science, there is a six-unit exemption in General Education (G.E.). Students are strongly urged to consult with an adviser in the Academic Advising Center, UH-123 to help develop their G.E. program.

## Minimum Academic Requirements

A “C-” (1.7) or higher is required in all courses applied to the core. Exception: up to six units of credit with grades in the range of “D-” (0.7) through “D+” (1.3) may be earned in elective tracks, mathematics and science courses only. A mathematics course taken to satisfy GE category B.4 and the upper-division writing course (CPSC 311) must be passed with a minimum grade of “C”.

## MINOR IN COMPUTER SCIENCE (15 UNITS)

CPSC 120 Introduction to Programming (3)

CPSC 121 Programming Concepts (3)

CPSC 131 Data Structures Concepts (3)

CPSC 313 The Computer Impact (3)

Three units of adviser-approved, upper-division courses

## MASTER OF SCIENCE IN COMPUTER SCIENCE (30 UNITS)

### Admission to Graduate Standing – Conditionally Classified

Students must meet the CSU requirements for admission to a master’s degree program. Please consult the Graduate Admissions section in this catalog for complete information. Any deficiencies must be made up.

## Classified Graduate Standing

Achievement of this status requires the following:

1. approval of a formal study plan (see description below) by the Computer Science Graduate Committee and the Associate Vice President for Graduate Studies and Research (or designee);
2. satisfactory completion of no more than nine units on the study plan;
3. satisfactory completion of the following courses or equivalents, including prerequisites – CPSC 121, 131, 240, 323, 335, 351, 362 and MATH 270A,B, 338; and
4. competency in written communication in English must be demonstrated by a passing score on the California State University Examination in Writing Proficiency. The requirement must be satisfied before the student can be classified and before 500-level courses may be attempted. The student who fails to pass the EWP test may complete CPSC 311 with a “B” (3.0) or better as an alternative to the EWP requirement.

The courses provide an adequate basis for graduate work, while not unfairly precluding admission of persons without a bachelor’s degree in computer science. These courses have prerequisites, and students without preparation in a closely related degree may have additional work to complete. Refer to the catalog descriptions for prerequisites of each course deficiency.

Students with knowledge equivalent to any or all of these prerequisite courses are encouraged to satisfy such prerequisites by advanced placement examinations. Consult a Computer Science graduate adviser for further information.

## Study Plan

Prior to admission to classified graduate standing in Computer Science, each student, with the aid of a Computer Science graduate adviser, shall prepare and submit for approval by the Computer Science Department graduate committee a formal study plan consisting of 400-level and graduate coursework.

This shall include CPSC 440, 462, 589, 597 or 598; one of 541, 542, 543, 544, 545, 546, 547 or 548; and 15 units of electives (nine units must be at the 500 level). At least 15 units shall represent courses offered by the Department of Computer Science. Courses offered by other disciplines, not listed here, and related to the student’s objectives in Computer Science may be approved by petition to the Department of Computer Science.

All coursework in the study plan must be completed with a GPA of at least 3.0.

## Graduate Student Advisement

The graduate program adviser provides overall supervision of the graduate program. The individual student chooses an adviser for the thesis or project from the Computer Science Department’s full-time faculty on the basis of the student’s particular interests and objectives.

## COMPUTER SCIENCE COURSES

Courses are designated as CPSC in the class schedule.

Prerequisites for Computer Science courses may be waived only by department petition.

### 103 Introduction to Personal Computer Applications (3)

Introduction to use and application of personal computers: word processing, spreadsheets, database systems, e-mail systems and World Wide Web. Evaluation of personal computers and software. (2 hours lecture, 2 hours laboratory)

### 120 Introduction to Programming (3)

Corequisite: MATH 125. Introduction to the concepts underlying all computer programming: design and execution of programs; sequential nature of programs; use of assignment, control and input/output statements to accomplish desired tasks; use of functions and arrays. Structured programming methodologies. (1.5 hours lecture, 3 hours laboratory)

### 121 Programming Concepts (3)

Prerequisite: CPSC 120 or passing score on Computer Science Placement Exam. Structure of algorithms; functions; strings and data types; pointers and linked structures; classes and objects; recursion; inheritance; polymorphism; exception handling; documentation. Object-oriented programming methodology. (2 hours lecture, 2 hours laboratory)

### 131 Data Structures Concepts (3)

Prerequisite: CPSC 121 or sufficient score on the Computer Science Placement Exam. Review recursion. Data structures: lists, stacks, queues, linked structures, binary search trees and graphs. Algorithms: hashing, sorting and searching. Object-oriented implementation and applying data structures and algorithms.

### 223H Visual BASIC Programming (3)

Prerequisite: CPSC 131. Elements of Visual BASIC, forms and controls, properties, mouse events, multiple-document interface, processing files, accessing databases, dynamic data exchange, object linking and embedding. (2 hours lecture, 2 hours laboratory)

### 223J Java Programming (3)

Prerequisite: CPSC 131. Characteristics of Java: portable, robust, secure, object-oriented, high performance; using the Java environment; server administration; types, expressions, and control flow; classes, interfaces, and packages; threads; exceptions; class libraries; Java for the Internet; tools, the Java Virtual machine. (2 hours lecture, 2 hours lab per week)

### 223N C# Programming (3)

Prerequisite: CPSC 131. Characteristics of C#, object-oriented design concepts, control structures, methods, arrays, classes, objects, inheritance, polymorphism, exception handling, graphical user interfaces, multithreading, characters, strings, files, streams. Rudiments of the Unified Modeling Language. Software development assignments. (2 hours lecture, 2 hours laboratory)

### 240 Computer Organization and Assembly Language (3)

Prerequisites: CPSC 131 and MATH 270A or 280. Digital logic and architecture of a computer system, machine level representation of data, memory system organization, structure of low-level computer languages; machine, assembly and macro language programming; principles of assembler operation, input-output programming, interrupt-exception handling. Laboratory programming assignments. (2 hours lecture, 2 hours laboratory)

### 253U Workshop in UNIX (1)

Prerequisite: CPSC 121 or EGME 205. Workshop in the use of the UNIX operating system. (2 hours activity)

### 254 Software Development with Open Source Systems (3)

Prerequisite: CPSC 131. Philosophy of open source software development. Open source operating systems, such as Linux; open source development tools; open source programming languages, such as Python; open source software development processes; open source software licensing issues. (2 hours lecture, 2 hours laboratory)

### 301 Programming Lab Practicum (2)

Prerequisites: CPSC 131 and 253U or 254. Intensive programming covering concepts learned in lower-division courses. Procedural and object oriented design, documentation, arrays, classes, file input/output, recursion, pointers, dynamic variables, data and file structures. Credit/no credit only.

### 303 Multimedia Concepts (3)

Prerequisites: CPSC 121 and completion of the General Education (G.E.) critical thinking requirement. Components and issues associated with multimedia technology, applications of multimedia and its evolution. Laboratory activities include developing a multimedia application using a PC-based authoring tool. (2 hours lecture, 2 hours laboratory)

### 311 Technical Writing for Computer Science (3)

Prerequisite: ENGL 101, CPSC 131. Practice in developing documentation skills as used in the computer field. Topics include proposals, feasibility studies, user guides and manuals, business communication and technical presentation. Case studies in professional ethics. Written and oral reports required.

### 313 The Computer Impact (3)

Prerequisites: junior or senior standing and one course from G.E. Category B.4. Effect of computer use on individuals and organizations. Side effects of innovative technology and the resulting changes to organizations, social institutions, and human perceptions of events. Personal responsibility, legal ramifications and educational implications. Hands-on use of e-mail and the World Wide Web.



**315 Social and Ethical Issues in Computing (1)**

Prerequisite: CPSC 311. Relevant issues that responsible professionals will face in a complex technological society. Professional ethics, computer control, piracy, encryption, benefits and downside of computers, privacy and computer crimes. Written and oral reports required.

**322L Introduction to Computer Aided Design (3)**

(Same as EGME 322L)

**323 Programming Languages and Translation (3)**

Prerequisites: Examination in Programming Proficiency. Basic concepts of programming languages and principles of translation. Topics include history of programming languages, various programming paradigms, language design issues and criteria, development of practical translators for modern programming languages.

**332 File Structures and Database Systems (3)**

Prerequisite: CPSC 131. Fundamental theories and design of database systems, the Structured Query Language (SQL), basic concepts and techniques of data organization in secondary storage. Topics include introduction to database systems, ER model, relational model, index structures, and hashing techniques.

**335 Algorithm Engineering (3)**

Prerequisites: Examination in Programming Proficiency, MATH 270B, 338. Algorithm design using classical paradigms: exhaustive search, divide and conquer, reduction, dynamic programming and the greedy method. Asymptotic and experimental efficiency analysis. Problem hardness: lower bound, NP-completeness and decidability. Methods for circumventing hardness. Implementing algorithms to solve practical problems.

**351 Operating Systems Concepts (3)**

Prerequisite: CPSC 253U or 254. Corequisite: Examination in Programming Proficiency or CPSC 301. Resource management, memory organization, input/output, control process synchronization and other concepts as related to the objectives of multi-user operating systems.

**362 Foundations of Software Engineering (3)**

Prerequisites: CPSC 311 and Examination in Programming Proficiency. Basic concepts, principles, methods, techniques and practices of software engineering. All aspects of the software engineering fields. Computer-Aided Software Engineering (CASE) tools are used.

**376 Client/Server Systems with Java (3)**

Prerequisites: CPSC 223J, 351. Concepts and architectures of client/server systems using Java. Techniques for building client/server systems, multi-threading and network programming.

**386 Introduction to Game Design and Production (3)**

Prerequisite: CPSC 131. Current and future technologies and market trends in game design and production. Game technologies, basic building tools for games and the process of game design, development and production.

**431 Database and Applications (3)**

Prerequisite: CPSC 332. Database design and application development techniques for a real-world system. Topics include system analysis, requirement specifications, conceptual modeling, logic design, physical design and web interface development. Develop projects using contemporary database management system and web-based application development platform.

**433 Data Security and Encryption Techniques (3)**

Prerequisites: CPSC 311, 351, MATH 270B. System security and encryption. Current issues in security, encryption and privacy of computer based systems.

**440 Computer System Architecture (3)**

Prerequisite: CPSC 240. Computer performance, price/performance, instruction set design and examples. Processor design, pipelining, memory hierarchy design and input/output subsystems.

**451 Advanced Operating Systems (3)**

Prerequisite: CPSC 351. Internal structures of a modern operating system. Specific topics include processes, process communication, file systems, networking, and the I/O system. There will be several programming assignments which will utilize calls and other low-level interfaces.

**459 Micro-Computer Software Systems (3)**

Prerequisite: CPSC 351. Design and implementation of software. Analysis of a micro-computer operating system and working on a team to implement a significant programming assignment.

**462 Software Design (3)**

Prerequisite: CPSC 362. Concepts of software modeling, software process and some tools. Object-oriented analysis and design and Unified process. Some computer-aided software engineering (CASE) tools will be recommended to use for doing homework assignments.

**463 Software Testing (3)**

Prerequisite: CPSC 362. Software testing techniques, reporting problems effectively and planning testing projects. Students apply what they learned throughout the course to a sample application that is either commercially available or under development.

**464 Software Architecture (3)**

Prerequisite: CPSC 362. Basic principles and practices of software design and architecture. High-level design, software architecture, documenting software architecture, software and architecture evaluation, software product lines, and some considerations beyond software architecture.

**466 Software Process (3)**

Prerequisite: CPSC 362. Practical guidance for improving the software development and maintenance process. How to establish, maintain and improve software processes. Exposure to some common process models, such as CMM, CMMI, PSP and TSP.

**471 Computer Communications (3)**

Prerequisite: CPSC 351. Introduction to digital data communications. Terminology, networks and their components, common-carrier services, telecommunication facilities, terminals, error control, multiplexing and concentration techniques.

**473 Web Programming and Data Management (3)**

Prerequisite: CPSC 332. Various techniques for developing Web-based database applications using software engineering methodology. Introduce concept and architecture of Web servers, Web database design techniques, client/server side programming, and Web applications tools and techniques.

**474 Distributed Computing Using Web Service and .NET Remoting (3)**

Prerequisite: CPSC 473. Concepts of distributed computing and Web services, the applications of XML and Web services, distributed applications development techniques with Web services and .NET Remoting.

**476 Java Enterprise Application Development (3)**

Prerequisites: CPSC 223J, 351. Concepts and architecture of enterprise applications, components, services and communication technologies, Dependency injection, application tiers, remote objects, distributed transactions, message queues, web services and object-relational mapping. Enterprise application development in Java with build tools, containers and application servers.

**477 Introduction to Grid Computing (3)**

Prerequisite: CPSC 351. Introduction to various aspects of grid computing emphasizing integration of homogeneous and inhomogeneous computational resources to provide high-performance computing seamlessly, efficiently and securely; using Globus toolkit as the integration framework for demonstrating and implementing various aspects of grid computing.

**481 Artificial Intelligence (3)**

Prerequisite: CPSC 335. Use of computers to simulate human intelligence. Topics include production systems, pattern recognition, problem solving, searching game trees, knowledge representation and logical reasoning. Programming in AI environments.

**483 Data Mining and Pattern Recognition (3)**

Prerequisite: CPSC 335. Classification techniques, discriminant functions, training algorithms, potential function theory, supervised and unsupervised learning, feature selection, clustering techniques, multidimensional rotations and rank ordering relations.

**484 Principles of Computer Graphics (3)**

Prerequisites: Examination in Programming Proficiency and MATH 150B, 270B. Examination and analysis of computer graphics; software structures, display processor organization, graphical input/output devices, display files. Algorithmic techniques for clipping, windowing, character generation and viewpoint transformation.

**485 Computational Bioinformatics (3)**

Prerequisites: junior or senior standing, BIOL 101, CPSC 131. Algorithmic approaches to biological problems. Specific topics include motif finding, genome rearrangement, DNA sequence comparison, sequence alignment, DNA sequencing, repeat finding and gene expression analysis.

**486 Game Programming (3)**

Prerequisites: CPSC 386, 484. Data structures and algorithms used for real-time rendering and computer game programming. Build upon existing mathematics and programming knowledge to create interactive graphics programs.

**489 Game Development Project (3)**

Prerequisite: CPSC 486. Individually or in teams, student design, plan and build a computer game.

**491T Variable Topics in Computer Science (1-3)**

Prerequisites: junior or senior standing and consent of instructor. Lectures and/or workshop covering various current Computer Science topics. Course may be repeated for up to 3 units. Course topics may be taken only once.

**495 Internship in Computer Science (1-3)**

Prerequisites: Computer Science or related major and consent of instructor. Practical experience relevant to computer science in government or private agencies. Written and oral reports required.

**499 Independent Study (1-3)**

Prerequisite: approval by the computer science chair. Special topic in Computer Science, selected in consultation with and completed under the supervision of instructor.

**531 Advanced Database Management (3)**

Prerequisite: CPSC 431. Implementation techniques for query analysis, data allocation, concurrency control, data structures, and distributed databases. New database models and recent developments in database technology. Student projects directed to specific design problems.

**541 Systems and Software Standards and Requirements (3)**

Prerequisite: CPSC 362 or equivalent work experience. SESC framework and the IEEE Software Engineering Standards. Covers establishing the following standards: Software Life Cycle Processes, Work Product Standards, Process Standards, Requirement Analysis and Management and System Integration. Framework of CMMI introduced, and a number of practical lessons discussed.

### **542 Software Verification and Validation (3)**

Prerequisite: CPSC 362 or equivalent work experience. How to ensure that a high quality software product is developed. Theory and practice of software verification and validation (V&V), such as Software integrity levels, Minimum V&V tasks for each software integrity level, walkthroughs, inspections and Cleanroom. Software testing topics: white- and black-box testing, boundary value analysis, equivalence class partitioning, unit testing, functional testing and how to create test plans.

### **543 Software Maintenance (3)**

Prerequisite: CPSC 362 or equivalent work experience. Theory and practice of maintaining large-scale software and how to construct maintainable software. Maintenance framework, along with maintenance process, process management and maintenance measures. Topics include fundamentals of software change, implications of software change, maintenance process models, program understanding, reusability for maintenance, reverse engineering, maintenance testing, software configuration management and tools in maintenance.

### **544 Advanced Software Process (3)**

Prerequisite: CPSC 362 or equivalent work experience. Advanced guidance for defining and improving the software development process. Concepts of software maturity framework, principles of process improvement and software process assessment. Current topics such as CMMI and SCAMPI.

### **545 Software Design and Architecture (3)**

Prerequisite: CPSC 362 or equivalent work experience. Advanced software design and architecture principles focusing a software engineering approach to the development process. Topics include architecture business cycle, quality attributes, attribute-driven design method, architectural styles, design patterns, software product lines and component-based design.

### **546 Modern Software Management (3)**

Prerequisite: CPSC 362 or equivalent work experience. Modern project management methodologies and techniques. Software development process. Planning, estimating, organizing, directing, monitoring, controlling software projects and managing risks. Other related software management issues, such as infrastructure, quality software development, project and product metrics, and external factors.

### **547 Software Measurement (3)**

Prerequisite: CPSC 362 or equivalent work experience. Current software measurement practices. Topics include: how to establish an effective software metrics program in a software organization; how to measure software product, project and process; how to apply Statistical Process Control and other statistical techniques in software development process. High maturity concepts defined in CMMI model will be discussed. Stresses a practitioner-based approach.

### **548 Professional, Ethical and Legal Issues for Software Engineers (3)**

Prerequisite: CPSC 362 or equivalent work experience. Professional, legal and ethical issues pertaining to software engineering. Topics include professional codes of ethics, intellectual property laws, computer privacy and human-computer interaction. Relevant regulatory documents and their applications.

### **551 Operating Systems Design (3)**

Prerequisite: CPSC 351. Design and evaluation techniques for controlling automatic resource allocation, providing efficient programming environments and appropriate user access to the system, and sharing the problem solving facilities.

### **558 Advanced Computer Networking (3)**

Prerequisite: CPSC 471. System-oriented view of computer network design, protocol implementation, networking, high-speed networking, network management, computer network performance issues.

### **566 Advanced Computer Graphics (3)**

Prerequisite: CPSC 484. Three-dimensional: reflection models, shading techniques, rendering process, parametric representation, ray tracing, radiosity, texture, anti-aliasing, animation, color science.

### **572 Survey of Pharmaceutical and Medical Devices Technology (3)**

Prerequisites: enrollment in the Master of Biotechnology (MBt) degree program or consent of instructor, and MGMT 540. Corequisites: BIOL/CHEM 570), BIOL/MATH 571. Technologies involved in developing drug and medical devices, factors considered in designing medical devices, characteristics of good drug manufacturing practices and validation processes necessary to meet regulatory requirements. Students will work collaboratively to solve problems. (Same as BIOL 572)

### **583 Expert Systems Design Theory (3)**

Prerequisite: CPSC 481. Knowledge representation and search strategies for expert systems; logic programming; expert system tools. Project.

### **585 Artificial Neural Networks (3)**

Prerequisite: CPSC 481. Principles of neural networks; neural networks paradigms, software implementations, applications, comparison with statistical methods, use of fuzzy logic; project.

### **589 Seminar in Computer Science (3)**

Prerequisites: one 400-level course in Computer Science and passing score on the Examination in Writing Proficiency. Research methods in computer science. Student presentations covering current topics, research advances, updating of concepts and verifications of principles of computer science. (Examples: large-scale parallelism, Internet security, design for user interfaces, computers in instruction).

**597 Project (3)**

Prerequisites: classified graduate standing, approval of the computer science graduate adviser and CPSC 589.

**598 Thesis (3)**

Prerequisites: classified graduate standing, approval of the computer science graduate adviser and CPSC 589.

**599 Independent Graduate Research (1-3)**

Prerequisites: classified graduate standing, approval of the computer science department chair and CPSC 589. Special topic in computer science, selected in consultation with and completed under supervision of a full-time faculty member.





# Counseling

College of Health and Human Development

## INTRODUCTION

The Department of Counseling offers a Master of Science in Counseling, with a specialty in marriage and family therapy.

Our program meets the educational requirements established by the California State Board of Behavioral Sciences (BBS) to pursue licensure as a Marriage and Family Therapist (LMFT, Business and Professions Code Section 4980.36 and 4980.37) and as a Professional Clinical Counselor (LPCC, Business and Professions Code Section 4999.32 or 4999.33, which took effect Aug. 1, 2012),

The Council for Accreditation of Counseling and Related Educational Programs (CACREP), a specialized accrediting body recognized by the Council for Higher Education Accreditation (CHEA), has granted accreditation until March 31, 2015, to the following program in the Department of Counseling at California State University, Fullerton: Community Counseling (M.S.).

We emphasize training clinicians who can serve the needs of individuals, couples, families and groups in their communities. We train students to provide counseling to adults, children, adolescents, couples and families. Our students learn to diagnose and design treatment plans, provide short-term and long-term counseling, conduct group therapy, work with addictions, provide crisis intervention, provide career counseling and maintain a professional identity as a counselor and marriage and family therapist in the community. The program strongly emphasizes a multicultural perspective. We are a culturally diverse faculty that specializes in working with students from different backgrounds. We prepare culturally competent counselors who will be sensitive to the diverse cultural heritages, lifestyles and special needs of individuals and families living in our community.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and learning outcomes have been established for students pursuing a degree in Counseling:

### Clinical Skills

- Demonstrate effective individual (adults and children), couples, families, and group counseling skills which facilitate client growth
- Demonstrate the ability to evaluate progress toward treatment goals during practicum experiences
- Develop an awareness of and appreciation for social and cultural influences on human behavior and to recognize the impact of individual differences on the counseling process
- Recognize client issues in the context of lifespan development
- Recognize counter-transference that may be interfering with the client's process, minimize counter-transference through personal work, and understand how counter-transference can be used in therapy

### DEPARTMENT CHAIR

Leah Brew

### DEPARTMENT OFFICE/WEBSITE

Education Classroom 405  
657-278-8444  
[hhd.fullerton.edu/counsel](http://hhd.fullerton.edu/counsel)

### PROGRAMS OFFERED

Master of Science in Counseling

### FACULTY

Leah Brew, Joseph M. Cervantes, Sapna Batra Chopra, Matt Englar-Carlson, Jeffrey Kottler, Olga L. Mejía, Mary Read, David S. Shepard, and Rebekah Smart

- Identify ethical and legal issues, and apply them appropriately using the decision model

### **Conceptualization and Treatment Planning Skills**

- Gain significant knowledge of major counseling theories in the context of individual, couple, family and group counseling, and apply this knowledge to the actual counseling process
- Understanding and application of the DSM-IV-R, psychopharmacology and various psychological assessment instruments
- Recognition and treatment of clients with addictive behaviors

### **Professional Identity**

- Demonstrate an understanding of the counseling profession, develop an identity as a counselor and demonstrate a willingness to provide counseling and consultation services with the ethical guidelines of the counseling profession
- Use physical, cognitive, social and emotional counseling strategies, which include principles of wellness, human development, and prevention in addressing clinical issues
- View clients from a systemic (micro system) perspective

### **Critical Thinking and Problem Solving**

- Become critical consumers of professional research and literature
- Formulate sound conceptualizations, recognizing bias and misattribution, and reflecting on ways in which therapeutic or research conversations are influenced through language
- Collect and organize random or incomplete information for clinical hypotheses, and systematically inquire about the multiple and varied perspectives of a client
- Integrate prior learning, create a formal system of inquiry, and apply it in a “practicum of research,” which connects the work of researchers and clinicians
- Draw from theoretical and empirical literature, field interviews, and personal experience to develop a knowledge base about unique issues relevant to Californians served by marriage and family therapists and counselors

### **Write Effectively**

- Write about various kinds of texts so as to articulate the dimensions of the work
- Demonstrate an awareness of audience, purpose and various rhetorical forms as well as a high level writing within APA format

## **MASTER OF SCIENCE IN COUNSELING (60 UNITS)**

### **Admission Requirements**

The Department of Counseling welcomes applicants from diverse academic, social and cultural backgrounds. Preparation for the counseling profession is rigorous and multifaceted, necessitating the student’s development in interpersonal, self-reflective and academic realms. Students must meet the CSU requirements for

admission to a master’s degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, admission to the program is based upon indicators of the applicant’s potential for becoming an effective counseling practitioner including, but not limited to grade point average (GPA), letters of reference, personal statement and departmental interview. Admission is not based on any single factor, but on a composite assessment of all factors and is at the sole discretion of the Counseling Department’s Admissions Committee.

For further information, including deadlines and the admissions process, please visit our website: [hhd.fullerton.edu/counsel](http://hhd.fullerton.edu/counsel).

### **Classification and Advancement to Practicum**

All students begin the program as conditionally classified students. During the first semester of graduate coursework, students meet with the New Student Adviser to write their study plans. After the study plan has been approved by the Office of Graduate Studies, students are considered classified.

Each student undergoes a comprehensive evaluation in the semester prior to his or her first Practicum (COUN 530). This evaluation determines advancement to practicum. Advancement to practicum requires: 3.0 GPA for graduate courses; “B” (3.0) or better in COUN 526; and successfully passing the faculty’s ongoing assessment of the student’s aptitude and suitability for the counseling profession, progress in skill development, interpersonal and cultural sensitivity, readiness to see clients, and ethical and professional conduct. A student may be: (a) advanced to practicum; (b) required to postpone practicum and complete remedial steps required by the faculty; or (c) disqualified from the program. Students in practicum (COUN 530, 590 or 584) and who are seeing clients at their agency site are designated as Trainees by the BBS.

### **Probation and Disqualification**

Students may be placed on academic or administrative probation. Students may also be disqualified for a variety of reasons. See the “Graduate Regulations” section of the catalog for university policies and the Student Handbook for departmental policies on our website: <http://hhd.fullerton.edu/counsel>.

### **Curriculum**

COUN 500 The Counseling Profession (3)

COUN 502 Career and Lifestyle Development (3)

COUN 511 Pre-Practicum (Basic Counseling Skills) (3)

COUN 518 Human Development and Functioning (3)

COUN 520 Modes of Individual Counseling (3)

COUN 521 Research in Counseling (3)

(first half of the final research project)

COUN 522 Techniques of Brief Treatment and Assessment (3)

COUN 523 Counseling and Culture (3)

COUN 524 Child and Adolescent Counseling (3)

- COUN 525 Psychopharmacology for Counselors (3)
- COUN 526 Professional, Ethical and Legal Issues in Counseling (3)
- COUN 527 Systems of Family Counseling (3)
- COUN 528 Groups: Process and Practice (3)
- COUN 530 Beginning Practicum (3)  
(fieldwork in a community agency)
- COUN 535 Addictions (3)
- COUN 560 Appraisal in Counseling (3)
- COUN 562 Couples Counseling (3)
- COUN 584 Advanced Practicum (3)
- COUN 590 Advanced Counseling Techniques (3)
- COUN 597 Research Project (3)  
(second half of the final research project)

## **COUNSELING COURSES**

Courses are designated as COUN in the class schedule.

### **252 Career and Life Planning (3)**

Prerequisite: introductory course in Oral Communication and English Composition. Career, personal and educational awareness. Strategies include integrating skills, abilities, interests and values into the career search. Decision-making and goal setting.

### **350 Leadership Skills and Personal Development (3)**

(Same as HUSR 350)

### **380 Theories and Techniques of Counseling (3)**

(Same as HUSR 380)

### **449 Seminar on Child Abuse (1)**

Prerequisite: HUSR 201 or CAS 301. Characteristics of child abuse and a review of current laws, appropriate procedures for intervention and methods of community networking and referral.

### **500 The Counseling Profession (3)**

Prerequisite: graduate standing. Counseling as a mental health professional, including its history, current functions and future directions. The counselor as a professional, including educational goals, personal values and cultural understandings. Opportunity to observe master counselors at work.

### **502 Career and Lifestyle Development (3)**

Pre- or corequisite: COUN 500. Survey of career and lifestyle development throughout the lifespan. Major theories and strategies in career counseling. Integrating knowledge of career development with the practice of counseling.

### **511 Pre-Practicum (3)**

Pre- or corequisite: COUN 500; or admission to the Concentration in School Nursing. Basic counseling skills, including establishing a therapeutic relationship, facilitating client self-exploration and understanding how one's values influence the counseling process. Crisis intervention also will be addressed. Extensive role play practice.

### **518 Human Development and Functioning (3)**

Pre- or corequisites: COUN 500, 511. Human development from infancy to old age, and its effect on individuals, couples and family relationships. Implications for counseling; role of cultural/social contexts and social stressors; role of human sexuality in development.

### **520 Modes of Individual Counseling (3)**

Prerequisite: COUN 511. Advanced study of major theoretical frameworks in counseling, including models of personality, definitions of individual dysfunction and approaches to treatment. Practice in case conceptualization and application of theories to counseling.

### **521 Research in Counseling (3)**

Pre- or corequisite: COUN 530 or consent of faculty. Applied research methods and program evaluation. Comparative review and synthesis of inquiry approaches. Completion of literature review for anticipated COUN 597 project.

### **522 Techniques of Brief Treatment and Assessment (3)**

Prerequisites: COUN 511, 518. Advanced study of the latest edition of the Diagnostic and Statistical Manual of Mental Health Disorders (DSM) with emphasis on detection and assessment of alcohol and substance, spousal or partner, elder, and child abuse, and human sexual dysfunction. Review of brief treatment models.

### **523 Counseling and Culture (3)**

Prerequisites: COUN 500, 511. Culturally competent counseling with people from diverse cultural backgrounds. Effects of socioeconomic status on treatment, and available resources.

### **524 Child and Adolescent Counseling (3)**

Prerequisites: COUN 500, 511, 518. Corequisite, 520. Overview of child/adolescent development theories and counseling frameworks, with emphasis on utilizing strategies, examining ethical issues, and exploring assessment techniques to evaluate the range of disruptive behaviors.

### **525 Psychopharmacology for Counselors (3)**

Prerequisites: COUN 500, 511, 518, 522. Introduces biochemical basis of behavior and a general knowledge of the effects and side effects of the major classes of psychotropic drugs. Such knowledge is to make appropriate referrals and a comprehensive approach to treatment.

**526 Professional, Ethical and Legal Issues in Counseling (3)**

Prerequisite: COUN 522. Pre- or corequisite, COUN 523. Current ethical and legal standards in practicing counseling and marriage and family therapy. Issues related to child/partner/elder abuse and substance abuse. Role of counselor values, work contexts and client-centered perspective in ethical decision-making. Licensing laws and process. Must pass with a "B" (3.0) or better to advance to COUN 530.

**527 Systems of Family Counseling (3)**

Prerequisite: COUN 511. Survey of family systems models, including Adler, Satir, Bowen, Haley, Minuchin, and others.

**528 Groups: Process and Practice (3)**

Prerequisites: COUN 500, 511. Basic issues and concepts related to group process. Demonstration of group leadership skills with an emphasis on self-reflection.

**530 Practicum (3)**

Prerequisites: COUN 520, 523, 524, 526 (with a "B" or better), 527. Pre- or corequisite: COUN 528. Classified standing; consent of Fieldwork Coordinator. Supervised clinical practice with adults, families and children in approved community agencies. Practice in case management, documentation, use of community resources. Emphasizes dysfunction and healthy functioning. Hours accrued towards 280 required for year-long practicum experience.

**535 Addictions Counseling (3)**

Prerequisites: COUN 500, 511. Etiology and treatment of addictive behaviors, (e.g., substance abuse, gambling). Biological, psychological and systemic factors. Current approaches to assessment, intervention, prevention programs and relapse prevention, including Motivational Interviewing. Role of co-occurring disorders. Use of community resources in helping client and client's family.

**560 Appraisal in Counseling (3)**

Prerequisite: COUN 522. Theories and applications of psychological testing and other means of appraisal, as they relate to the practice of community-based counseling and marriage and family therapy.

**562 Couples Counseling (3)**

Prerequisite: COUN 527. The treatment of couples, including overview of current theories, assessment, goal-setting, interventions, ethical issues, and diversity issues. Assessment and treatment of spousal abuse. Study of sexual dysfunctions and sex therapy.

**584 Advanced Practicum (3)**

Prerequisites: COUN 530 and consent of Fieldwork Coordinator. Advanced supervised clinical practice with adults, families and children in approved community agencies. Emphasizes diagnosis, treatment planning, applied use of theory and techniques. Hours accrued towards 280 required for year-long practicum experience.

**590 Advanced Counseling Techniques (1-3)**

Prerequisite: COUN 530. Advanced interventions, such as disaster and trauma response with attention to resilience, helping issues with the severely mentally ill, case management and evidence-based practice. Required as part of year-long practicum experience. Hours may be accrued towards 280 minimum. May be taken four times for credit.

**597 Research Project (3)**

Prerequisites: COUN 521 and consent of faculty adviser. Capstone program experience; taken final semester. Student conducts original research relevant to the counseling field.

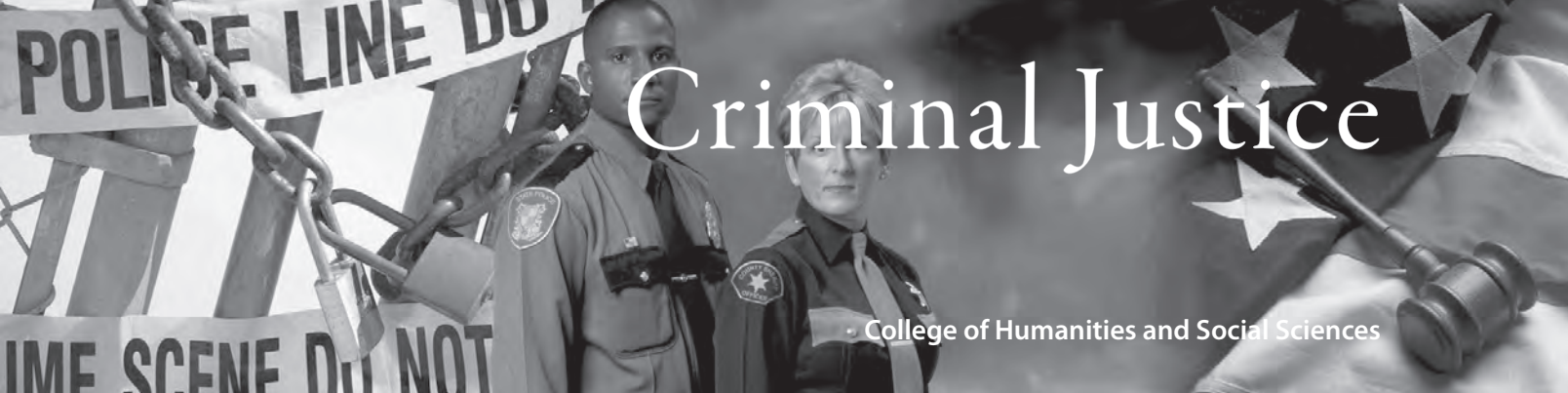
**598 Thesis (1)**

Prerequisites: COUN 530; consent of graduate program adviser. Independent research culminating in a thesis. Recommended for pre-doctoral students. May be repeated for credit.

**599 Independent Study (1-3)**

Prerequisite: consent of instructor or graduate program adviser. Research and development in counseling pursued independently with periodic conference with instructor. May be repeated for credit.





# Criminal Justice

College of Humanities and Social Sciences

## INTRODUCTION

Criminal Justice is the study of the causes, consequences and control of crime. Like other new and developing fields, criminal justice is difficult to define, as it draws from a number of different disciplines, including psychology, public administration, philosophy, political science, sociology and law.

The program leading to the Bachelor of Arts in Criminal Justice is designed to acquaint pre-service and in-service students with the principles and practices of criminal justice in America. Although the department's curriculum allows for the development of depth in one of the subject's substantive subsystems (i.e., law enforcement, courts or corrections), the overriding objective is to familiarize students with activities in all the above areas.

The department is both academic and professional in that it is an interdisciplinary attempt to relate intellectual issues and practitioner perspectives to the challenge of crime in a free society. In this regard, the department provides preparation for employment with a related agency and/or further study (e.g., law school).

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in Criminal Justice:

### Knowledge

- Understand the nature and extent of crime, including its legal, social and economic dimensions
- Understand the major theories of the causes of crime, including types of criminal behavior and the characteristics of victims and offenders
- Understand how crime is measured and how criminal justice research is conducted, including the skills needed to be a knowledgeable consumer of criminal justice research
- Understand the goals, organization and processes of the agencies comprising the criminal justice system
- Understand criminal law, its application and related legal processes
- Understand the major policies and approaches designed to control or reduce crime, their effectiveness, and the processes by which they are created and implemented

### Experience

- Be provided with the opportunity through internships to experience the criminal justice system directly

### Skills

- Be able to think and write clearly, critically and intelligently about the criminal justice system

## DIVISION OF POLITICS, ADMINISTRATION, AND JUSTICE DIVISION CHAIR

Stephen Stambough

## DIVISION OFFICE/WEBSITE

University Hall 511

657-278-3521

[hss.fullerton.edu/paj](http://hss.fullerton.edu/paj)

## PROGRAMS OFFERED

Bachelor of Arts in Criminal Justice

Minor in Criminal Justice

## FACULTY

Gregory (Chris) Brown, Amy Cass,  
Rob Castro, George M. Dery, III,  
Christine Gardiner, Dixie Koo, James  
Lasley, Jarret Lovell, Stacy Mallicoat,  
Kevin Meehan, Jill Rosenbaum,  
Georgia Spiropoulos

## **Advisement**

Students are urged to attend a New Major Advisement Session prior to their first semester at the university as a Criminal Justice major. This is particularly important for community college transfers. Failure to do so may delay graduation. The department's New Major Advisement Sessions are regularly and frequently scheduled. See the bulletin board or call the division office for details.

## **BACHELOR OF ARTS IN CRIMINAL JUSTICE (120 UNITS)**

The Criminal Justice degree requires 45 units in the major, including core courses, electives and correlated curriculum. Effective Fall 2005, new Criminal Justice majors must achieve a "C" (2.0) or better in all 15 courses in the curriculum to earn their bachelor's degree.

For additional information regarding the Criminal Justice program and its courses, check with the Division office in University Hall 511.

### **Core Courses (21 units)**

CRJU 100 Crime, Law and Justice  
CRJU 300 Introduction to Criminal Justice (3)  
CRJU 310A Criminal Law: Substantive (3)  
CRJU 315 The Enforcement Function (3)  
CRJU 330 Crime and Delinquency (3)  
CRJU 340 Criminal Justice Research Methodology (3)  
CRJU 345 Corrections (3)

### **Electives (15 units)**

CRJU courses

### **Writing Requirement (3 units)**

ENGL 301 Advanced College Writing (3)  
ENGL 365 Legal Writing (3)

For further information on these alternatives, please see a Criminal Justice adviser.

## **MINOR IN CRIMINAL JUSTICE (18 UNITS)**

The Minor in Criminal Justice consists of three required and three elective courses from the Criminal Justice curriculum. The required courses are:

CRJU 300 Introduction to Criminal Justice (3)  
CRJU 310A Criminal Law: Substantive (3)  
CRJU 330 Crime and Delinquency (3)

## **CRIMINAL JUSTICE COURSES**

Courses are designated as CRJU in the class schedule.

### **300 Introduction to Criminal Justice (3)**

Underlying ideological issues confronting America's system of criminal justice, with an emphasis on key concepts in conflict (law and order, rehabilitation vs. retribution, etc.) One or more sections offered online.

### **303 Controlling Crime (3)**

Prerequisite: CRJU 300. Crime control and prevention. Common criminal justice tactics such as imprisonment, capital punishment, camera surveillance, electronic monitoring, restorative justice and situational crime prevention.

### **310A Criminal Law: Substantive (3)**

Prerequisite: CRJU 300. General doctrines of criminal liability in the United States and the classification of crimes as against persons, property and the public welfare. Concept of governmental sanction of the conduct of the individual.

### **310B Criminal Law: Procedural (3)**

Prerequisite: CRJU 300. Legal problems associated with the investigation of crime, acquisition of evidence, commencement of a criminal proceeding, prosecution and defense of charges, sentencing and appeal. Development of existing procedures and examination of current efforts for reform.

### **315 The Enforcement Function (3)**

Prerequisite: CRJU 300. Historical and philosophical development of the enforcement function at federal, state and local levels; community controls, political pressures and legal limitations pertaining to law enforcement agencies at each level of government; police policies and problems vis-à-vis the administration of justice as a system.

### **320 Introduction to Public Management and Policy (3)**

(Same as POSC 320)

### **322 Leadership for Public Service (3)**

(Same as POSC 322)

### **330 Crime and Delinquency (3)**

Prerequisite: CRJU 300. Evolving and conflicting purposes and practices associated with the topics of criminology, crime and delinquency, with an emphasis on contemporary strategies for preventing, remediating and controlling crime and delinquency.

### **340 Criminal Justice Research Methodology (3)**

Prerequisite: CRJU 300. Elementary statistics including descriptives, measurements and tests; data collection methods for effort evaluation and program prediction; systems analysis techniques.

### **345 Corrections (3)**

Prerequisite: CRJU 300. Evolving and conflicting purposes and practices associated with the adult corrections systems, with an emphasis upon contemporary strategies for treating/punishing offenders while incarcerated, as well as while in the community.

### **350 Writing for Criminal Justice (3)**

Prerequisite: CRJU 300. Principles of research and writing in criminal justice, including framing and clarifying research questions, using and assessing research resources and developing writing skills for criminal justice research. Meets upper-division writing requirement for Criminal Justice majors, or concentration elective. One or more sections offered online.

### **385 Minorities and the Criminal Justice System (3)**

Prerequisite: completion of General Education Categories B, D.1; CRJU 300 recommended. Issues surrounding the charges of overt and indirect institutionalized racism in the criminal justice system. Patterns of criminal behavior among minority groups in the U.S.

### **404 Capital Punishment (3)**

Prerequisites: CRJU 300, junior or senior standing. Issues relating to the use of capital punishment in the U.S., and arguments in support of and opposition to the death penalty. (Same as POSC 404)

### **405 Criminal Justice Policy (3)**

Prerequisites: CRJU 300, 330. Not open to students who have studied Criminal Justice policy as CRJU 475T. Evolving purposes and practices associated with the development of criminal justice policies, principally in the United States. Topics include sentencing legislation, illustrate the development, adoption and impact of public policy on criminal justice systems.

### **406 Crime and Popular Culture (3)**

Prerequisites: CRJU 300, 330. How the prevalence of crime and violence in popular culture reflects on contemporary society. Materials and readings argue that images of crime are not only entertaining; they also perform deep social and political functions.

### **422 Human Resources Management (3)**

(Same as POSC 422)

### **425 Juvenile Justice Administration (3)**

Prerequisite: CRJU 300. Definitions of “delinquency” and the related responses of the interested institutions (police, courts and correction); the juvenile court (past and present), and prevention and correction programs (practicing and proposed).

### **430 Women and Crime (3)**

Prerequisite: CRJU 300 or PHIL 302. Women as criminals and victims, gender differences in criminal behavior and the role of women as professionals in the criminal justice system.

### **435 Civil Disobedience and Social Justice (3)**

Prerequisites: CRJU 300, POSC 100. The violation of law as protest. Definitions and types of disobedience and the policing and punishment of dissent. Analysis of protest as a strategy for social justice. (Same as POSC 435)

### **440 Correctional Rehabilitation (3)**

Prerequisites: CRJU 300, 345. Theories and techniques of correctional treatment. Current state of correctional rehabilitation, focusing on the “What Works!” literature and the value of proper programmatic evaluation and correctional classification.

### **450 Organized Crime and Intelligence Analysis (3)**

Prerequisite: CRJU 300. History and development of organized crime. Current criminological strategies of control of organizational crime. Systems theories and other analytical techniques of police intelligence.

### **455 Gangs and Criminal Justice System (3)**

Prerequisites: CRJU 300. Causal factors of, and legal solutions to, gang-related crime in the United States. Relevance of sociological, psychological, economic and educational deviance theories to justice intervention strategies.

### **462 Crime Analysis (3)**

Prerequisites: CRJU 300, 340. Crime analysis function within the law enforcement organization; how to develop, implement and operate a crime analysis unit, and discuss the nexus between crime analysis, field and investigative operations, and administrative bureaus.

### **465 Law, Punishment and Justice (3)**

Prerequisite: CRJU 300. Theoretical scholarship in criminal justice is increasingly concerned with law in relation to delivery of justice and practices of punishment. Examines rule of law, questions whether justice is different from law and reviews the role punishment plays.

### **470 Sex, Crime and Culture (3)**

Prerequisite: CRJU 300. Rationale for law’s concern with sexual conduct, developed via discussion of selected offenses and offenders. Lectures and guest speakers also present opposing perspectives regarding the role of law enforcement, courts and correction. Research and reform.

### **471 Moot Court: Legal Practicum (3)**

(Same as POSC 471)

### **472 The Judicial Process (3)**

Prerequisite: CRJU 300 or POSC 375. Nature, functions and roles of courts. Roles of major participants in the American legal system, including judges, attorneys and citizens. Administration of justice as a system. (Same as POSC 472)

**475T Topics in Administration of Justice: A Seminar (3)**

Prerequisite: CRJU 300. Current social, legal and practical problems confronting police, courts and corrections. Variable topic class with specific subjects to be announced each semester. May be repeated for credit with different content up to a maximum of 9 units.

**480 Courtroom Evidence (3)**

Prerequisite: CRJU 300. Rules of evidence in the context of a criminal trial in a California court. Rules, their application and rationale. Lecture, discussion and simulated courtroom situations.

**485 Search, Seizure and Interrogation I (3)**

Prerequisite: CRJU 300. Analyzes laws that apply in common street search-and-seizure and interrogation situations in California; how they have evolved, and what developments are anticipated.

**486 Search, Seizure and Interrogation II (3)**

Prerequisite: CRJU 300. Analyzes laws that apply in some search-and-seizure and interrogation situations, such as those involving the border patrol and college officials.

**492 Pre-law Internship (3)**

(Same as POSC 492)

**495 Internships (3)**

Prerequisites: senior standing and consent of instructor. Criminal justice professions; eight to 20 hours per week as a supervised intern in a public agency or related organization. In addition to the job experience, interns meet in a weekly three-hour seminar. May be repeated once for credit.

**499 Independent Study (1-3)**

Prerequisites: at least 12 units of criminal justice and consent of adviser. Student selects an individual research project, either library or field. Conferences with adviser as necessary, culminating in one or more papers. May be repeated for credit.



## INTRODUCTION

As a scholarly discipline, economics is over two centuries old. The nature of economic analysis has been described by John Maynard Keynes as "... a method rather than a doctrine, an apparatus of the mind, a technique of thinking which helps its possessors to draw correct conclusions."

According to the National Association of Business Economists (NABE), "The key skills of the economic analyst compared to other business analysts is the ability to link industry/market developments to the overall economy, i.e., to see the forest as well as the trees. The broad training of economists provides a flexibility that allows them to turn their hand to a broad range of analytical problems – a critical attribute in a company experiencing a redirection of industry interests."

Students pursuing graduate degrees in many other fields, such as the social sciences, business, public administration, public health, environmental studies, urban studies, law, and journalism find that economics is their best choice for an undergraduate major or minor, given the extensive economic content of these programs. Several studies have shown that lawyers with undergraduate degrees in business economics earn more than other lawyers.<sup>1,2</sup>

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<sup>1</sup> Black, D., S. Seth, and L. Taylor. "The Economic Reward for Studying Economics." *Economic Inquiry*, V41, n3, July 2003, 365-77

<sup>2</sup> Craft R.K., and J.G. Baker. "Do Economists Make Better Lawyers? Undergraduate Degree Field and Lawyer Earnings." *Journal of Economics Education*, Summer 2003, 263-281.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in Economics:

### Understand critical concepts

- Understand the economic challenge of allocating limited resources among competing uses in a global economy and across different market structures under conditions of limited information
- Understand the behavior of consumers and producers in product and factor markets and the concept of efficient allocation of resources as a maximizing mechanism
- Understand the role of government in the economy in the context of business activity, income distribution, economic growth, globalization and market failure

## DEPARTMENT CHAIR

David Wong

## DEPARTMENT OFFICE/WEBSITE

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[business.fullerton.edu/economics](http://business.fullerton.edu/economics)

## PROGRAMS OFFERED

Bachelor of Arts in Business

Administration

Concentration in Business Economics

Bachelor of Arts in Economics

Minor in Economics

Master of Arts in Economics

Master of Business Administration

Concentration in Business Economics

## FACULTY

Kazi Ahmed, Gabriela Best, Radha Bhattacharya, Rokon Bhuiyan, Victor Brajer, Nek Buzdar, James Dietz, Emira Farka, Adrian Fleissig, Andrew Gill, Chiara Gratton-Lavoie, Jane Hall, Larry Howard, Sherif Khalifa, Kristin Kleinjans, Emmanuel Lartey, Robert Mead, Robert Michaels, Howard Naish, Huiran Pan, Aaron Popp, Dipankar Purkayastha, Millu Rayanajhi, Morteza Rahmatian, Denise Stanley, David Wong, Feng Xiao, Fang Zhang

### **Engage in policy oriented analysis**

- Understand the theory used to analyze economic variables and how they are affected by public policy and other factors
- Critically evaluate and compare alternative schools of thought and expected policy outcomes
- Understand the interaction between goods, factors and financial markets

### **Operate professionally**

- Understand how to access, use and interpret economic data and apply theory to analyze and discuss economic issues and events
- Understand how to access existing economic literature and analyze economic problems using theoretical, statistical, and quantitative methods

### **BACHELOR OF ARTS IN ECONOMICS (120 UNITS)**

Admission to the Economics major involves two steps. Students who apply to the major are initially classified as Pre-economics. After completing the lower-division core requirements with a “C” (2.0) or better, students may apply to the Economics major. Pre-economics students may take lower-division business and economics courses, but most upper-division courses are not open to Pre-economics students.

The Bachelor of Arts in Economics requires 54 units in the major. Students must earn a “C” (2.0) or better in each course listed below. However, a “C” (2.0) average will be acceptable in the upper-division economics electives.

#### **Lower-Division Requirements**

ACCT 201A Financial Accounting (3)

ACCT 201B Managerial Accounting (3)

OR MATH 150B Calculus (4)

BUAD 201 Business Writing (3)

ECON 201 Principles of Microeconomics (3)

ECON 202 Principles of Macroeconomics (3)

ISDS 265 Introduction to Information Systems and Applications (3)

MATH 135 Business Calculus (3)

OR MATH 130 Short Course in Calculus (4)

OR MATH 150A Calculus (4)

#### **Upper-Division Requirements**

BUAD 301 Advanced Business Communication (3)

ECON 310 Intermediate Microeconomic Analysis (3)

ECON 320 Intermediate Macroeconomic Analysis (3)

ECON 340 Economic Research Methods (3)

ECON 490 Economics Capstone (3)

ISDS 361A Quantitative Business Analysis: Probability and Statistics (3)

### **Electives**

15 units of upper-division economics electives (six units must be 400-level).

No more than three units of independent study may be used to meet the 400-level electives requirement.

### **BACHELOR OF ARTS IN BUSINESS ADMINISTRATION**

See “Business Administration, Business Economics Concentration.”

### **MINOR IN ECONOMICS (24 UNITS)**

The economics minor covers the basics in the discipline of economics and gives students the opportunity to explore personal interests through electives. A course in calculus (MATH 135 or equivalent) is prerequisite to ECON 310, 315 and 320. Students must earn a “C” (2.0) or better in each required course below.

#### **Lower-Division Requirements (6 units)**

ECON 201 Principles of Microeconomics (3)

ECON 202 Principles of Macroeconomics (3)

#### **Upper-Division Requirements (9 units)**

BUAD 301 Advanced Business Communications (3)

OR equivalent

ECON 310 Intermediate Microeconomics Analysis (3)

OR ECON 315 Intermediate Business Microeconomics (3)

ECON 320 Intermediate Macroeconomics Analysis (3)

AND nine units of upper-division economics electives

### **MASTER OF BUSINESS ADMINISTRATION**

See “Business Administration, MBA.”

### **MASTER OF ARTS IN ECONOMICS (30-33 UNITS)**

The master's degree in economics provides preparation for professional careers in private industry and government, and provides a foundation for further graduate work at the doctoral level.

The curriculum is designed for students with an undergraduate degree in business administration or economics. Students have the option of writing a thesis (the thesis track is 30 units) or taking a comprehensive exam (the comprehensive exam track is 33 units) to earn their degrees.

Most graduate courses in Mihaylo College of Business and Economics require classified “MCBE status” and are open only to students with classified standing in the M.A. in Economics, MBA, M.S. in Accountancy, M.S. in Information Systems or M.S. in Taxation programs.

#### **Admission**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, admission to the program will be based on the following:

1. a GPA of at least 3.0 in the following courses or their equivalents (corresponding CSUF courses are in parenthesis)– Business Calculus (MATH 135), Principles of Microeconomics (ECON 201), Principles of Macroeconomics (ECON 202), Intermediate Microeconomics (ECON 310 or 315), Intermediate Macroeconomics (ECON 320), Probability and Statistics (ISDS 361A or ECON 340), and one advanced undergraduate elective in economics;
2. for international students, a score of 570 on the TOEFL paper exam or 88 on the IBT is required; and
3. Graduate Record Examination (GRE) scores, at least two confidential letters of recommendation, a résumé and a Statement of Purpose from the applicant sent directly to the Graduate Adviser in Economics. Persons who have known the candidate professionally should write the letters of recommendation. There are no forms. The letters should be written on official letterhead, and the letters should discuss both the strengths and the weaknesses of the applicant. The statement of purpose should not exceed 750 words.

An applicant who does not meet one or more of the requirements above (including international students who score between 550 and 570 on TOEFL), may still be considered for admission, depending on the evaluation of the entire application file (the students must, however, have a GPA of 2.5 in the last 60 semester units at the time of admission). If admitted, an applicant with one or more deficiencies may be asked to take specified deficiency courses and exams. Students admitted with deficiencies are called “conditionally classified” students. Conditionally classified students can take a limited number of courses at the graduate level, subject to the approval of the graduate adviser of the department. Students are expected to advance promptly to classified standing. Classified students are eligible to take graduate courses for which they are qualified.

### Study Plan

Within one semester of admission, the students are advised to prepare a study plan. A study plan reflects a selection of approved courses that have been taken or will be taken by the student to earn the graduate degree.

Students are urged to meet as soon as possible with the graduate adviser in the Department of Economics to file a study plan and advance to classified standing.

Any study plan course in which a “C-” (1.7) or below is received must be repeated with at least a “C” (2.0), regardless of the overall grade-point average of the students. A minimum 3.0 GPA is required for graduation. Students are also required to graduate in a timely manner.

### Required Courses (18 units)

ECON 441 Introduction to Mathematical Economics (3)

ECON 502 Advanced Microeconomic Analysis (3)

ECON 503 Advanced Macroeconomic Analysis (3)

ECON 504 Econometric Analysis (3)

ECON 505 Economic Models and Forecasting

ECON 595 Current Research in Economics (3)

OR approved 500-level substitute

*Note:* ECON 440, Introduction to Econometrics, is a prerequisite to ECON 504.

### Area and Electives Courses (9–15 units)

Students may choose to focus on one of the following elective tracks:

- Financial and monetary economics
- Health, aging and labor economics
- Public economics, law and industrial organization
- International, environmental and development economics

In addition to ECON 441, only two more 400-level courses are allowed on the Study Plan.

### Terminal Evaluation (0–3 units)

ECON 598 Thesis Research (3)

OR Comprehensive Examinations

These examinations are given at the end of each semester.

## ECONOMICS COURSES

Courses are designated as ECON in the class schedule.

### 100 The Economic Environment (3)

Application of economics to the problems of unemployment and inflation, the distribution of income, competition and monopoly, the role of government in the economy, other policy issues. Not open to pre-business, business administration majors or minors, economics majors or minors or international business majors.

### 201 Principles of Microeconomics (3)

Principles of individual consumer and producer decision-making in various market structures, the price system, market performance and government policy.

### 202 Principles of Macroeconomics (3)

Prerequisite: ECON 201. Principles of macroeconomic analysis and policy, unemployment and inflation, financial institutions, international trade, economic growth, comparative systems. One or more sections offered online.

### 310 Intermediate Microeconomic Analysis (3)

Prerequisites: ECON 202, MATH 135. Corequisite: BUAD 301, ISDS 361A or equivalent. Rational decision-making behavior of consumers and firms, price and output determination in markets. Primarily for economics majors, but open to all students who qualify.

**315 Intermediate Business Microeconomics (3)**

Prerequisites: ECON 202, MATH 135. Corequisite: BUAD 301, ISDS 361A or equivalent. Business decisions in alternative market structures with special emphasis on problem-solving in a business context using economic concepts and methods. Not open to economics majors. Students may not receive credit for both ECON 310 and 315. One or more sections offered online.

**320 Intermediate Macroeconomic Analysis (3)**

Prerequisites: ECON 202, MATH 135. Corequisite: BUAD 301, ISDS 361A or equivalent. Determinants of the level of national income, employment and prices, and monetary and fiscal policies.

**330 Comparative Economic Systems (3)**

Prerequisite: ECON 100 or 201. Alternative economic systems; their theoretical foundations, actual economic institutions, and achievements and failures. Contrast between socialist and capitalist systems.

**332 Economies of the Pacific Rim (3)**

Prerequisite: ECON 100 or 201. Dimensions of industrialization, agriculture, investment, human resources and trade in economies of the Far East (including Japan and China), India and related nations of the Pacific Rim.

**333 Economic Development: Analysis and Case Studies (3)**

Prerequisite: ECON 100 or 201. Processes of economic growth with references to developing areas. Capital formation, resource allocation, relation to the world economy, economic planning and institutional factors, with case studies. One or more sections offered online.

**334 Economics of Latin America and the Caribbean (3)**

Prerequisite: ECON 100 or 201. Corequisite: BUAD 301. Regional economic problems within an international context: dependence, industrialization and the international corporation; agriculture; regional cooperation; inflation; trade and debt problems.

**335 The International Economy (3)**

Prerequisite: ECON 100 or 201. Theory, practice and institutions of the international economy. International trade and investment, balance of payments, foreign exchange rates, multinational enterprise, international economic policy. Current trade issues: European Community, trade with developing countries, Eastern Europe, and the states of the former Soviet Union; General Agreement on Tariffs and Trade (GATT) and other major trade agreements.

**336 Economies of the Middle East (3)**

Prerequisite: ECON 100 or 201. Economic circumstances and challenges in the Middle East. Topics include population and education, dependence on oil exports, state control of the economy, and the potential for economic growth and stability in the region.

**340 Economic Research Methods (3)**

Prerequisite: ECON 202, ISDS 361A or equivalent. Basics of applied economic research. How to access existing economic knowledge, locate and compile economic data, and analyze economic problems using theory and quantitative methods.

**350 American Economic History (3)**

Prerequisite: ECON 100 or 201. Development of American economic institutions; economic problems, economic growth and economic welfare.

**351 European Economic History (3)**

Prerequisite: ECON 201. Evolution of European economic institutions and development of industry, commerce and finance, from the fall of the Roman Empire to the Industrial Revolution. Traces historical path that culminated in European economic hegemony.

**355 Economics of Gender and Work (3)**

Prerequisites: completion of General Education Category D.1 and junior or senior standing. Economic analysis of demographic trends and changing gender roles and experiences in paid and unpaid work, education, earnings and market discrimination using economic theory. International comparisons. (Same as WMST 355.)

**361 Urban Economics (3)**

Prerequisite: ECON 100 or 201. Theory and analysis of the urban economy, urban economic problems and policy.

**362 Environmental Economics (3)**

Prerequisite: ECON 100 or 201. Economic analysis of environmental problems and related issues: externalities, property rights, social costs and benefits, user cost, rent and decision making under uncertainty.

**410 Industrial Organization (3)**

Prerequisite: BUAD 301, ECON 310 or equivalent. Business organization, conduct and performance; rationale and impact of public policy on business and business activities, including the regulated industries, sick industries and antitrust policy.

**411 International Trade (3)**

Prerequisites: BUAD 301, ECON 310 or 315 or equivalent. Theories of international trade. Gains from trade, effects of tariff and non-tariff barriers, and conduct of commercial policy. Balance of payments, theories of exchange rate determination and other international economic issues.

**412 Labor Economics (3)**

Prerequisite: BUAD 301, ECON 310 or equivalent. Labor supply and demand, labor force participation, employment, unemployment, human capital, wage differentials, disadvantaged labor market groups, discrimination and wage-related income transfers.



**413 Law and Economics (3)**

Prerequisites: BUAD 301; ECON 310 or 315. Economic analysis of the common law – property, contract and tort – focusing on the use of microeconomic theory to study the economic efficiency characteristics and effects of these laws. Analysis of specific legal cases.

**415 Economics of Health (3)**

Prerequisite: ECON 340 or equivalent. Application of economic reasoning to the analyses of health-related issues, markets, practice, education, research, and policy within social and political contexts.

**416 Benefit Cost and Microeconomic Policy Analysis (3)**

Prerequisites: BUAD 301; ECON 310 or equivalent. Application of microeconomic models and welfare economics to public policy. Concepts of economic efficiency, economic surplus and equity. Measurement of policy effects, including benefit-cost analysis, with applications to selected policy areas such as education and environmental programs.

**417 Public Finance (3)**

Prerequisites: BUAD 301; ECON 310 or equivalent. Government finance at the federal, state and local levels; impact of taxation and spending on resource allocation, income distribution, stabilization and growth.

**418 Behavioral Economics (3)**

Prerequisite: ECON 310 or 315. Integrates insights from psychology into economics models. Evidence of violations of standard economic assumptions, theories that can explain those violations and applications to real-world examples.

**420 Money and Banking (3)**

Prerequisites: BUAD 301; ECON 320 or equivalent. Money supply process and impact of monetary policy on economic activity.

**421 Monetary and Fiscal Policy (3)**

Prerequisites: BUAD 301; ECON 320 or equivalent. Techniques of monetary and fiscal policy and their relative roles in promoting economic stability and growth.

**431 International Macroeconomics and Growth (3)**

Prerequisites: BUAD 301, ECON 320. Macroeconomic analysis of the open economy: impact of stabilization policies in a global economy, role of the balance of payments, international monetary system and growth in less developed countries.

**433 The Less Developed Countries and the World Economy (3)**

Prerequisites: ECON 310, 315 or 515, and ECON 320 or 521. Development and underdevelopment in the poorer countries in the context of a changing international economic order. Neo-classical and political economy approaches. Includes case studies from Asia, Africa and Latin America.

**440 Introduction to Econometrics (3)**

Prerequisite: BUAD 301, ECON 340, ISDS 361A or equivalent. Economic measurement: specification and estimation of econometric models; statistical methods in economic research.

**441 Introduction to Mathematical Economics (3)**

Prerequisites: BUAD 301, ECON 202 and MATH 135 or equivalent. Economic theory from microeconomics and macroeconomics. Content varies; constrained optimization problems and rational decision-making.

**450 History of Economic Thought (3)**

Prerequisites: BUAD 301; ECON 310 or 320. Major schools of thought and of leading individual economists as they influenced economic thought and policy.

**461 Ecological Economics (3)**

Prerequisites: BUAD 301 and ECON 310 or 315 or equivalent. Application of economic concepts and methods to understanding the ways in which human economic behavior contributes to environmental and ecosystem degradation; the use of economic approaches to evaluate and manage these impacts; the design of sustainable economic policies. One or more sections offered online.

**462 Natural Resource Economics (3)**

Prerequisites: BUAD 301 and ECON 310 or 315 or equivalent. Concepts and principles in the application of economics to issues in natural resource economics. Issues include uncertainty and risk in investment, depletion over time, cartelization, the role of technological innovation and government intervention related to fuels, water, land, etc.

**490 Economics Capstone (3)**

Prerequisites: ECON 310, 320, 340. Capstone experience for Economics majors. Students demonstrate facility with economic theory and quantitative methods by presenting teaching topics, summarizing news reports and scholarly journal articles, writing policy briefs on selected economic topics and replicating empirical findings from economics literature.

**495 Internship (1-3)**

Prerequisites: Economics major, BUAD 301, ISDS 361A, ECON 310 or 320; international business major, ECON 202 and 335, ISDS 361A; consent of the department internship adviser; at least junior standing; 2.5 GPA and one semester in residence at the university. Planned and supervised work experience. May be repeated for a total of six units of credit. Credit/No Credit only.

**499 Independent Study (1-3)**

Prerequisites: Economics major or concentration, BUAD 301, ECON 310 and 320 or the equivalents, senior standing, and consent of department chair. Directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

**502 Advanced Microeconomic Analysis (3)**

Prerequisite: ECON 441. Advanced treatment of rational decision-making behavior of consumers and firms, the price system, and resource allocation in partial and general equilibrium settings. Topics include preference theory, welfare economics, gains from trade, monopoly power, external costs and benefits, public goods, factor markets, intertemporal decisions, risk and uncertainty.

**503 Advanced Macroeconomic Analysis (3)**

Prerequisites: ECON 320 or equivalent and classified graduate status in Economics. Determination of employment, fluctuations of real and money income, and the forces underlying economic growth.

**504 Econometric Analysis (3)**

Prerequisites: ECON 440 or equivalent and classified graduate status in economics. Contemporary methods for analyzing microeconomic data, focusing on instrumental variables estimation, probit, logit and tobit models, models of sample selection and panel data methods.

**505 Economic Models and Forecasting (3)**

Prerequisites: ECON 440 and classified graduate status in economics. Statistical methods of econometric estimation and forecasting. Practical solutions to problems in model specification, estimation by regression, time series analysis and forecasting.

**506 Economics of Aging (3)**

(Same as GERO 506)

**515 Microeconomic Perspective for Managers (3)**

Prerequisites: classified MCBE status and MATH 135 or equivalent. Individual economic agents – demand side consumers and supply side producers. Market structures ranging from perfect competition to monopoly. Features of organizational architecture: the assignment of decision rights within organizations; the reward system; and the performance-evaluation system. (Not open to M.A. Economics candidates.)

**516 Economics and Benefit-Cost Analysis (3)**

Prerequisites: ECON 201 and classified graduate status in Economics or Environmental Studies or Public Administration. Economics and benefit-cost analysis of public projects. Consumer demand and the estimation of benefits; the nature of cost in a market economy; price controls, unemployment and inflation; and criteria for choice, for multi-year projects. For elective credit in the M.S. Environmental Studies or Master of Public Administration.

**521 Macroeconomic Perspective for Managers (3)**

Prerequisites: ECON 310 or 515 or equivalent and classified MCBE status. Managerial use of local, national and global macroeconomic trends and data to make decisions. Impact that changes in taxes, government spending and Federal Reserve Bank monetary policy have on business, real estate and financial markets. (Not open to M.A. Economics candidates or students with credit for ECON 320.)

**528 Financial Economics (3)**

(Same as FIN 528)

**531 International Economics (3)**

Prerequisites: ECON 310, 315, 515 or equivalent, and classified MCBE status, and ECON 320 or 521. Theories and current issues in international trade, finance, macroeconomics and growth, with an emphasis on business applications.

**590 Topics in Economic Analysis and Policy (3)**

Prerequisites: ECON 310 and 320 or equivalent; classified graduate status in economics. Contemporary research in areas such as resource economics; history of economic thought; international monetary systems; forecasting; economics of planning; trade and development; human resource economics. May be repeated for credit.

**595 Current Research in Economics (3)**

Prerequisites: ECON 502, 503; 504 or 505. Students read, present and replicate scholarly research published in peer-reviewed journals covering a variety of topics in economics. They receive guidance as to research methodology, composition of a research paper and professional presentation. Attendance at departmental research seminars required.

**598 Thesis Research (3)**

Prerequisites: ECON 502, 503, 504 and classified graduate status in economics. Corequisite: ECON 505. Selection and approval of topic; outline; methodology; literature survey; data collection and analysis; presentation of results. Award of the grade is contingent upon the completion and acceptance of the thesis.

**599 Independent Graduate Research (1-3)**

Prerequisites: ECON 440, 502, 503; classified graduate status; and consent of instructor and Department Chair (or designee). Directed advanced independent inquiry. May be repeated for credit. Not open to students on academic probation.



# Educational Leadership

College of Education

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

### Educational Administration

The following goals and learning outcomes have been established for students pursuing a master's degree in Educational Administration:

#### *Strategic Leadership*

- Ability to develop with others vision and purpose, utilize information, frame problems, exercise leadership processes to achieve common goals and act ethically for educational communities<sup>1</sup>
- Promote the success of all students by facilitating the development, articulation, implementation and stewardship of a vision of learning that is shared and supported by the school community<sup>2</sup>
- Promote the success of all students by modeling a personal code of ethics and developing professional leadership capacity<sup>2</sup>

#### *Instructional Leadership*

- Ability to design appropriate curricula and instructional programs, develop learner-centered school cultures, assess outcomes, provide student personnel services and plan with faculty professional development activities aimed at improving instruction<sup>1</sup>
- Promote the success of all students by advocating, nurturing and sustaining a school culture and instructional program conducive to student learning and staff professional growth<sup>2</sup>

#### *Organizational Leadership*

- Ability to understand, initiate and/or improve the organization, implement operational plans, manage financial resources and apply effective management processes and procedures<sup>1</sup>
- Promote the success of all students by ensuring management of the organization, operations and resources for a safe, efficient and effective learning environment<sup>2</sup>

#### *Political Leadership*

- Ability to act in accordance with legal provisions and statutory requirements, to apply regulatory standards, develop and apply appropriate policies, understand and act professionally regarding the ethical implications of policy initiatives and political actions, relate public policy initiatives to student welfare, understand schools as political systems<sup>1</sup>
- Promote the success of all students by understanding, responding to and influencing the larger political, social, economic, legal and cultural context<sup>2</sup>

#### *Community Leadership*

- Collaborate with parents and community members; work with community agencies, foundations and the private sector; respond to community interests and needs in

### DEPARTMENT CHAIR

Jennifer Goldstein

### DEPARTMENT OFFICE/WEBSITE

College Park 520  
657-278-3187  
[ed.fullerton.edu/edleadership](http://ed.fullerton.edu/edleadership)

### PROGRAMS OFFERED

Master of Science in Education  
Concentration in Educational  
Administration  
Concentration in Higher Education  
Preliminary Administrative Credential  
Professional Administrative Credential  
Community College Studies Certificate  
School Business Management  
Certificate (University Extension)  
Doctor of Education in Educational  
Leadership  
Concentration in PreK-12 Leadership  
Concentration in Community  
College Leadership

### FACULTY

Louise Adler, Leigh Barton, Meri  
Beckham, Daniel Choi, Ding-Jo Currie,  
Eugene Fujimoto, Jennifer Goldstein,  
John Hoffman, Pamela Houston,  
Jerome Hunter, Joyce Lee, Carol  
Lundberg, Ron Oliver, Dawn Person

performing administrative responsibilities; develop effective staff communications and public relations programs; and act as mediators for the various groups and individuals who are part of the school community

- Promote the success of all students by collaborating with families and community members, responding to diverse community interests and needs, and mobilizing community resources<sup>2</sup>

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<sup>1</sup> NCATE-Approved Curriculum Guidelines for Advance Program in Educational Leadership 1995.

<sup>2</sup> California Professional Standards for Educational Leaders 2004.

### Higher Education

The following goals and learning outcomes have been established for students pursuing a master's degree in Higher Education:

#### *Leadership*

- Ability to apply fundamental leadership and organization theories along with core management skills to student affairs practice as reflected in case study analysis, as well as in practicum and fieldwork experiences

#### *Social Justice and Advocacy*

- Ability to draw upon a deepened understanding of their own cultures, the cultures and characteristics of college students, and institutional structures in order to develop educational programs that promote educational access and success for all students, especially those from historically underrepresented populations of students

#### *Education*

- Ability to draw upon an analysis and evaluation of the historical and philosophical foundations of the student affairs profession, as well as major student development theories in order to develop educational programs that promote student development and learning

#### *Assessment and Evaluation*

- Ability to demonstrate their understanding of student affairs scholarship in the analysis, synthesis and evaluation of current research, who can design processes to assess student learning and development in the cocurriculum, and who can plan and implement formative and summative program evaluations and research projects

#### *Personal Development*

- Ability to articulate a clear philosophy of student affairs, and who systematically draw upon personal reflection regarding their strengths and weaknesses, as well as upon feedback from mentors to enhance their personal and professional development

### Educational Leadership

The following goals and learning outcomes have been established for students pursuing a doctorate degree in Educational Leadership:

#### *Experts in Educational Leadership*

- Possess a deep understanding of the complex nature of learning and teaching so that they are able to guide and assist instructional practice
- Understand the needs of adult learners and can apply the theories found in the andragogy literature to the process of educational reform
- Skilled users of techniques for forecasting, planning and managing change processes in education, including use of technology as a resource
- Aware of cutting-edge technologies and how they can be used to enhance teaching, learning and leadership of the educational enterprise

#### *Professionals Whose Practice is Informed by Scholarly Literature*

- Critique informal ideas about best practice on the basis of the literature
- Have a sense of the limits of the literature, as to its applicability to the work of educational professionals, its fundamental validity and reliability, and as to questions of which groups are empowered or marginalized by what is implied in the literature
- Foster and encourage best practices within their organizations based on critical analysis of scholarly literature
- Develop with their colleagues and subordinates the ability to participate in communities of learning based on reflective practice and critique of the scholarly literature
- Define, contrast and evaluate the multiple perspectives presented in the scholarly literature regarding education
- Critique proposals for research and/or program implementation
- Broker consultants and researchers in pursuit of organizational goals, independently assessing organizational needs and matching consultant/researcher skills and proposals to those needs

#### *Reflective Practitioners*

- Professional experience is systematically engaged, compared and critiqued in classroom and other learning experiences
- Professional experience will be brought to bear on the areas of their study, finding relevance and application for principles derived from the literature

#### *Critical Thinkers*

- Thinking is probabilistic, recognizing the indeterminacy of educational and social contexts
- Professional thinking is marked by hypothetical reasoning, meaning that conclusions are remorselessly yet robustly tentative, open to falsification on the basis of new valid and reliable data



- Exhibit a bias for evidence in decision-making, preferring strongly evidence that is systematic and gathered from multiple sources and via sound means of collection, which are tested against the scholarly literature and the realities of changing circumstances

#### *Change Agents*

- Knowledge of research enables them to interpret findings, make judicious applications of research and advise others in policy positions
- Able to undertake first-hand investigations of local problems using applied research and appropriate methods for generating valid and reliable results
- Able to select applied research that addresses significant questions and ground it within the general framework of the scholarly literature
- Use research results and a sophisticated understanding of organizational structures, cultures and institutional networks to foster positive reform efforts within their organizations and across educational institutions

#### *Self-Aware and Ethical Professionals*

- Seek contexts and means for professional life-long learning and connections with scholarly literature
- Demand sophisticated feedback on their own performance and that of others, informed by scholarly understandings
- Understand that education is embedded in a network of social and political structures that can be influenced and also will exert powerful influences on the educational process at all levels
- Understand and support the ethical expectations of the education profession and strive to make their professional practice serve the needs of students and the community

#### *Professionals Who Value Diversity*

- Understand how their life histories shapes their views about the literature, organizations and groups, and understand how to create collaborative environments that welcome and serve diverse members—cultural/linguistic diversity, gender, able-ness and age-span differences
- Work to shape learning communities at their sites that are more humane and responsive to all students and are open to the wider community

#### **Policies of the Department**

Candidates for our programs will be selected on the basis of leadership potential and commitment to the improvement of education and will engage in a rigorous course of study.

The courses offered by the department are arranged in a specific order, which must be followed by all students. Cohorts of students are formed and move through the courses as a group.

#### **ADMINISTRATIVE SERVICES CREDENTIAL**

The Administrative Services Credential programs of the Department of Educational Leadership are approved by the California Commission on Teacher Credentialing. Because regulations governing these programs change, students should contact the department office for current information and requirements.

#### **Credential Requirements**

Students who wish to apply for credential programs must complete a separate applicant portfolio. The requirements and information are available at [ed.fullerton.edu/edleadership/admissions.htm](http://ed.fullerton.edu/edleadership/admissions.htm).

Students applying for the Preliminary Administrative Credential Program are required to have three years teaching experience when entering the program. Waiver requests for 1-2 years of experience are considered for those starting a second career or under unusual circumstances.

The minimum GPA required to be recommended for a certificate of eligibility or a credential is an average of 3.0 for all classes taken in the credential program.

#### **Preliminary Credential**

The Preliminary Administrative Services Certificate/Credential is the “Tier I” administrative credential in California, requiring a total of 24 units of work (which may be incorporated into the master’s degree program). Upon receipt of the Preliminary credential, one is eligible for employment as an administrator in California public schools. A master’s degree is required for California State University to recommend a candidate for this credential.

#### **Professional Credential**

The Professional Administrative Services Credential is the “Tier II” administrative credential.

Candidates with strong administrative experience and a strong professional portfolio can complete the online Demonstration of Mastery Program at CSUF in one semester. Candidates must hold a Master’s Degree in Educational Administration and have completed an accredited Preliminary Administrative Credential Program.

Students enrolled in the Ed.D. program may complete the professional credential through an embedded standards-based program. Holding a job as administrator and the Preliminary Credential are prerequisites to entry to the program for the Professional Credential.

#### **MASTER OF SCIENCE IN EDUCATION (30 UNITS) (EDUCATIONAL ADMINISTRATION )**

The principal objective of the curriculum is to prepare carefully selected individuals for leadership positions in public schools. The program is designed to help these individuals gain the technical knowledge and scholarship requisite to high achievement in these positions.

### **Admission to Graduate Standing – Conditionally Classified**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, an applicant should have successful teaching experience in an elementary or secondary school. (If such experience is not available, other experience in related fields is an alternative if approved by a graduate adviser before starting the program.) A candidate portfolio is also required.

### **Graduate Standing – Classified**

A student who meets the admission requirements and has a minimum 2.5 GPA in previous academic work may be granted classified graduate standing upon approval of a study plan.

### **Study Plan**

The study plan requirements include field experience and a project. No more than nine units of postgraduate work taken prior to classified standing may be applied to a student's master's degree program.

### **Core Coursework (10 units)**

EDAD 503 Organizational Leadership (3)  
EDAD 505A K-12 Instructional Leadership (4)  
EDAD 510 Introduction to Educational Research (3)

### **Concentration Coursework (17 units)**

EDAD 561 Policy, Governance, Community Relations (2)  
EDAD 563 Human Resource Administration (2)  
EDAD 564 School Law and Regulatory Process (3)  
EDAD 565 School Finance (3)  
EDAD 566 Leadership in Public Schools (3)  
EDAD 567 K-12 Fieldwork (1,1,2)

### **Project (3 units)**

EDAD 597 Project (1,1,1)

## **MASTER OF SCIENCE IN EDUCATION (30 UNITS) (HIGHER EDUCATION)**

The Higher Education concentration prepares students with the practical skills, knowledge and experience to become entry and mid-level professionals and leaders in higher education institutions, national/international professional associations and organizations, and government agencies. The program provides a strong foundation for career advancement.

### **Application Deadlines**

To assure full consideration, please complete the online applications before March 1 for the fall semester (csumentor.edu).

Application deadlines change depending on demand and enrollment allocations. Check with the department for current information.

### **Admission to Graduate Standing – Conditionally Classified**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, an applicant should have a successful teaching experience in an elementary or secondary school. (If such experience is not available, other experience in related fields is an alternative if approved by a graduate adviser before starting the program.) A candidate portfolio is also required.

### **Graduate Standing – Classified**

A student who meets the admission requirements and has a minimum 2.5 GPA in previous academic work may be granted classified graduate standing upon approval of a study plan.

### **Study Plan**

The study plan requirements include field experience and a comprehensive exam. No more than nine units of postgraduate work taken prior to classified standing may be applied to a student's master's degree program.

### **Core Coursework (9 units)**

EDAD 503 Organizational Leadership (3)  
EDAD 505B Instructional Leadership in Higher Education (3)  
EDAD 510 Introduction to Educational Research (3)

### **Concentration Coursework (18 units)**

EDAD 521 History and Philosophy of Higher Education (3)  
EDAD 522 College Students' Characteristics and Cultures (3)  
EDAD 523 Student Learning and Development (3)  
EDAD 524 Diversity Access and Equity (3)  
EDAD 568 Higher Education Fieldwork (400 hours) (3,3)

### **Culminating Experience-Comprehensive Exam**

EDAD 595 Professional Seminar in Higher Education (3)

For advisement and further information, consult the graduate program adviser, Dr. Eugene Fujimoto (efujimoto@fullerton.edu).

## **COMMUNITY COLLEGE STUDIES CERTIFICATE (18 UNITS)**

The Community College Studies program provides professional development for those with master's degrees in education or a related field, or completing a master's degree in a discipline that would lead to teaching in a community college setting. The certificate assists in preparing future community college teachers, administrators and leaders in understanding the role, mission and function of the community college and the students and communities served. Certificate recipients will be better equipped to negotiate the multiple missions and functions of the community college and the diversity of learners served.

## Study Plan

### *Foundational Studies/Core Courses (6 units)*

EDAD 520 History and Function of Community Colleges (3)

EDAD 523 Student Learning and Development (3)

### *Professional Studies in the Discipline (9 units)*

Master's degree coursework in subject-matter disciplines such as history or education

### *Supervised Practice (3 units)*

EDAD 568 Higher Ed Fieldwork (3)

## **DOCTOR OF EDUCATION (ED.D.) IN EDUCATIONAL LEADERSHIP**

### **Admissions Requirements**

Minimum requirements for admission include:

- An earned baccalaureate degree and master's degree from accredited institutions of higher education with a GPA in upper division and graduate study of 3.0 or above
- Sufficient preparation and experience pertinent to educational leadership to benefit from the program
- Submission of Graduate Record Examination (GRE) scores on the three GRE tests, taken within the last five years
- Demonstrated educational leadership potential and skills, including successful experience in school, postsecondary, community and/or policy leadership
- Demonstrated academic excellence, problem-solving ability and an interest in critically assessing and bringing about improvements within current educational policies and practices
- Three confidential recommendation forms attesting to the leadership ability and scholarship of the candidate
- A written statement of purpose reflecting understanding of the challenges facing the public schools or community colleges/institutions of higher education in California
- Professional resume
- Examples of professional writing
- Response to a writing prompt administered on-campus prior to the interview
- Interview with the Admissions Committee

Meeting the minimum requirements qualifies an individual for consideration, but does not guarantee admission to the Program.

Admission will be granted on a competitive basis. The Ed.D. in Educational Leadership will not include a foreign language requirement.

## **Specializations**

Two concentrations will focus on the development of leaders in education: PreK-12 Educational Leadership and Community College Leadership.

### **Program of Study**

The program includes two summers and two complete academic years of coursework, followed by a period during which the candidate advances to candidacy and undertakes the dissertation. Classes will be held in the late afternoons and evenings and occasionally on weekends to accommodate the schedules of working professionals.

All candidates are required to be enrolled at CSUF for a minimum of six terms.

The courses offered throughout the program are expected to be taken by individuals who also hold full-time positions. Their full-time employment is viewed as an asset and as providing important opportunities to apply theoretical and empirical material covered in their coursework. The program of study distributed over 12 months will facilitate: (a) integration of graduate studies and practice; (b) periods of intensive study among candidates; and (c) opportunities to work with faculty from CSUF.

### **Dissertation**

All students in the CSUF Ed.D. program will complete a rigorous research-based dissertation that integrates theory and research in the study of educational practice. The dissertation will include the results of the candidate's independent research and will typically focus on examination of: (a) an educational problem; (b) a practice or program; or (c) an educational policy or reform. Most dissertations will be studies undertaken in the local context, having the potential to contribute to solutions of local educational problems. Dissertations will utilize a range of qualitative and quantitative research and evaluation methodologies. The dissertation will present the results of the candidate's independent investigation in a manner that contributes both to professional knowledge in education and to the improvement of educational practice. Examples might include studies examining and/or evaluating reforms in curriculum and instruction, professional development, assessment and applications of technology.

Each Ed.D. student's dissertation must conform to the CSU regulations and specifications with regard to format and method of preparation as described in CSUF Doctoral Dissertation Manual.

### **Defense of Dissertation**

During a final oral examination the candidate defends the dissertation. The dissertation defense will address the theoretical and conceptual background, relevant literature, data collection techniques, data analysis strategies and results and implications concerning the question(s) studied.

## **EDUCATIONAL ADMINISTRATION COURSES**

Courses are designated as EDAD in the class schedule.

Students who desire only isolated courses from the M.S. and Ed.D programs are normally denied admission to such courses.

### **364 Justice and Equity in California Education (3)**

Prerequisite: completion of General Education Category D.1.

Themes such as justice, equity, fairness, equal protection and duty of care are reflected in the laws that govern California public education and how those laws are used to deal with the social problems that beset our schools.

### **501A,B,C Collaborative Professional Portfolio Assessment of Competence for School Leaders (4)**

Prerequisite: one year of experience as a school administrator.

Comprehensive course for Professional Administrative Services (Tier II) credential candidates. Candidates will demonstrate mastery of fieldwork performance standards by preparing a professional portfolio of work-embedded artifacts, evidences and documentation. A collaborative assessment process (student, university faculty, mentor, colleagues in the course) will establish the candidate's competency in each of the California Standards for Educational Leaders adopted by the California Commission on Teacher Credentialing. Successful completion of the course provides for university-approval and recommendation to the CTC for Professional Administrative Services Credential (Tier II). This course is a post-master's credential course, offered credit/no credit only.

### **503 Organizational Leadership (3)**

Prerequisite: admission to Preliminary Credential and/or

master's program. Using organizational theory and leadership studies to understand schools and how to bring about change in schools. Organization, structure and cultural context of schools and the study of techniques used to guide, motivate, delegate, build consensus and lead others in the achievement of goals. One or more sections offered online.

### **505A K-12 Instructional Leadership (4)**

Prerequisite: admission to credential and/or M.S. program.

Approaches for advocating, nurturing and sustaining a school culture and instructional program conducive to student learning and professional growth. One or more sections offered online.

### **505B Instructional Leadership in Higher Education (3)**

Instructional leadership in higher educational settings and the role of the student development educator in advocating nurturing and sustaining a culture that supports student learning and development.

### **510 Introduction to Educational Research (3)**

Prerequisites: admission to Preliminary Credential and/or master's program and a "B" (3.0) or better in EDAD 505A or 521. Introduction to major forms of quantitative and qualitative research used in education. How to select an appropriate research method and the characteristics of sound research. Making reasoned judgments as consumers of research, as well as selecting appropriate information collection strategies as school leaders. One or more sections offered online.

### **520 History and Function of Community Colleges (3)**

Overview of American and California community colleges, including history, administration and contemporary issues such as student development and learning outcomes, student diversity, access and equity.

### **521 History and Philosophy of Higher Education (3)**

Evolution of U.S. higher education, considering the diversity of the system, internal and external influence, and the evolution and development of student affairs and student learners

### **522 College Student's Characteristics and Cultures (3)**

Students in postsecondary education in the United States. Major demographic groups (race, class, ethnicity, age, ability, sexual orientation, gender, etc.) and their experiences with access, equity, campus cultures and retention at two- and four-year institutions.

### **523 Student Learning and Development (3)**

Student development theory in college, considering traditional and non-traditional students and learning outcomes. Theoretical assumptions and the practical application of theory to diverse student learners and the role of theory in student affairs practice.

### **524 Diversity Access and Equity (3)**

Diversity, access, equity, multiculturalism, pluralism as concepts in education. From an historical lens, students will gain an understanding of these concepts and their applications to student affairs/higher education.

### **561 Policy, Governance, Community Relations (2)**

Prerequisite: EDAD 503. Factors that determine public policy with regard to education, the roles of the various levels of government in controlling public education, how to identify various interest groups and how to communicate effectively about school programs.

### **563 Human Resource Administration (2)**

Prerequisite: EDAD 503. Importance and dimensions of human resource administration and the need to attract, retain, develop and motivate school personnel in ways that enhance learning and professional development that lead to positive and productive school settings. Collective bargaining and employee evaluation in public schools.



**564 School Law and Regulatory Process (3)**

Prerequisite: EDAD 503. Federal, state and local educational laws, regulations and other policies that govern schools and the requirements that administrators act in accordance with these laws and regulations in ways that are ethically and legally defensible.

**565 School Finance (3)**

Prerequisite: EDAD 503. Effective management of fiscal resources and business services. Sources of income to public schools: federal, state, local and private (including grants and foundations). Reviews sound budgetary and business procedures for schools.

**566 Leadership in Public Schools (3)**

Leadership roles of principals, co-administrators and supervisors in public schools. Leadership, reflective practice, human relations, the administrator's role in group process, site-based decision-making, school climate change agent roles and planning models. Violence and school safety issues such as gangs will be studied.

**567 K-12 Fieldwork (1,2)**

Prerequisite: admission to credential and/or master's program. Directed fieldwork in administrative areas in school. May be repeated for up to 4 units. One or more sections offered online.

**568 Higher Ed Fieldwork (3,3)**

At least 200 hours at two different sites demonstrating competence in applying theory to practice, assessment, evaluation, and program design and implementation, supervised by an approved educational leader who provides feedback for learning and growth as a student affairs educator/leader.

**595 Professional Seminar in Higher Education (3)**

Application of technology for effective communication, verbal and written, and individual and group interactions on-line and face to face. Application of computers to work in student affairs/higher education settings.

**596 Directed Study in Educational Research (3)**

Prerequisites: graduate standing, consent of program director or graduate adviser. Research under direction of a faculty member or principal investigator. Requires completing specified deliverables or outcomes. Develop intended learning outcomes and describe the methods for attaining each within the context of independent study, providing specific deliverables.

**597 Project (1)**

Prerequisites: admission to credential and/or M.S. program in Educational Administration. Individual research on a graduate project, with conferences with a faculty adviser, culminating in a project. May be repeated up to three times for credit. One or more sections offered online.

**599 Independent Graduate Research (1-3)**

Prerequisite: consent of instructor. Independent inquiry for qualified students.

**DOCTORAL COURSES**

Courses are designated as EDD in the class schedule.

**600 Organizational Theory and Challenges for Leadership (3)**

Organizational theories and their application to the role of educational leaders. Theories from leadership and management literatures, which predicate the conceptual development of the role of educational leadership. Implications of these theories for effective performance as educational leaders.

**601 Methods of Research: Quantitatively Based Methods (3)**

Introduction to the conceptual and methodological bases of quantitative analysis in educational leadership. Topics include issues of research design, measurement and statistical analysis.

**602 Methods of Research: Qualitatively Based Methods (3)**

Students acquire the knowledge, dispositions and critical thinking skills necessary for conducting field research, and apply these skills to design and implement applied research projects that create knowledge for solving dilemmas related to educational leadership.

**603 Research Elective: Specialization in Qualitatively Based Tools (3)**

Prerequisite: EDD 602. Develops advanced skills in identifying, conducting, analyzing and interpreting field research in education toward the purpose of improving education.

**604 Applications of Research: Forecasting and Planning (3)**

Theories and methods that promote accurate forecasting of the impact of social, economic, political, cultural, academic and demographic trends as they affect educational institutions. Emphasizes how these indicators can be used to engage effective planning.

**605 Applications of Research: Collection and Analysis of Assessment Data (3)**

Methods of system-level data collection and analysis of outcomes of education. Complexity and efficacy of using various types of data for making judgments at the system level about the effectiveness of instruction across classrooms and schools.

**606 Specialization in Quantitatively Based Tools (3)**

Prerequisites: admission to the Ed.D. Program, EDD 601. Statistics, exploratory data analysis, sampling, survey and experimental design; and interview and questionnaire design in the context of using research in planning, change management, policy analysis and program management.

**611 Inquiry I (3)**

Methods of conducting research using a mixed methods orientation. Acquiring knowledge, dispositions and critical thinking skills necessary to understand educational research and descriptive statistical applications. Philosophical and epistemological foundations of educational research.

**612 Inquiry II (3)**

Practical, philosophical and ethical considerations for data collection and analysis using quantitative, qualitative and mixed methods research designs. Significant quantitative and qualitative lab components utilizing quantitative and qualitative software.

**613 Inquiry III (3)**

Applying the philosophical and epistemological foundations of educational research to the design of a formal research project. Draws upon educational research and the methods using a mixed methods orientation that includes quantitative and qualitative perspectives.

**620 Ethical and Legal Dimensions of Leadership (3)**

Concepts of ethics (e.g., self-interest, free will, social responsibility, duty) as the basis for legal standards (protection of individual rights, fair treatment, equality of opportunity, duty of care, public trust) through the study of education case law.

**621A Leadership of Curricular and Instructional Practices (3)**

Current issues in curriculum design and implementation. Explores: forces affecting the curriculum; curriculum continuity and articulation; content trends in the subject areas; appropriate curriculum for students from diverse backgrounds; curriculum censorship; and effective instructional leadership for school curriculum improvement.

**621B Higher Education/Community College Systems, Structures and Cultures (3)**

Higher education, from Egyptian Era to the diversity of current postsecondary institutions, philosophies and orientations. Organizational development and structures of higher educational systems and the impact of faculty, student and administrative cultures on higher education leaders.

**622A Human Dimensions of Education Change (3)**

Issues associated with change. Topics include change as a sociopolitical process; sources and purpose of change; coping with multiple reform efforts; decision-making processes; reform implementation; problems of resistance to change in curriculum and instruction; and change as a continuous process.

**622B Resource Management and Development (3)**

Prerequisite: EDD 600. Practical applications and skills for college resource management in personnel, structures, facilities, technologies, finances, programs and services. Optimizing resources through management and creative leadership that encourage and support collaboration across divisions.

**623 The Politics of School Reform (3)**

Prerequisites: admission to Joint Doctoral Program and consent of program adviser. Theoretical and practical aspects of school reform politics with particular attention to curricular and instructional reform. Topics include: history of school reform; role of city government in school reform; racial and ideological divisions over school reform; and the political challenge of building coalitions for sustainable reform.

**624A Social Context of Education Politics, Policy and Governance (3)**

Prerequisite: admission to the EDD program. In-depth study of topics relevant to instructional leadership and educational policy cycles. Topics include policy-making process, role of values and interest groups, policy analysis, equality of educational opportunity, how policy efforts are reshaped and systemic reform. Policy issues, such as high-stakes testing, curricular mandates and accountability are used as exemplars.

**624B Student Learning and Development (3)**

Prerequisites: admission to the program, EDD 600. Student development and learning theories based on cognitive, psychosocial, typology and person-environment perspectives. Role of faculty and others in the collaborative development and implementation of responsive curricula and co-curricula at two- and four-year institutions.

**626A Transforming Teaching and Education through Resource Optimization (3)**

Perspectives for how optimization of resources can transform education through multidisciplinary approach. Topics include identification of economic, social and political resources, innovative ways to develop new streams of resources and policies and procedures that increase highly productive ways to use resources.

**626B Integrative Seminar in Higher Education/Community College Issues (3)**

Prerequisites: admission to the program, EDD 600. Current issues in higher education/community colleges from local to global perspectives reinforcing a multilens view of higher educational studies. Opportunities for interactions with experts and for student to engage in questions/challenges and data-driven, solution-focused discussions.

**627 Epistemology, History and Structure of Contemporary Education (3)**

Epistemological and historical trends that have shaped the structure of contemporary education. Influence of major schools of thought, such as rationalism, empiricism, pragmatism, behaviorism and constructivism, and how modern education structure, curriculum and pedagogy have been influenced by these various perspectives.

**630 Leadership for Change and Collaboration (3)**

Prerequisites: admission to the program, EDD 600. Leadership and organizational change in higher education, multicultural organizational development, forecasting, planning and change analyzed. Community relations needed to develop programs responsive to workforce and community needs. Educational codes, laws, policies and practices impacting higher education.

**637 Emerging Developments in Subject Areas (2)**

Team-taught elective course focusing on: cutting-edge developments in reading/English language arts, math, science and social studies curricula; the critical connection between staff development program and instructional leadership; and methods for engaging parents and the community in support of instructional improvements.

**670A Linking Research to Problems of Practice (2)**

Identifying complex problems of educational practice appropriate for doctoral research. Small-group instruction provides coaching that enables students to initiate the research cycle by linking research to problems of practices.

**670B Connecting Research Questions to Scholarship in the Discipline (2)**

Assists in writing a critical review of the professional literature pertaining to the research problem each has identified.

**670C Written Qualifying Examination (2)**

Preparation for the Ed.D. Qualifying Examination, a prerequisite for advancing to candidacy in the doctoral program.

**670D Refining Research Questions (2)**

Prerequisites: admission to EDD, EDD 670A,B,C, passing EDD Qualifying Examination. Students further refine research questions or hypotheses, select the research method to investigate their research question, design a research study that specifies methods to be implemented for data collection and analysis.

**670E Proposal Defense Preparation (2)**

Prerequisites: admission to EDD, EDD 670A,B,C, passing EDD Qualifying Examination. Assists students to write a defensible dissertation research proposal reflecting high quality scholarship.

**670F IRB Approval and Proposal Defense (2)**

Prerequisites: admission to EDD, EDD 670A,B,C,D,E, passing EDD Qualifying Examination. Students obtain CSUF IRB approval and submit a revised and completed dissertation research proposal in preparation for the dissertation proposal defense.

**696 Directed Study in Educational Research (3)**

Prerequisite: graduate standing, consent of program director or graduate adviser. Research under direction of a faculty member or principal investigator. Requires completing specified deliverables or outcomes. Develop intended learning outcomes and describe the methods for attaining each within the context of independent study, providing specific deliverables.

**698 Dissertation Research (6)**

Prerequisite: EDD 670F. Individual research on a dissertation. Conferences with faculty adviser and committee members, culminating in publishing a dissertation. May be repeated once.

**699 Independent Study (6)**

Prerequisite: consent of department. Independent doctoral-level inquiry for qualified students.

# Electrical Engineering

College of Engineering and Computer Science

## DEPARTMENT CHAIR

Mostafa Shiva

## DEPARTMENT OFFICE/WEBSITE

Engineering 100A  
657-278-3013  
fullerton.edu/ecs/ee

## PROGRAMS OFFERED

Bachelor of Science in Electrical  
Engineering  
Master of Science in Electrical  
Engineering  
Option in Systems Engineering

## FACULTY

Maqsood Chaudhry, David Cheng,  
Joseph Costantine, George Cohn,  
Shahin Ghazanshahi, Mohinder  
Grewal, Karim Hamidian, Hassan  
Hamidi-Hashemi, Jidong Huang,  
Young Kwon, Mostafa Shiva, Fleur  
Tehrani, Raman Unnikrishnan

## INTRODUCTION

The Bachelor of Science degree in Electrical Engineering is accredited by the Engineering Accreditation Commission of ABET, [abet.org](http://abet.org). The electrical engineering program provides students with the knowledge of basic and advanced topics in the areas of design and analysis of VLSI and electronic circuits, design and analysis of computer architecture, microprocessors, communication systems, signal processing and control systems. This program develops an ability to apply design and analysis knowledge to the practice of electrical engineering in an effective and professional manner. This knowledge can be applied to various engineering practices in aerospace, computer, electrical, electronics and other applied fields.

The Master of Science degree in Electrical Engineering provides advanced knowledge and competency in the theory and practice of electrical engineering. The program prepares students to pursue a wide range of professional engineering activities in the areas of communications systems/signal processing, computer engineering, control systems, electronics and circuit theory, and systems engineering.

The Electrical Engineering programs at CSUF provide the best qualities of teaching, scholarship and professional practice; and are committed to facilitate the education of engineering undergraduate and graduate students for their entrance in, and significant contribution to, the engineering profession. Our students are actively engaged and work in collaboration with faculty and staff to acquire and expand knowledge.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and outcomes have been established for students pursuing a degree in Electrical Engineering:

### Program Educational Objectives

- A. Technical Growth – Graduates will be successful in modern engineering practice, integrate into the local and global workforce, and contribute to the economy of California and the nation
- B. Professional Skills – Graduates will continue to demonstrate the professional skills necessary to be competent employees, assume leadership roles, and have career success and satisfaction
- C. Professional Attitude and Citizenship – Graduates will become productive citizens with high ethical and professional standards, who make sound engineering or managerial decisions, and have enthusiasm for the profession and professional growth

### Student Outcomes

- (a) The ability to apply knowledge of mathematics, science and engineering
- (b) The ability to design and conduct experiments, as well as to analyze and interpret data



- (c) The ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (d) The ability to function on multi-disciplinary teams
- (e) The ability to identify, formulate and solve engineering problems
- (f) An understanding of professional and ethical responsibility
- (g) The ability to communicate effectively
- (h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context
- (i) Recognize the need for and an ability to engage in life-long learning
- (j) Knowledge of contemporary issues
- (k) The ability to use the techniques, skills and modern engineering tools necessary for engineering practice

## **BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING (129 UNITS)**

The requirements for the B.S. in Electrical Engineering comprise three major segments: foundation courses in mathematics and the physical sciences; general education courses in the arts, humanities, social sciences, biological sciences and other related areas; and a sequence of courses to fulfill the requirements of the Electrical Engineering degree.

Students are required to meet with their academic adviser every semester during the first year and at least once a year thereafter. Students are strongly encouraged to see their academic advisers frequently. All courses taken in fulfillment of the requirements for the bachelor's degree must be taken for a letter grade. MATH 150A must be completed with at least a "C" (2.0). All other mathematics and physical science courses required for the degree must be completed with at least a "C-" (1.7) to count as credit towards the degree. Graduate courses are not open to undergraduate students without approval of the program coordinator.

### **2 + 2 Articulated Program with Community Colleges**

The department has developed 2+2 articulation agreements with community colleges to provide students seamless transfer to the CSUF Electrical Engineering Program. This allows full-time students, taking the courses specified by the Electrical Engineering Department each semester, to graduate in two years following transfer to CSUF.

### **High School Preparation**

Entering freshman preparation should include two years of algebra, geometry, trigonometry and one year of physics or chemistry. Students deficient in mathematics must take special preparatory courses, e.g., MATH 125, which will not carry credit for the major. (See Mathematics Section for Entry Level Mathematics test and Math-Science Qualifying Examination requirements.)

### **Transfer Students**

Transfer students shall complete a minimum of 30 units in residence, at least 15 of which are in upper-division engineering courses. Work taken at another college or university with a "D" (1.0) may not be substituted for upper-division courses.

### **Mathematics and Science Courses (32)**

MATH 150A Calculus (4)

MATH 150B Calculus (4)

MATH 250A Multivariate Calculus (4)

MATH 250B Introduction to Linear Algebra and Differential Equations (4)

CHEM 115 Introductory General Chemistry (4)

PHYS 225, 225L Fundamental Physics: Mechanics and Lab (4)

PHYS 226, 226L Fundamental Physics: Electricity and Magnetism and Lab (4)

PHYS 227, 227L Fundamental Physics: Waves, Optics, and Modern Physics and Lab (4)

### **General Education Courses**

#### *Area A: Core Competencies (9 units)*

1. Oral Communication (3)

HONR 101B, HCOM 100, 102

2. Written Communication (3)

ENGL 101

3. Critical Thinking (3)

HONR 101A, HCOM 235, PHIL 105, 106, PSYC 110, READ 290

#### *Area B: Scientific Inquiry and Quantitative Reasoning (11 units)*

1. Physical Science (3)

PHYS 225

2. Life Science (3)

BIOL 101

3. Laboratory Experience (1)

PHYS 225L

4. Mathematics/Quantitative Reasoning (4)

MATH 150A

5. Implications and Explorations in Mathematics and Natural Sciences

Not applicable for engineering majors

#### *Area C: Arts and Humanities (12 units)*

1. Introduction to Arts (3)

ART 101, 201A, 201B, 311, 312, DANC 101, MUS 100, 101

2. Introduction to the Humanities (3)

Any lower division course in this category listed in the current class schedule

3. Explorations in the Arts and Humanities (3)

Any upper-division course in this category listed in the current class schedule

4. Origins of the World Civilizations (3)

HIST 110A or 110B, 210A, 210B

*Area D: Social Sciences (12 units)*

1. Introduction to the Social Sciences (3)

EGCP/EGCE/EGEE 401

2. World Civilizations and Cultures

Not applicable for engineering majors

3. American History, Institutions and Values (3)

AFAM 190, AMST 201, CHIC 190, HIST 180, 190, HONR 201A

4. American Government (3)

HONR 201B, POSC 100

5. Explorations in Social Sciences (3)

Any upper-division course in this category listed in the current class schedule

*Area E: Lifelong Learning and Self Development (3 units)*

Not applicable for engineering majors

*Area Z: Cultural (3 units)*

At least one star (\*) course in Sections C.3 and D.5

**Upper-Division Writing Requirement**

All of the following courses are required to fulfill the upper-division English writing requirement:

EGEE 303L Electronics Laboratory (1)

EGEE 310L Electronic Circuits Laboratory (1)

EGEE 313L Power Laboratory (1)

EGEE 485 Electrical Engineering Design Projects Laboratory (3)

OR EGEE 407L Digital Computer Design Lab (3)

Written work for these courses must meet professional standards. All these courses must be passed with at least a "C" (2.0).

**Required Courses in Electrical Engineering (50 units)**

CPSC 120 Introduction to Programming (3)

EGEE 215 Solving Engineering Problems using MATLAB (1)

EGEE 203 Electric Circuits (3)

EGEE 203L Electric Circuits Lab (1)

EGEE 245 Computer Logic and Architecture (3)

EGEE 245L Computer Logic and Architecture Lab (1)

EGEE 280 Microcontrollers (3)

EGEE 281 Designing with VHDL (2)

EGEE 303 Electronics (3)

EGEE 303L Electronics Lab (1)

EGEE 308 Engineering Analysis (3)

EGEE 309 Network Analysis (3)

EGEE 310 Electronic Circuits (3)

EGEE 310L Electronic Circuits Lab (1)

EGEE 311 Field Theory and Transmission Lines (3)

EGEE 313 Introduction to Electromechanics (3)

EGEE 313L Power Laboratory (1)

EGEE 323 Engineering Probability and Statistics (3)

EGEE 401 Engineering Economics and Professionalism (3)

EGEE 407L Digital Computer Design Lab (3)

OR EGEE 485 Electrical Engineering Design Projects (3)

EGEE 409 Introduction to Linear Systems (3)

*Note:* EGEE 203, 303, 303L, 310L, 313L, 485 and 407L must be passed with at least a "C" (2.0).

**Technical Electives in Electrical Engineering (14 units)**

Before enrolling in any elective course, approval of the adviser must be obtained. At least three units of design content must be included. EGEE 497 and 499 are elective courses; students must complete a study application form and submit it for approval to the supervising faculty member and the department chair prior to the semester in which the coursework is to begin.

*VLSI and Electronic Circuits*

EGEE 404, 404L, 410, 435, 442, 445, 448, 455, 465, 469

*Communication Systems and Signal Processing*

EGEE 404, 410, 420, 435, 442, 443, 460, 469, 480, 483, 483L

*Control Systems*

EGEE 404, 416, 420, 424, 425, 483

*Computer Engineering*

EGGN 403, EGEE 404, 404L, 406, 407, 412, 445, 448, 455, 465

**MASTER OF SCIENCE IN ELECTRICAL ENGINEERING (30 UNITS)**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, to qualify for admission in conditionally classified standing, applicants must meet the following departmental requirements:

1. Bachelor's degree in an engineering program accredited by the Engineering Accreditation Commission of ABET, [abet.org](http://abet.org); and
2. minimum cumulative GPA of 3.0. An undergraduate GPA of 2.5-2.99 will be considered for conditional admission (deficiency courses will be assigned by the adviser).

Students with grade deficiencies, degrees from non-ABET accredited universities or undergraduate majors other than Electrical Engineering may be considered for conditional admission. However, any deficiencies must be made up prior to advancing to classified standing and prior to beginning coursework for the master's degree. Requirements for fulfilling deficiencies include a minimum of six units of adviser-approved coursework. Deficiencies must be completed with minimum GPA of 3.0.

Each applicant file will be reviewed by the department graduate admissions adviser. Upon admission, the applicant is required to make an appointment with the graduate program coordinator. The program coordinator will assign a faculty adviser based on the student's areas of interest and career objectives.

### **Classified Standing**

A student who meets the above requirements for admission to conditionally classified standing may be granted classified standing contingent upon:

1. completion of all required deficiency coursework;
2. fulfillment of the university writing requirement. Students with degrees from American universities must show proof of meeting an upper-division writing requirement, pass the EWP, or complete ENGL 301 or 360. Students who have degrees from foreign universities must pass the Examination in Writing Proficiency (EWP) or complete ENGL 301 or 360 with a grade of "C" (2.0) or better. Also refer to the Admission Requirements section of this catalog for additional international student requirements; and
3. development and approval of a study plan prior to completing nine units toward the 30-unit degree requirement.

Students must meet with a faculty adviser to set up a study plan. Classification is not granted until the study plan is approved by the faculty adviser, the department chair, and the Office of Graduate Studies. Any subsequent changes to the study plan must have prior written approval by the faculty adviser and department chair.

### **Study Plan**

The study plan consists of adviser-approved upper-division and graduate-level coursework that must be completed with an overall grade-point average of 3.0 or better. At least half the units required for the degree must be approved graduate (500-level) courses. Each course must be passed with a minimum grade of "C" (2.0).

### **Required Mathematics Courses (6 units)**

EGGN 403 Computer Methods in Numerical Analysis (3)

EGEE 580 Analysis of Random Signals (3)

*Note:* If one of the above courses has been completed, EGEE 518 will satisfy the requirement

### **Concentration Courses (15 units)**

A student is required to select a minimum of 15 units in Electrical Engineering. These units may be 400- and 500-level courses and are selected according to the student's area of interest. Coursework may focus on the following areas: Communications Systems/Signal Processing, Computer Engineering, Control Systems, Microelectronics and Circuit Theory, and Systems Engineering. Graduate Project, EGEE 597 (1-3), and Thesis, EGEE 598 (1-6), are considered concentration courses.

### **Other Courses (9 units)**

Elective units should be taken in Electrical Engineering or a related engineering field and are subject to adviser approval.

### **Exam/Thesis/Project Option**

Subject to approval by the faculty adviser, students may select one of the following options for final review by the department graduate committee:

1. satisfactory completion of a final oral comprehensive examination on coursework; OR
2. satisfactory completion of a formal project EGEE 597 (3 units) and a final oral comprehensive examination on coursework; OR
3. satisfactory completion and oral defense of a thesis EGEE 598 (3-6 units).

Guidelines for the preparation of theses and formal reports are available in the Electrical Engineering Department office and the university Graduate Studies office.

Students requesting Graduate Project (EGEE 597), Thesis (EGEE 598) or Independent Study (EGEE 599) must complete a study application form and submit it for approval to the supervising faculty member and department chair prior to the semester in which the coursework is to begin.

### **Advancement to Candidacy**

Advancement to candidacy requires that the student file a graduation check prior to the beginning of the final semester (see class schedule for deadlines). Completion of requirements for the degree include a minimum GPA of 3.0 on all study plan coursework, successful completion of a comprehensive examination or oral defense of a thesis or project, and recommendation by the Electrical Engineering faculty and Office of Graduate Studies.

## **MASTER OF SCIENCE IN ELECTRICAL ENGINEERING OPTION IN SYSTEMS ENGINEERING**

Students seeking this option must meet the same requirements as the program in Electrical Engineering. In addition, students are required to include the following courses in their study plans:

EGEE 580 Analysis of Random Signals (3)

EGEE 581 Theory of Linear Systems (3)

EGEE 582 Linear Estimation Theory (3)

EGEE 585 Optimization Techniques in Systems Engineering (3)

EGEE 587 Operational Analysis Techniques in Systems Engineering (3)

The remainder of the systems engineering study plan includes other engineering courses with an emphasis in a particular field, such as information systems, control theory, computer systems, civil or mechanical engineering applications. Students with a Bachelor of Science in Engineering may elect to include up to nine units from approved subjects offered by the Mihaylo College of Business Administration and Economics as a part of their study plan.

## **ELECTRICAL ENGINEERING COURSES**

Courses are designated as EGEE in the class schedule.

### **203 Electric Circuits (3)**

Prerequisites: PHYS 226; MATH 250A. Corequisite: CPSC 120 or EGME 205. Units: Ohm's and Kirchhoff's laws; mesh and nodal analysis, superposition; Thevenin and Norton theorems; RL and RC transients; phasors and steady state sinusoidal analysis; response as a function of frequency; current, voltage, and power relationships; polyphase circuits.

### **203L Electric Circuits Laboratory (1)**

Pre- or corequisite: EGEE 203. Simple resistive RL and RC circuits, electrical measurement techniques, verification of basic circuit laws through hard-wired breadboarding and CAD circuit simulation. (3 hours laboratory)

### **215 Solving Engineering Problems Using MATLAB (3)**

Prerequisite: CPSC 120. Formulating, solving, verifying and reporting engineering problems such as control, signal processing, and communication systems and engineering, math, and physics problems such as engineering/scientific computations and operations research using the MATLAB/SIMULINK program. (3 hours laboratory)

### **245 Computer Logic and Architecture (3)**

Prerequisite: CPSC 120. Logic design and organization of the major components of a computer, analysis and synthesis of combinational and sequential logics, analysis of the arithmetic, memory control and I/O units, concepts in computer control.

### **245L Computer Logic and Architecture Lab (1)**

Pre- or corequisite: EGEE 245. Computer-Aided Design (CAD) of digital logic circuits, including decoders, multiplexes, adders and subtracters, counters, shift registers and Arithmetic Logic Unit (ALU) of a computer. After verifying the CAD design through simulation, the circuits are built on a protoboard. (3 hours laboratory)

### **280 Microcontrollers (3)**

(Same as EGCP 280)

### **281 Designing with VHDL (2)**

(Same as EGCP 281)

### **303 Electronics (3)**

Prerequisites: PHYS 227 and EGEE 203. Characteristics and elementary applications of semiconductor diodes, field-effect transistors and bipolar-junction transistors, and operational amplifiers; mid-frequency small-signal analysis and design of transistors.

### **303L Electronics Laboratory (1)**

Prerequisites: EGEE 203L and ENGL 101. Corequisite: EGEE 303. Semiconductor diodes, transistors and elementary electronic circuits through hard-wired breadboarding, CAD electronic simulation and analysis. (3 hours laboratory)

### **308 Engineering Analysis (3)**

(Same as EGCE/EGME 308)

### **309 Network Analysis (3)**

Prerequisites: EGEE 203 and EGGN 308. Pre- or corequisite: EGEE 203L. Performance of RLC circuits; complex frequency and the s-plane; frequency response and resonance; network topology; two-port network characterization; classical filter theory.

### **310 Electronic Circuits (3)**

Prerequisites: EGEE 303, 309. Continuation of EGEE 303, analysis and design of multistage and feedback amplifiers; frequency characteristics of amplifiers, frequency characteristics and stability of feedback amplifiers, differential amplifiers, design of IC circuit biasing, operational amplifiers and their applications.

### **310L Electronic Circuits Lab (1)**

Prerequisite: EGEE 303L. Pre- or corequisite: EGEE 310. Computer-Aided Design (CAD) of electronic circuits, including multi-stage feedback amplifiers; linear and integrated circuits; ADC and DAC and wireless design projects. After verifying the CAD design through simulation, the circuits are built on a protoboard. (3 hours laboratory)

### **311 Field Theory and Transmission Lines (3)**

Prerequisites: EGEE 203, PHYS 226, MATH 250B. Introduction to waves and phasors; analysis and design of transmission lines; electrostatics and magnetostatics; boundary value problems; Maxwell equations.

### **313 Introduction to Electromechanics (3)**

Prerequisites: EGEE 309, 311. Electromagnetic fields and circuits; transformers, saturation effects. Simple electro-mechanical systems. Circuit models, terminal characteristics and applications of DC and AC machines.

### **313L Power Laboratory (1)**

Prerequisite: EGEE 303L. Pre- or corequisite: EGEE 313. Experiments in electromagnetic fields and circuits, transformers and electromechanical systems such as AC and DC machines (3 hours laboratory)



### **323 Engineering Probability and Statistics (3)**

Prerequisite: MATH 250A or 270B. Set theory: axiomatic foundation of probability; random variables; probability distribution and density functions; joint, conditional and marginal distributions; expected values; distribution of functions of random variables; central limit theorem; estimation.

### **401 Engineering Economics and Professionalism (3)**

Prerequisites: MATH 150A and junior or senior standing in Engineering. Development, evaluation and presentation of design alternatives for engineering systems and projects using principles of engineering economy and cost benefit analysis. Engineering profession, professional ethics and related topics. Not available for use on graduate study plans. (Same as EGCE/EGCP 401)

### **404 Introduction to Microprocessors and Microcomputers (3)**

Prerequisites: EGEE 245L, 280. Hardware and software concepts in microprocessors, processor family chips, system architecture, CPU, input/output devices, interrupts and DMA, memory (ROM, RAM), electrical and timing characteristics, assembly language programming.

### **404L Microprocessor Laboratory (1)**

Prerequisite: EGEE 245L. Pre- or corequisite: EGEE 404. I/O interfacing with a microprocessor system; familiarization with the operating system, assembler, debugger and emulator; design of keyboard, LCO display, RS 232, D/A converter, A/D converter and floppy disk interfaces. (3 hours laboratory)

### **406 Design Applications with Microcontroller and FPGA (3)**

Prerequisites: EGEE 245, 245L, 280. Digital system application design using microcontrollers, FPGAs and CPLDs including programming hardware interfacing, A/D conversion, CLB, logic arrays, interconnections, testing and simulations

### **407 Digital Computer Architecture and Design I (3)**

Prerequisites: EGEE 245L, 280. Organization and design of major components of a digital computer, including arithmetic, memory, input, output and control units. Integration of units into a system and simulation by a computer design language.

### **407L Digital Computer Design Laboratory (3)**

Prerequisites: EGEE 245, 303L, 407. Design and implementation of a small digital computer; adders, arithmetic unit, control unit, memory control unit, memory unit and program unit. May be taken in lieu of EGEE 485. (1 hour lecture, 6 hours laboratory).

### **409 Introduction to Linear Systems (3)**

Prerequisite: EGEE 309. Development of time and frequency domain models for physical systems. Linearization process and representation with block diagrams and signal flow graphs; discrete-time systems and digital signals including use of Z-transforms; stability theory of continuous and discrete time systems.

### **410 Electro-Optical Systems (3)**

Prerequisite: EGEE 311. Introduction to electro-optics; optical radiation characteristics and sources; geometrical and physical optics; lasers and electro-optical modulation; quantum and thermal optical radiation detectors; detector performance analysis; electro-optical systems modeling and analysis; application examples.

### **412 Digital Computer Architecture and Design II (3)**

Prerequisite: EGEE 307. Modern architectures of computer systems, their CPU structure, memory hierarchies and I/O processors; conventional and microprogrammed control; high-speed and pipelined ALU; cache, virtual and interleaved memories, DMA, interrupts and priority.

### **416 Feedback Control Systems (3)**

Prerequisite: EGEE 409. Feedback control system characteristics; stability in the frequency and time domains; analysis and design of continuous-time systems using root-locus, Bode and Nyquist plots, Nichols chart and applications.

### **420 Introduction to Digital Filtering (3)**

Prerequisite: EGEE 409. Discrete-time signals and systems; solution of difference equations; Fourier transform for a sequence; Z-transform; discrete Fourier transform; FIR and IIR realizations; design of digital filters.

### **424 Computer Simulation of Continuous Systems (3)**

Prerequisites: CPSC 120; EGEE 215, 308. Using digital computer for simulation of physical systems modeled by ordinary differential equations; problem formulation, in-depth analysis of two integration methods, and the use of a general purpose system simulation program such as CSSL.

### **425 Introduction to Systems Engineering (3)**

Prerequisites: EGEE 245, EGEE 323, or Computer Science 240 and MATH 338 for Computer Science majors. Introduction to systems engineering analysis and the systems approach; introduction to modeling, optimization, design and control; systems requirements analysis; analytical and computational solution methods; information processing; integrated systems.

### **430 Fuzzy Logic and Control (3)**

Prerequisite: EGEE 409. Fuzzy logic and systems; comparison of classical sets, relations and operators with fuzzy sets, relations and operators; fuzzy arithmetic and transformations; classical predicate logic and reasoning versus fuzzy logic and approximate reasoning. Applications to rule-based systems and control systems.

### **435 Microwave Engineering (3)**

Prerequisite: EGEE-311. Essential fundamentals for radio frequency, wireless and microwave engineering. Topics include: wave propagation in cables, waveguides and free space; impedance matching, standing wave ratios, impedance and scattering parameters.

**442 Electronic Circuits (3)**

Prerequisite: EGEE 310. Power amplifiers and tuned amplifiers; RF amplifiers; modulation and detection circuits; oscillators; and operational amplifier applications.

**443 Electronic Communication Systems (3)**

Prerequisites: EGEE 310 and 323 or equivalent. Principles of amplitude, angular and pulse modulation, representative communication systems, the effects of noise on system performance.

**445 Digital Electronics (3)**

Prerequisites: EGEE 245, 303. RC circuits, attenuators, compensation and scope probe. Logic circuits: DTL, TTL, STTL, LSTTL and ECL. Fanout, noise-immunity, switching speed, power consumption, input-output characteristics. Design and analysis of MOS logic circuits; PMOS, NMOS and CMOS gates, flip-flops, shift registers and memory circuits.

**448 Digital Systems Design with VHDL (3)**

Prerequisites: EGEE 245, 281, 303. Basic concepts and characteristics of digital systems, traditional logic design, LSI/VLSI logic design with VHDL, combinational and sequential logic, and their applications; timing and control, race conditions and noise, microcomputers, computer-aided programming, development systems, microcomputer system hardware design, input/output devices.

**455 Microelectronics and Nano Devices (3)**

Prerequisites: EGEE 303, 311. Quantum mechanical principles, crystal structure, energy band, carrier transport, carrier generation and recombination, p-n junction, bipolar transistor, MOSFET, MEFET and related devices, basic microwave and optoelectronic technology, crystal growth and fabrication, introduction to nano structure, nano devices and technology.

**456 Introduction to Logic Design in Nanotechnology (3)**

(Same as EGCP 456)

**460 Introduction to Cellular Mobile Communications Systems (3)**

Prerequisite: EGEE 443. Introduction to wireless mobile telecommunications, description and analysis of cellular radio systems, co-channel interference reduction, channel capacity and digital cellular systems

**461 Low Power Digital IC Design (3)**

(Same as EGCP 461)

**465 Introduction to VLSI Design (3)**

Prerequisites: EGEE 245, 303. Computer-aided design of VLSI circuits. MOS device structure, design rules, layout examples, CMOS standard cells. Speed power trade off, scaling, device and circuit simulation. VLSI design software tools. Routing method system design, Design Project. Chip fabrication through MOSIS service, testing.

**469 Antennas for Wireless Communications (3)**

Prerequisite: EGEE 311. Aspects of antenna theory and design; radiation from dipoles, loops, apertures, microstrip antennas and antenna arrays.

**480 Optical Engineering and Communications (3)**

Prerequisites: EGEE 311, PHYS 227. Optics review, lightwave fundamentals, integrated optic waveguides, first design of fiber optic system, analog and digital modulation, digital fiber optic system design, baseband coding, digital video transmission in optical fiber, optical emitters and receivers, coherent optical communication, measurements in fiber optic telecommunication

**483 Introduction to Global Positioning Systems (GPS) (3)**

Corequisite: EGEE 409 or EGCP 371. Description of Global Positioning Systems (GPS) and Differential Global Positioning Systems (DGPS), GPS navigation, errors. Satellite signals and co-ordinate transform math. Modeling for position and velocity. Application to navigation.

**483L Global Positioning System Lab (2)**

Corequisite: EGEE 483. Use and description of Novatel, Magelon, Ahstek, Collins and Tribel receivers. Computation of GPS and GEO stationary satellite positions from ephemeris data available on almanac. Errors such as selective availability, ionospheric, tropospheric, satellite and receiver will be calculated and compensated in the data. (1 hour lecture, 3 hours laboratory)

**485 Electrical Engineering Design Projects Laboratory (3)**

Prerequisites: EGEE 280, 310L, 323. Practical aspects of design and project construction. Instructor-approved design project in electrical engineering, inter-disciplinary projects. Use of CAD program for schematic capture and simulation. Construction of final hardware according to the design specification. Performance evaluation and demonstration of project. (1 hour lecture, 6 hours laboratory).

**497 Senior Project (1-3)**

Prerequisites: consent of adviser and instructor. Directed independent design project.

**499 Independent Study (1-3)**

Prerequisite: approval of study plan by adviser. Specialized topics in engineering selected in consultation with and completed under the supervision of the instructor. May be repeated for credit.

**503 Information Theory and Coding (3)**

Prerequisite: EGEE 323. Information measures, probabilistic studies of the transmission and encoding of information, Shannon's fundamental theorems, coding for noisy channels.

**504A Linear Network Synthesis (3)**

Prerequisite: EGEE 310. Synthesis of passive element driving-point and transfer-functions with emphasis on RC networks. Basic operational amplifier RC circuits and their performance limitations, introduction to second-order RC active filters. Parameter sensitivity analysis.

**507 Detection Theory (3)**

Prerequisite: EGEE 580. Formulation of decision rules for the detection of signals in a noisy environment, optimum receivers. Estimation of parameters of detected signals. Estimation theory.

**510 Optics and Electromagnetics in Communications (3)**

Prerequisite: EGEE 480. Plane-wave propagation and reflection from multiple layers; two- and three-dimensional boundary value problems; waveguides and resonant cavities; radiation from apertures and antennas; electromagnetic properties of materials, gases and plasmas; significant coverage of engineering applications.

**518 Digital Signal Processing (3)**

Prerequisite: EGEE 420. Discrete Fourier transform; fast Fourier transform; Chirp Z-transform; discrete time random signals; floating-point arithmetic; quantization; finite word length effect in digital filters; spectral analysis and power spectrum estimation.

**519A Parallel and Multiprocessing (3)**

Prerequisite: EGEE 412. Parallel and multiprocessing systems, including hypercubes, shared distributive memory architectures, array and pipelines processors, communication protocols, routing algorithms and hands-on parallel programming experience on CSUF Hypercube System.

**519B Computer Networks and the Internet (3)**

Prerequisite: EGEE 412. Computer networking with LAN, WAN to the Internet including ATM, Ethernet, wireless and Bluetooth technology, design of communication protocols, transmission media, security and control.

**522 Spread Spectrum Communications (3)**

Prerequisites: EGEE 443, 580. Introduction to Spread Spectrum (SS) Systems. Performance analysis of coherent digital signaling schemes. Synchronization. Direct sequence, frequency hopping, time hopping and Hybrid Spread Spectrum Modulations. Binary shift register sequences. Code tracking loops. Performance of SS systems in a jamming environment, with forward error correction.

**523A VLSI and Nano Technology and Devices (3)**

Prerequisite: EGEE 455 or equivalent. Silicon crystal, PN junction physics, oxide and interface physics, wafer fabrication technology; oxidation, diffusion, ion-implantation, epitaxy, photolithography, thin films process. Layout design principle for integrated circuits. Nano-electronic devices and technology.

**523B CMOS VLSI Design (3)**

Prerequisites: EGEE 465 and EGEE 448 or equivalent. Surface physics of MOS system, MOS device physics. Short channel effect; hot carrier effect, subthreshold conduction. CMOS fabrication process. Layout design rules. Scaling design and analysis of CMOS circuits. Standard cell method. CAD design and SPICE simulation.

**526 Digital Control Systems (3)**

Prerequisite: EGEE 416. Analysis, design and implementation of digital control systems; Z-transform methods; frequency domain and state-space approach for discrete-time systems.

**527 Fault Diagnosis and Fault-Tolerant Design (3)**

Prerequisite: EGEE 307. Fault diagnosis and fault-tolerant design of digital systems; fault diagnosis test for combinational and sequential circuits, reliability calculations, multiple hardware redundancy, error detection and correcting codes, software redundancy and fault-tolerant computing.

**529 Principles of Neural Systems (3)**

Prerequisites: EGEE 310, 409. Principles of neural systems and their hardware implementation. Basic properties, discrete and continuous bidirectional associative memories. Temporal associative memories. Neural nets classifiers, perceptrons, supervised and unsupervised learning. Forward and backward propagation. Electrical models of neural networks using op-amp., analog VLSI.

**531 Phase-Locked and Frequency Feedback Systems (3)**

Prerequisite: EGEE 580 or consent of instructor. Theory of noise and linear systems, FM feedback principles. Theory and design of phase-locked loops and their applications in communication and control.

**537 Satellite Communications (3)**

Prerequisite: EGEE 443. Satellite systems, link analysis, propagation effects, SNR/CNR calculations, modulation schemes, TDMA, FDMA, CDMA techniques.

**557 Microprogramming and Embedded Microprocessors (3)**

Prerequisites: EGEE 412, EGEE 448. Introduction to microprogramming concepts and applications to the control unit of a computer, microprogrammable control, arithmetic-logic unit, implementation of an embedded process on FPGA and interfacing with external memories.

**558A Microprocessors and Systems Applications I (3)**

Prerequisites: EGEE 404, 404L. Microprocessors and micro-computers, their related software systems, system design with microprocessors, applications in peripheral controllers, communication devices and multiprocessing systems.

**558B Microprocessors and Systems Applications II (3)**

Prerequisite: EGEE 558A. Advanced microprocessor architecture and their applications to microcomputer networking; RISC VS CISC architectures, communication protocol, distributed-operating system, and local area networks.

**559 Introduction to Robotics (3)**

Prerequisite: EGEE 416 or consent of instructor. Science of robotics from an electrical engineering standpoint, including modeling, task planning, control, sensing and robot intelligence.

**580 Analysis of Random Signals (3)**

Prerequisites: EGEE 323 and 409 or equivalent. Random processes pertinent to communications, controls and other physical applications, Markov sequences and processes, the orthogonality principle.

**581 Theory of Linear Systems (3)**

Prerequisites: EGEE 416, EGGN 403. State space analysis, linear spaces, stability of systems; numerical methods of linear systems analysis and design.

**582 Linear Estimation Theory (3)**

Prerequisites: EGEE 580, 581. Mathematical models of continuous-time and discrete-time stochastic processes; the Kalman filter, smoothing and suboptimal filtering computational studies.

**585 Optimization Techniques in Systems Engineering (3)**

Prerequisite: EGGN 403 or MATH 340 for Computer Science majors. Calculus of variations, optimization of functions of several variables, Lagrange multipliers, gradient techniques, linear programming, and the simplex method, nonlinear and dynamic programming.

**587 Operational Analysis Techniques in Systems Engineering (3)**

Prerequisite: EGEE 323 or MATH 338 for Computer Science majors. Operational research models; applications of probability theory to reliability, quality control, waiting line theory, Markov chains; Monte Carlo methods.

**597 Project (1-3)**

Prerequisite: consent of adviser. Classified graduate students only. Unless approved by the department chair, EGEE 597 cannot be taken if EGEE 598 or 599 is already taken.

**598 Thesis (1-6)**

Prerequisite: consent of adviser. Classified graduate students only. Unless approved by the department chair, EGEE 598 cannot be taken if EGEE 597 is already taken.

**599 Independent Graduate Research (1-3)**

Prerequisite: consent of adviser. May be repeated for credit. Unless approved by the department chair, EGEE 599 cannot be taken if EGEE 597 is already taken.





# Elementary and Bilingual Education

College of Education

## INTRODUCTION

The Department of Elementary and Bilingual Education at Cal State Fullerton provides exemplary preparation for candidates dedicated to improving teaching and learning for all children. The faculty members in the department are nationally recognized for their contributions to the field of education. Moreover, the Department of Elementary and Bilingual Education provides programs that are nationally accredited (NCATE), in addition to meeting the California Commission on Teacher Credentialing (CCTC) requirements. The Department is highly regarded as a leader in education whose candidates are well-prepared to act as change agents for the future.

The department offers teacher credential and master's programs in a variety of areas, both face to face and online.

The university mission, college philosophy and department theme emphasize the active social nature of learning, the interconnection among ways of learning, the dispositions of inquiry and the relationship to the larger diverse society. The department is strongly committed to these themes and dispositions.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in elementary and bilingual education:

### Knowledgeable and competent specialists

- Demonstrate a strong foundation in subject matter knowledge or field of study
- Demonstrate a strong understanding and implementation of pedagogical skills or skills in chosen field
- Use technology as a resource

### Reflective and responsive practitioners

- Promote diversity
- Make informed decisions
- Engage in collaborative endeavors
- Think critically

### Committed and caring professionals

- Be agents for change
- Maintain professional and ethical standards
- Become lifelong learners

### Application Deadlines

Please visit [ed.fullerton.edu/edel](http://ed.fullerton.edu/edel) for information on the credential and master's programs.

## DEPARTMENT CHAIR

Lisa Kirtman

## DEPARTMENT OFFICE/WEBSITE

Education Classroom Building 324  
657-278-4731  
[ed.fullerton.edu/edel](http://ed.fullerton.edu/edel)

## PROGRAMS OFFERED

Master of Science in Education

Concentrations:

Bilingual/Bicultural Education  
(Spanish-English)  
Educational Technology  
Elementary Curriculum and  
Instruction

Teacher Credential Programs

Program for the Multiple Subject  
(Elementary) Credential

Program for the Multiple Subject  
Credential with a Bilingual  
Authorization

Combined Multiple Subject  
Credential and Master of Science  
in Education

Computing Certificate

## FACULTY

Donna Bennett, Kim Case, Sharon  
Chappell, Amy Cox-Petersen, Teresa  
Crawford, Mildred Donoghue,  
Loretta Donovan, Carmen Z. Dunlap,  
Barbara Finnell, Ana Garza-Dargatz,  
Tim Green, Andrea Guillaume,  
Pablo Jasis, Lisa Kirtman, Christine  
Mayfield, Kathy Murphy, Kim Norman,  
Terri Patchen, Nawang Phuntsog,  
Jennifer Ponder, Kristine Quinn, Chris  
Renne, Christine Valenciana, Michelle  
VanderVeldt, Lisa Winstead, Ruth  
Yopp-Edwards, Hallie Yopp Slowik

## **THE PROFESSIONAL TEACHER PREPARATION PROGRAM FOR THE MULTIPLE SUBJECT (ELEMENTARY) CREDENTIAL PROGRAM**

The Professional Teacher Preparation Program for the Multiple Subject (Elementary) Credential prepares individuals to teach in self-contained classrooms at the K-12 grade level where multiple subjects are taught. Candidates may select a two- or three-semester credential program sequence. The department also offers a Bilingual Authorization option in Spanish. Applicants to the credential program must hold a bachelor's degree, or have completed their general education and have no more than six units to complete in their major. Applicants must pass the CSET before entering the program. For more information visit [ed.fullerton.edu/edel/](http://ed.fullerton.edu/edel/).

Freshmen may opt to simultaneously pursue an undergraduate major and a teaching credential through the Streamlined Teacher Education Program (STEP), which leads to a Multiple Subject Credential or to a basic Education Specialist Credential. The section on Teaching Credentials in this catalog contains more information on STEP.

California law requires an academic major; there is no major in education. Students who opt for STEP select a Liberal Studies or Child and Adolescent Development major. Students are encouraged to attend a program overview during the junior and senior year. Overview schedules may be found at [ed.fullerton.edu/edel/](http://ed.fullerton.edu/edel/).

### **Two-Semester Program Sequence**

The Multiple Subject Credential Program two-semester sequence is as follows:

#### *First Semester*

- EDEL 430 Foundations in Elementary School Teaching (3)
- EDEL 433 Language Arts and Reading Instruction in the Public Schools (3)
- EDEL 434 Methods and Inquiry for Teaching English Learners (2)
- EDEL 435 Mathematics Curriculum and Instruction in Elementary School Teaching (2)
- EDEL 438 Supervised Fieldwork in Elementary Teacher Education (2)
- EDEL 439 Student Teaching in the Elementary School (5)
- EDEL 450 Visual and Performing Arts Methods: Art, Dance, Drama and Music (1)
- EDEL 453A Teaching Performance Assessment Support (1)

#### *Second Semester*

- EDEL 429 Integrated Curriculum and Instruction in the Elementary School (3)
- EDEL 436 Science Curriculum and Instruction in Elementary School Teaching (2)
- EDEL 437 Social Studies Curriculum and Instruction in Elementary School Teaching (2)
- EDEL 439 Student Teaching in the Elementary School (9)
- EDEL 451 Community, School and Classroom Issues (1)
- EDEL 452 P.E., Health and Mainstreaming Education (1)
- EDEL 453B Teaching Performance Assessment Support (1)

### **Three-Semester Credential Program Sequence**

The three-semester program is for individuals who wish to take classes during evenings and Saturdays, with some required daytime involvement in elementary schools. Student teaching requires a full daytime commitment.

#### *First Semester*

- EDEL 430 Foundations in Elementary School Teaching (3)
- EDEL 433 Language Arts and Reading Instruction in the Public Schools (3)
- EDEL 434 Methods and Inquiry for Teaching English Learners (2)
- EDEL 435 Mathematics Curriculum and Instruction in Elementary School Teaching (2)
- EDEL 438 Supervised Fieldwork in Elementary Teacher Education (1)
- EDEL 453A Teaching Performance Assessment Support (1)

#### *Second Semester*

- EDEL 429 Integrated Curriculum and Instruction in the Elementary School (3)
- EDEL 436 Science Curriculum and Instruction in Elementary School Teaching (2)
- EDEL 438 Supervised Fieldwork in Elementary Teacher Education (1)
- EDEL 439 Student Teaching in Elementary School (5)
- EDEL 450 Visual and Performing Arts Methods: Art, Dance, Drama and Music (1)
- EDEL 452 P.E., Health and Mainstreaming Education (1)

#### *Third Semester*

- EDEL 437 Social Studies Curriculum and Instruction in Elementary School Teaching (2)
- EDEL 439 Student Teaching in the Elementary School (9)
- EDEL 451 Community, School and Classroom Issues (1)
- EDEL 453B Teaching Performance Assessment Support (1)

### **Combined Credential/Master's Program**

The Combined Credential/Master's program is a full-time, 16-month program completed in four semesters, including summer. It includes online courses. Visit [ed.fullerton.edu/edel/](http://ed.fullerton.edu/edel/) for details.

### **Bilingual Authorization**

A Multiple Subject Credential with a bilingual-bicultural (Spanish-English) emphasis is available. For more details, visit: [ed.fullerton.edu/edel/](http://ed.fullerton.edu/edel/).

### **Admission Procedures and Criteria**

Admission to the university does not include admission to the Multiple Subject Credential Program (MSCP). Students must apply for admission to the MSCP the semester prior to anticipated enrollment in the program. Check [ed.fullerton.edu/edel/](http://ed.fullerton.edu/edel/) for details and application procedures and deadline.

Applicants for admission into the Multiple Subject Credential Program are evaluated at several transition points measuring candidates' progress toward meeting program outcomes as outlined

in the College of Education's conceptual framework. Specifically, these include knowledge (scholarship, breadth of understanding), skills (professional aptitude, physical and mental fitness) and dispositions (character). Evidence related to these criteria that is assessed at time of application can be found at: [ed.fullerton.edu/edel](http://ed.fullerton.edu/edel).

### Program Continuation

Once admitted, continuation in the program is based on continuous and satisfactory progress as assessed at specific transition points throughout the program, including passage of the California Teaching Performance Assessments (TPA).

### Application for Teaching Credentials

Upon completion of a multiple subject credential program the credential candidate must submit an application to the Commission on Teacher Credentialing through the CSUF credential analyst and verify passage of the Reading Instruction Competence Assessment (RICA). The credential analyst is located in the Credential Preparation Center in College Park 740. Additional information on the credential application process is available in the Credential Preparation Center.

## MASTER OF SCIENCE IN EDUCATION (30 UNITS)

### Admission to Graduate Standing – Conditionally Classified

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information.

## BILINGUAL/BICULTURAL EDUCATION CONCENTRATION

### Graduate Standing – Classified

A student who meets the admission requirements and the following requirements may be granted classified graduate standing:

- Development of an approved study plan
- Basic teaching credential or equivalent experience
- Approved major (minimum of 24 units upper division or graduate)
- 3.0 grade-point average on previous academic and related work
- Language competence (English and Spanish) as determined by satisfactory interviews or coursework
- Completion of SPAN 466

Credit will be given for previous postbaccalaureate studies when possible. Otherwise, well-qualified students may be admitted with limited subject or grade deficiencies, but these deficiencies must be removed.

### Core Coursework (9 units)

EDEL 500 Culture and Curriculum (3)

EDEL 511 Survey of Educational Research (3)

EDEL 541 Culture and Education of Latino Students (3)

### Concentration Courses (18 units)

EDEL 542 Current Issues and Problems in Bilingual-Bicultural Education (3)

CHIC 450 The Chicano and Temporary Issues (3)

CHIC 480 The Immigrant and the Chicano (3)

*One of the following:*

TESL 509, 510

*One of the following:*

TESL 527, 595

### Elective (3 units)

Chosen in consultation with and approved by the graduate adviser.

### Culminating Experience (3 units)

EDEL 594, 597, 598

For further information, consult the graduate program adviser.

## EDUCATIONAL TECHNOLOGY CONCENTRATION

An online option is available for the Concentration in Educational Technology.

### Graduate Standing – Classified

A student who meets the admission requirements and the following requirements may be granted classified graduate standing:

- Development of an approved study plan
- Basic teaching credential or equivalent experience
- Approved major (minimum of 24 units upper division or graduate)
- 3.0 grade-point average on previous academic and related work

Credit will be given for previous post baccalaureate studies when possible. Otherwise well-qualified students may be admitted with limited subject or grade deficiencies, but these deficiencies must be removed.

### Core Classes (9 units)

EDEL 511 Survey of Educational Research (3)

EDEL 529 Graduate Studies: Learning Theory for Classroom Use (3)

EDEL 536 Curriculum Theory and Development (3)

### Concentration Courses (18 units)

EDEL 512 Level Two Technology Proficiencies for Teachers in K-8 Schools (3)

OREDEL 523 Distance Education Issues and Trends in Schools (3)

EDEL 515 Technology and Problem Solving in Schools (3)

EDEL 518A Issues in the Instructional Design of Software for Use in Schools (3)

EDEL 518B Multimedia Development and Instruction in the Classroom (3)

EDEL 522 Web Design for Instruction in Schools (3)

EDEL 590 Technology Professional Development in Schools (3)

### **Culminating Experience (3 units)**

EDEL 594, 597, 598

## **ELEMENTARY CURRICULUM AND INSTRUCTION CONCENTRATION**

The Concentration in Elementary Curriculum and Instruction helps career classroom teachers prepare for curriculum and instructional leadership in one or more of the following areas: elementary classroom teaching; technology in education; meeting the needs of diverse learners; early childhood education; math/science education; professional inquiry; and staff development in public and private schools. Students may follow the study plan for the concentration, or elect to specialize in one of six emphasis areas, below. Online option available.

### **Graduate Standing – Classified**

A student who meets the admission requirements and the following requirements may be granted classified graduate standing:

- Development of an approved study plan
- Basic teaching credential or equivalent experience
- Approved major (minimum of 24 units upper division or graduate)
- Cumulative grade-point average of 3.0, or 3.0 GPA in the last 60 units

Credit will be given for previous postbaccalaureate studies when possible. Otherwise well-qualified students may be admitted with limited subject or grade deficiencies, but these deficiencies must be removed.

### **Core Coursework (9 units)**

EDEL 511 Survey of Educational Research (3)

EDEL 529 Graduate Studies: Learning Theory for Classroom Use (3)

EDEL 536 Curriculum Theory and Development (3)

### **Coursework in Concentration (12 units)**

*Six units from instruction-focused courses*

EDEL 492; 512, 515, 521, 523, 527, 538, 539, 541, 542, 551, 552, 553

*Six units from curriculum-focused courses*

EDEL 528, 530, 531, 532, 533, 534, 535, 537, 548, 571

### **Electives (6 units)**

Chosen in consultation with and approved by the graduate adviser.

### **Culminating Experience (3 units)**

EDEL 594, 597, 598

For further information, consult the graduate program adviser.

## **EMPHASIS IN DIVERSITY**

### **Admission to Graduate Standing – Conditionally Classified/Classified**

The requirements for admission to conditionally classified and classified standing are the same as those for the M.S. in Education concentration in Elementary Curriculum and Instruction.

### **Core Coursework (9 units)**

EDEL 500 Culture and Curriculum (3)

EDEL 511 Survey of Educational Research (3)

EDEL 529 Graduate Studies: Learning Theory for Classroom Use (3)

### *Diversity Emphasis Coursework (9 units)*

EDEL 530 Graduate Studies in Elementary Education:  
Second Languages (3)

EDEL 541 Culture and Education of Latino Students (3)

EDEL 542 Current Issues and Problems in Bilingual-Bicultural Education (3)

### **Curriculum-Focused Coursework (15 units)**

EDEL 528, 531, 532, 533, 534, 535, 548, 571

### **Elective (3 units)**

Elective units are chosen in consultation with and approved by the graduate adviser.

### **Culminating Experience (3 units)**

EDEL 594, 597, 598

## **EMPHASIS IN EARLY CHILDHOOD EDUCATION**

### **Admission to Graduate Standing – Conditionally Classified/Classified**

The requirements for admission to conditionally classified or classified standing are the same as for the M.S. in Education concentration in Elementary Curriculum and Instruction.

### **Core Coursework (9 units)**

EDEL 511 Survey of Educational Research (3)

EDEL 529 Graduate Studies: Learning Theory for Classroom Use (3)

EDEL 536 Curriculum Theory and Development (3)

### **Coursework in Early Childhood Emphasis (9 units)**

EDEL 528 Reading/Language Arts in the Early Childhood Curriculum (3)

EDEL 538 Teaching and Learning in the Early Childhood Classroom (3)

EDEL 548 Social Sciences, Science, and Math in Early Childhood Education (3)

### **Curriculum-Focused Coursework (6 units)**

EDEL 530, 531, 532, 533, 534, 535, 537, 571



### **Elective (3 units)**

Elective units are chosen in consultation with and approved by the graduate adviser.

### **Culminating Experience (3 units)**

EDEL 594, 597, 598

For further information, consult the graduate program adviser.

## **EMPHASIS IN PROFESSIONAL INQUIRY AND PRACTICE**

### **Admission to Graduate Standing – Conditionally Classified/ Classified**

The requirements for admission to conditionally classified or classified standing are the same as for the M.S. in Education concentration in Elementary Curriculum and Instruction.

### **Core Courses (9 units)**

EDEL 511 Survey of Educational Research (3)

EDEL 529 Graduate Studies: Learning Theory for Classroom Use (3)

*One of the following:*

EDEL 536 Curriculum Theory and Development (3)

EDEL 500 Culture and Curriculum (3)

### **Emphasis Courses (9 units)**

EDEL 521 The Study of Teaching (3)

EDEL 551 Assessment Across the Curriculum (3)

EDEL 552 Family, Community, and Professional Partnerships (3)

### **Curriculum Course (3 units)**

EDEL 528, 530, 531, 532, 533, 534, 535, 548

### **Adviser-Approved Electives (6 units)**

### **Culminating Experience (3 units)**

EDEL 594, 597, 598

## **EMPHASIS IN MATH AND SCIENCE**

### **Admission to Graduate Standing – Conditionally Classified/ Classified**

The requirements for admission to conditionally classified or classified standing are the same as for the M.S. in Education concentration in Elementary Curriculum and Instruction.

### **Core Courses (9 units)**

EDEL 511 Survey of Educational Research (3)

EDEL 529 Graduate Studies: Learning Theory for Classroom Use (3)

EDEL 536 Curriculum Theory and Development (3)

### **Emphasis Courses (12 units)**

*Select from the following:*

EDEL 492 Gender Issues in Math and Science (3)

EDEL 515 Technology and Problem Solving in Schools (3)

EDEL 532 Graduate Studies in Elementary Education: Mathematics (3)

EDEL 533 Graduate Studies in Elementary Education: Science (3)

EDEL 571 Graduate Studies in Elementary Education: Science Education Practicum (3)

### **Adviser-Approved Electives (6 units)**

### **Culminating Experience (3 units)**

EDEL 594, 597, 598

For further information, consult the graduate program adviser.

## **EMPHASIS IN STAFF DEVELOPMENT**

### **Admission to Graduate Standing – Conditionally Classified/ Classified**

The requirements for admission to conditionally classified or classified standing are the same as for the M.S. in Education concentration in Elementary Curriculum and Instruction.

### **Core Coursework (9 units)**

EDEL 511 Survey of Educational Research (3)

EDEL 529 Graduate Studies: Learning Theory for Classroom Use (3)

EDEL 536 Curriculum Theory and Development (3)

### **Emphasis Courses (9 units)**

EDEL 521 The Study of Teaching (3)

EDEL 539 Clinical Supervision: Analyzing Effective Teaching (3)

EDEL 553 Models of Teaching (3)

### **Curriculum-Focused Coursework (6 units)**

EDEL 528, 530, 531, 532, 533, 534, 535, 537, 548, 571

### **Elective (3 units)**

Elective units are chosen in consultation with and approved by the graduate adviser.

### **Culminating Experience (3 units)**

EDEL 594, 597, 598

## **EMPHASIS IN TECHNOLOGY IN EDUCATION**

### **Admission to Graduate Standing – Conditionally Classified/ Classified**

The requirements for admission to conditionally classified and classified standing are the same as those for the M.S. in Education concentration in Elementary Curriculum and Instruction.

### **Core Coursework (9 units)**

EDEL 511 Survey of Educational Research (3)

EDEL 529 Graduate Studies: Learning Theory for Classroom Use (3)

EDEL 536 Curriculum Theory and Development (3)

### **Coursework in Technology in Education Emphasis (12 units)**

EDEL 512 Level Two Technology Proficiencies for Teachers in K-8 Schools (3)

OR EDEL 523 Distance Education Issues and Trends in Schools (3)

EDEL 515 Technology and Problem Solving in Schools (3)

EDEL 522 Web Design for Instruction in Schools (3)

EDEL 590 Technology Professional Development in Schools (3)

### **Curriculum-Focused Coursework (6 units)**

EDEL 528, 530, 531, 532, 533, 534, 535, 537, 548, 571

### **Culminating Experience (3 units)**

EDEL 594, 597, 598

## **COMPUTING CERTIFICATE FOR ELEMENTARY SCHOOL TEACHERS**

The Computing Certificate for Elementary School Teachers certificate program provides a broad understanding of the applications of technology in the elementary school classroom and the instructionally related tasks in the public schools.

### **Required Courses (12 units)**

EDEL 512 Level Two Technology Proficiencies for Teachers in K-8 Schools (3)

OR EDEL 523 Distance Education Issues and Trends in Schools (3)

EDEL 515 Technology and Problem Solving in Schools (3)

EDEL 522 Web Design for Instruction in Schools (3)

EDEL 590 Technology Professional Development in Schools (3)

For further information, consult the Elementary Education graduate program adviser.

## **ELEMENTARY AND BILINGUAL EDUCATION COURSES**

Courses are designated EDEL in the class schedule.

### **110 Explorations in Education (3)**

(Same as EDSC 110)

### **315 Introduction to Elementary Classroom Teaching (3)**

Exploratory course with field assignments for students considering career in elementary school teaching. Campus seminars and overview of admission requirements for the Multiple Subject Credential Program. Students taking this course to meet the prerequisite for either the Multiple Subject or the Special Education Credential Program must earn a "B-" (2.7) or better to receive a grade of Credit. Fieldwork required.

### **325 Cultural Pluralism in Elementary Schools (3)**

Prerequisite: completion of General Education Category D.1. Culture and cultural pluralism in elementary schools. Topics: Examination of one's own beliefs and values; classroom practices and materials that promote equity; strategies for learning about students; history/traditions of cultural groups; and assessment of multicultural education programs. A "B-" (2.7) or better is required to pass the course.

### **429 Integrated Curriculum and Instruction in the Elementary School (3)**

Prerequisite: admission to second semester of Multiple Subject Credential Program. Additional study of elementary curriculum emphasizing language arts, integrated instruction across the curriculum and assessing learning outcomes. Must be taken for a letter grade if enrolled in the credential program. A "B-" (2.7) or better is required to pass the course.

### **430 Foundations in Elementary School Teaching (3)**

Prerequisite: admission to Multiple Subject Credential Program. Curriculum of the elementary school, instructional planning, principles of effective teaching, generic instructional strategies, classroom management and legal issues in education. Must be taken for a letter grade if enrolled in the credential program. A "B-" (2.7) or better is required to pass the course.

### **433 Language Arts and Reading Instruction in the Public Schools (3)**

Prerequisite: admission to Education Specialist Program. Principles of reading instruction, elements of the language arts program including literature-based reading, content area reading, the role of phonics, emergent literacy, and diagnosis of reading problems. Must be taken Credit/No Credit. A "B-" (2.7) or better is required to receive a grade of Credit.

### **434 Methods and Inquiry for Teaching English Learners (2)**

Prerequisites: admission to Multiple Subject Credential Program. Theoretical foundations, legal issues and school programs for the education of English learners. Assessment, materials, methods and strategies for English language development and learning across the curriculum for elementary school English learners. Must be taken Credit/No Credit. A "B-" (2.7) or better is required to receive a grade of Credit. One or more sections offered online.

### **435 Mathematics Curriculum and Instruction in Elementary School Teaching (2)**

Prerequisites: admission to Multiple Subject Credential Program. Instructional materials, learning styles, inquiry, concept learning, problem solving, various instructional strategies applied to teaching mathematics. Must be taken Credit/No Credit. A "B-" (2.7) or better is required to receive a grade of Credit.

**436 Science Curriculum and Instruction in Elementary School Teaching (2)**

Prerequisites: admission to Multiple Subject Credential Program. Instructional materials, learning styles, inquiry, concept learning, problem solving, various instructional strategies applied to teaching science. Must be taken Credit/No Credit. A “B-” (2.7) or better is required to receive a grade of Credit.

**437 Social Studies Curriculum and Instruction in Elementary School Teaching (2)**

Prerequisite: admission to Multiple Subject Credential Program. Instructional materials, learning styles, inquiry, concept learning, problem solving, various instructional strategies applied to teaching social studies. Must be taken Credit/No Credit. A “B-” (2.7) or better is required to receive a grade of Credit.

**438 Supervised Fieldwork in Elementary Teacher Education (1-2)**

Prerequisites: admission to Multiple Subject Credential Program. Students serve as teacher participants in an assigned elementary school classroom. Must be taken Credit/No Credit. A “B-” (2.7) or better is required to receive a grade of Credit.

**439 Student Teaching in the Elementary School (4-14)**

Prerequisites: EDEL 430, 433, 438 and admission to student teaching. Participation in a regular elementary school teaching program for the full school day. Must be taken Credit/ No Credit. A “B-” (2.7) or better is required to receive a grade of Credit.

**446 Methods and Inquiry for Bilingual Teachers (3)**

Prerequisite: admission to multiple- or single-subject bilingual credential program or consent of instructor. Prepares bilingual teacher candidates to teach Spanish-speaking students. Program models for bilingual instruction, methods for teaching reading and content areas in bilingual settings, materials and assessment. Conducted in Spanish and English; 20 hours of fieldwork required.

**448 Methods and Inquiry for Asian Language BCLAD Candidates (3)**

Prerequisite: admission to Multiple Subject Credential Program with BCLAD emphasis (Asian languages). Equity issues, curriculum and instruction for Asian language-speaking elementary students.

**450 Visual and Performing Arts Methods: Art, Dance, Drama and Music (1)**

Prerequisite: admission to Multiple Subject Credential Program. Instructional materials, learning styles, integration and strategies as they apply to teaching the arts in elementary education. Must be taken Credit/No credit. A “B-” (2.7) or better is required to receive a grade of Credit.

**451 Community, School and Classroom Issues (1)**

Prerequisites: admission to Multiple Subject Credential Program. Current issues of elementary school teaching, including classroom management, parent-teacher communication, school law and child abuse reporting. Must be taken Credit/No Credit. A “B-” (2.7) or better is required to receive a grade of Credit.

**452 P.E., Health and Mainstreaming Education (1)**

Prerequisite: admission to Multiple Subject Credential Program. Mainstreaming students with special needs, health education and physical education in elementary school settings. Must be taken Credit/No Credit. A “B-” (2.7) or better is required to receive a grade of Credit.

**453A Teaching Performance Assessment Support (1)**

Prerequisites: admission to student teaching. TPA support within social studies or science for the Multiple Subject Credential program. Must be taken Credit/No Credit. A “B-” (2.7) or better is required to receive a grade of Credit. Offered online only.

**453B Teaching Performance Assessment Support (1)**

Prerequisites: EDEL 430, 433, 435, 438 and admission to student teaching. TPA support within social studies or science for the Multiple Subject Credential program. Must be taken Credit/No Credit. A “B-” (2.7) or better is required to receive a grade of credit. Offered online only.

**492 Gender Issues in Math and Science: Teaching and Learning (3)**

Prerequisites: EDEL 315 and senior or graduate standing. Educational and cultural barriers and avenues to the success of girls in science and mathematics, development of curricula and instructional methods to address these issues.

**499 Independent Study (1-3)**

Prerequisites: senior or graduate standing, consent of instructor prior to registration. Individual investigation under supervision of a faculty member. Only students of demonstrated capability and maturity will be approved. May be repeated for credit.

**500 Culture and Curriculum (3)**

Prerequisite: teaching credential or consent of instructor. Culture and school curriculum, forces operating on the curriculum, the participants involved in curriculum building, modification of the curriculum to reflect multicultural contexts, and pedagogy and pluralism.

**502A New Teacher Induction, Assessment, and Support Year 1 (1)**

(Same as EDSC 502A)

**502B New Teacher Induction, Assessment, and Support Year 1 (2)**

(Same as EDSC 502B)

**502C New Teacher Induction, Assessment, and Support Year 2 (1)**

(Same as EDSC 502C)

**502D New Teacher Induction, Assessment, and Support Year 2 (2)**

(Same as EDSC 502D)

**502E Pedagogy, Assessment and Support for New Teachers (3)**

Prerequisite: Multiple or Single Subject Preliminary Credential; concurrent participation in the CSUF Clear Credential Program. Formative assessment and professional development for new teachers via utilization of state-approved formative assessment system. Teaching effectiveness, including analysis of context for teaching and initial assessment of teaching. (Same as EDSC 502E)

**502F Pedagogy Assessment and Support for New Teachers (Semester 2) (3)**

Prerequisite: Multiple or Single Subject Preliminary Credential; concurrent participation in the CSUF Clear Credential Program. Formative assessment and professional development for new teachers via utilization of state-approved formative assessment system. teaching effectiveness, including action research and review and reflection on teaching and learning. (Same as EDSC 502F)

**511 Survey of Educational Research (3)**

Prerequisite: teaching credential. Descriptive statistics and statistical inferences in educational research. Representative research papers. Principles of research design. Prepare papers using research findings. One or more sections offered online.

**512 Level Two Technology Proficiencies for Teachers in K-8 Schools (3)**

Prerequisite: teaching credential. Theoretical basis and strategies for improving teaching of K-8 students through use of multimedia and other technologies.

**515 Technology and Problem Solving in Schools (3)**

Prerequisites: Level 2 technology proficiency and teaching credential. Software and web-based applications that promote problem-solving in schools. Research and discussion of issues, implications of and implementation strategies for using technology to enhance students' problem-solving skills. One or more sections offered online.

**518A Issues in the Instructional Design of Software for Use in Schools (3)**

Prerequisite: Level 2 technology proficiency. Issues related to the instructional design of courseware designed specifically for classroom students. Topics include learning principles, learner characteristics, instructional strategies, screen design, response analysis, feedback and interactivity. One or more sections offered online.

**518B Multimedia Development and Instruction in the Classroom (3)**

Prerequisite: EDEL 518A. Application and instruction of computer-based instructional design principles in the development for classroom software and multimedia projects. Topics include planning and assessment, design principles, and development of tools. One or more sections offered online.

**521 The Study of Teaching (3)**

Prerequisite: EDEL 511 and teaching credential. The teaching process. Research methodology used to analyze teaching, the current knowledge of the association between teaching processes and student learning, and the implications of the research for the classroom.

**522 Web Design for Instruction in Schools (3)**

Prerequisite: Level 2 technology proficiency, EDEL 515 or consent of instructor. Design, development, and implementation of web pages and sites for instructional purposes. Issues surrounding using the World Wide Web for instruction. Fieldwork required. Offered only online.

**523 Distance Education Issues and Trends in School (3)**

Prerequisite: Level 2 technology proficiency or consent of instructor. Issues and trends in distance education for teaching and learning in schools. Draws on research in K-12, higher education and corporate domains. Offered only online.

**527 Graduate Seminar in Developmental Psychology: The Human from Conception Through Eight Years (3)**

Prerequisites: teaching credential. Physical, social, cognitive-intellectual, and emotional development of individuals from conception to middle childhood. Current problems, theories and research.

**528 Reading/Language Arts in the Early Childhood Curriculum (3)**

Prerequisite: teaching credential. Significant research, curriculum developments and materials, and current instructional strategies for promoting emergent literacy in children.

**529 Graduate Studies: Learning Theory for Classroom Use (3)**

Prerequisite: teaching credential. Major theoretical positions in planning and interpreting classroom practices. Educational research findings, implications for curriculum development and teaching practices. One or more sections offered online.

**530 Graduate Studies in Elementary Education: Second Languages (3)**

Prerequisites: EDEL 434 and teaching credential. Significant research, curriculum developments and materials, and criteria for planning and improving second language programs, including those for English as a second language.

**531 Graduate Studies in Elementary Education: Integrated Language Arts (3)**

Prerequisite: teaching credential. Significant research, trends and problems in teaching the fundamental skills of communication; curriculum development and materials, and criteria for planning and improving integrated language arts programs.

**532 Graduate Studies in Elementary Education: Mathematics (3)**

Prerequisite: teaching credential. Significant research, curricular developments and materials, criteria for planning and improving mathematics programs and instruction. One or more sections offered online.

**533 Graduate Studies in Elementary Education: Science (3)**

Prerequisite: teaching credential. Research and materials in science education and criteria for planning and improving science programs and instruction.



**534 Graduate Studies in Elementary Education: Social Studies (3)**

Prerequisite: teaching credential. Research developments and materials, criteria for planning and improving social studies programs, and current techniques of teaching.

**535 Graduate Studies in Elementary Education: Reading in the Language Arts Program (3)**

Prerequisite: teaching credential. Research developments and materials, criteria for planning and improving reading instruction in the integrated language arts programs, current instructional strategies and the role of children's literature.

**536 Curriculum Theory and Development (3)**

Prerequisite: teaching credential. School curriculum, including the forces operating on the curriculum and the participants involved in curriculum building. Process of curriculum building. One or more sections offered online.

**537 Graduate Studies: Current Issues and Problems (3)**

Prerequisite: teaching credential. Problems and issues in elementary and secondary education, their causes and possible solutions. One or more sections offered online.

**538 Teaching and Learning in the Early Childhood Classroom (3)**

Prerequisite: teaching credential. Application of significant research in the education of young children. Current instructional strategies and criteria for planning and improving programs in early childhood education.

**539 Clinical Supervision: Analyzing Effective Teaching (3)**

Prerequisite: teaching credential. Systematic, research-based approach. Basic components needed by teachers, staff developers, and administrators to improve their instructional skills. Principles of learning applied to supervision and applied practice in analyzing the instructional process.

**541 Culture and Education of Latino Students (3)**

Prerequisite: Admission to credential program or master's program. Impact of historical, social, political and economic forces on educational experiences for Latino students in the U.S., in particular, those of Mexican origin. Immigration, migration, language and culture with respect to educational attainment. (Same as EDSC 541)

**542 Current Issues and Problems in Bilingual-Bicultural Education (3)**

Prerequisite: teaching credential. Problems and issues in the development and implementation of bilingual-bicultural education.

**548 Social Studies, Science, and Math in Early Childhood Education (3)**

Prerequisite: teaching credential or equivalent experience. Current curriculum standards and instructional options in social studies, science, and mathematics in early childhood education. Content, process skills and literature connections.

**551 Assessment Across the Curriculum (3)**

Prerequisite: teaching credential. Improving student performance through assessment, self-assessment, and student goals setting; establishing congruence between purposes, audiences, and instruments used. Design and selection of instruments, including performance assessment, portfolio, observation and personal communication forms for standards-based assessment.

**552 Family, Community and Professional Partnership (3)**

Prerequisite: teaching credential. Value of educational partnerships between families, teachers and the community. Inquiry and development of strategies to develop partnerships, address and overcome barriers, and sustain partnerships to enhance the education of children. One or more sections offered online.

**553 Models of Teaching (3)**

Prerequisite: teaching credential. Varied strategies of instruction, culminating in the identification and study of 16 unique models. Relationships among theories of learning and instruction. Various instructional alternatives.

**571 Graduate Studies in Elementary Education: Science Education Practicum (3)**

Prerequisite: EDEL 533. Strategies for effectively teaching and assessing science content knowledge, science process skills, and scientific attitudes in the elementary school; includes field assignments in elementary schools (1 unit - 4 hours per week); seminars (2 units - 2 hours per week). Principles of effective staff development in elementary science education.

**590 Technology Professional Development in Schools (3)**

Prerequisites: Level 2 technology proficiency, EDEL 522, 523. Planning, implementing and evaluating technology professional development in schools. Writing grants, acting as a change agent and serving as a technology leader in a school. Fieldwork required.

**594 Research Seminar (3)**

Prerequisite: 3.0 GPA and consent of instructor. Preparation, evaluation, development and presentation of curriculum research proposals culminating in a graduate project. Individuals and groups will participate in critiquing proposals, curriculum projects and research results. One or more sections offered online.

**597 Project (1-3)**

Prerequisite: 3.0 GPA and consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

**598 Thesis (1-3)**

Prerequisite: 3.0 GPA and consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

**599 Independent Graduate Research (1-3)**

Prerequisite: teaching credential, one year of teaching experience, and consent of instructor. Independent inquiry.

# English, Comparative Literature and Linguistics

College of Humanities and Social Sciences

## DEPARTMENT CHAIR

Lana Dalley

## DEPARTMENT OFFICE/WEBSITE

University Hall 323

657-278-3163

[english.fullerton.edu](http://english.fullerton.edu)

## PROGRAMS OFFERED

Bachelor of Arts in Comparative

Literature

Bachelor of Arts in English

Minor in English

Master of Arts in English

Minor in Linguistics

Bachelor of Arts in Linguistics

Master of Arts in Linguistics

## FACULTY

Marlin Blaine, Cornel Bonca, April Brannon, Ellen Caldwell, Lana Dalley, Angela Della Volpe, Sheryl Fontaine, Joanne Gass, Erin Hollis, Susan Jacobson, David Kelman, Stephen Mexal, Helen Mugambi, Franz Mueller, Brian Michael Norton, Natalie Operstein, Irena Praitis, Chris Ruiz-Velasco, David Sandner, Joseph Sawicki, Patricia Schneider-Zioga, Yichin Shen, Kay Stanton, Stephen Westbrook, Chris Westgate, Heping Zhao

## INTRODUCTION

Students who focus their academic studies in English or Comparative Literature examine literature from a variety of cultural and historical traditions, including literary studies, literary theory, creative writing, rhetorical studies and English education. Linguistics majors study the origins and development of language, how it is learned, stored in the brain and changes over time (See “Linguistics Program” in the catalog for a description of the degree requirements).

Our major programs emphasize the production of academic, professional and creative writing, and the study of English and American literatures and intersecting countries across the globe. Courses examine the diverse ways in which writing and literature let us see the past, understand advanced rhetorical and linguistic techniques, and make sense of the world through narrative.

A major in English or Comparative Literature is suitable for students interested in any of the wide range of professions that expect excellence in reading and writing – including education, creative and professional writing, public service and preparation for further study in literature, law, medicine or business. The majors may be combined with preparation for elementary and secondary school teaching. In addition, they provide a foundation for students who intend to pursue advanced degrees in preparation for teaching at the college level.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in English:

### Read critically

- Read a text in any of several genres on a number of levels, including literal comprehension, aesthetic responsiveness, informed awareness of the traditions and the varied critical perspectives within which it may be most productively read, and rhetorical and logical analysis of its argument and/or structure

### Write effectively

- Write about various kinds of texts so as to articulate the dimensions of the work as described above
- Demonstrate an awareness of audience, purpose and various rhetorical forms, as well as a high level of control of standard written English conventions

### Research

- Demonstrate the ability to find in textbooks and research materials — paper and electronic — the kinds of information relevant to a given problem or issue, literary or otherwise, and to integrate that information into one’s own written work to support one’s argument while giving appropriate credit to the source of the information

### Knowledge of major literary works and traditions

- Have a working knowledge of the major writers, periods and genres of English and American literature and be able to place important works and genres in their historical context

### Knowledge of noncanonical literary works

- Have a working knowledge of some important works in nonwestern, ethnic and women's literatures that illustrate the diversity of literary studies and the interconnectedness of literary traditions

### Structure of the English language

- Have a working knowledge of the structure of the English language and theories of second language acquisition

## BACHELOR OF ARTS IN COMPARATIVE LITERATURE (120 UNITS)

The Bachelor of Arts in Comparative Literature requires 42 units in the major, all of which require a "C" (2.0) or better. In selecting courses, students are urged to consult a faculty adviser.

Required courses: ENGL 300 and 18 units in comparative literature, including CPLT 324, 325, and either ENGL/CPLT 450 or CPLT 451;

British and American Literature (six upper-division units listed under English); Breadth Requirement (six adviser-approved units in other fields such as anthropology, history, art history, music history or philosophy);

Electives (nine upper-division units in comparative literature, or literature courses in English or an adviser-approved foreign language).

### Reading Competence in a Foreign Language

This requirement can be met by examination or by successfully completing an adviser-approved 400-level course offered by the Department of Modern Languages and Literatures, provided it is not taught in translation. Information on the examination is available in the Department of English, Comparative Literature and Linguistics office.

## BACHELOR OF ARTS IN ENGLISH (120 UNITS)

The Bachelor of Arts in English requires 42 units, all of which require a "C" (2.0) or better. In selecting courses – 30 units of which must be upper-division – students are urged to consult a faculty adviser in the Department of English, Comparative Literature and Linguistics. At least one course must satisfy the Comparative Studies requirement. Courses meeting the requirement are asterisked. ENGL 101, a graduation requirement for all students, is not part of the English major but is a prerequisite to further work in English.

### Required Courses (9 units)

ENGL 300 Analysis of Literary Forms (3)

ENGL 302 Advanced Composition and Rhetoric for English Teachers (3)

OR ENGL 307 Advanced College Writing for English Studies (3)

ENGL 316 Shakespeare (3)

### Survey Courses (6 units)

ENGL 211 British Literature to 1760 (3)

ENGL 212 British Literature from 1760 (3)

ENGL 221 American Literature to Whitman (3)

ENGL 222 American Literature from Twain to the Moderns (3)

CPLT 324 World Literature to 1650 (3) \*

CPLT 325 World Literature from 1650 (3) \*

### Period, Genre and Criticism Courses (9 units)

(At least one course from those prior to 1800)

ENGL 423 Early American Literature (3)

ENGL 450 Medieval Literature (3) \*

ENGL 451 Elizabethan and Jacobean Drama (3)

ENGL 452 Elizabethan Poetry and Prose (3)

ENGL 453 17th-Century Poetry and Prose (3)

ENGL 454 The Drama of the Restoration and the 18th Century (3)

ENGL 455 Restoration and 18th-Century Literature (3)

ENGL 456 The Development of the English Novel Through Jane Austen (3)

ENGL 457 The Romantic Movement in English Literature (3)

ENGL 458 Victorian Literature (3)

ENGL 459 The Development of the 19th Century English Novel (3)

ENGL 462 Modern British and American Fiction (3)

ENGL 463 Contemporary Fiction in English (3)

ENGL 464 Modern British and American Drama (3)

ENGL 465 Contemporary Drama in English (3)

ENGL 466 Modern British and American Poetry (3)

ENGL 467 Contemporary Poetry in English (3)

ENGL 491 Traditions of English Literary Criticism (3)

ENGL 492 Modern Critical Theory (3)

### Major Author Courses (3 units)

ENGL 315 Chaucer (3)

ENGL 317 Milton (3)

### Language Courses (3 units)

ENGL 303 Structure of Modern English (3)

ENGL 305 The English Language in America (3)

### Electives (12 units)

Chose from English, Comparative Literature or Linguistics courses numbered 201 and above.

## MINOR IN ENGLISH (21 UNITS)

Students must complete 15 units of required and survey courses, in addition to a maximum of 6 elective units for the minor. In selecting courses, students should consult a faculty adviser in the Department of English, Comparative Literature and Linguistics. A "C" (2.0) or better is required in all courses applied to the minor.

### Required Courses (9 units)

ENGL 300 Analysis of Literary Forms (3)

ENGL 307 Advanced Writing in English Studies (3)

ENGL 316 Shakespeare (3)

### Survey Courses (6 units)

ENGL 211 British Literature to 1760 (3)

ENGL 212 British Literature from 1760 (3)

ENGL 221 American Literature to Whitman (3)

ENGL 222 American Literature from Twain to the Moderns (3)

CPLT 324 World Literature to 1650 (3)

CPLT 325 World Literature from 1650 (3)

### Electives (6 units)

Chose from additional English, Comparative Literature and Linguistics courses numbered 201 and higher.

## MASTER OF ARTS IN ENGLISH (30 UNITS)

The master's degree program in English offers students the opportunity to achieve a multifaceted understanding of literature and language. The degree is useful to those already teaching in high schools or interested in community college teaching, to those seeking careers in writing and publishing, and to those intending to pursue further graduate work.

### Admission to Graduate Standing

Applicants are encouraged to make an appointment with the department graduate adviser. The adviser will review transcripts, advise applicants regarding prerequisites and determine if any courses apply to the degree program.

Applicants must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition:

1. The department requires a bachelor's degree in English or Comparative Literature from an accredited institution with at least a 3.0 grade-point average in the upper-division major courses, provided that a minimum of 24 units of upper-division coursework is included. If the applicant holds a bachelor's degree in another major, 24 units of upper-division coursework in English and/or Comparative Literature must be completed with at least a 3.0 grade-point average before beginning work in the master's degree program.
2. In the event that the applicant's grade-point average in prerequisite courses is below 3.0, he or she may take additional upper-division English and/or Comparative Literature course-

work and reapply to the program. The applicant should consult with the graduate adviser to determine appropriate coursework. Some courses taken to make up qualitative deficiencies may be credited toward the M.A., if completed with a "B" (3.0) or better, and if applicable to the student's particular study plan. Courses taken to remove quantitative deficiencies may not be applied to the M.A. program.

3. A writing sample will also be required of all applicants. The writing sample should demonstrate advanced skill in literary analysis or rhetorical and expository writing. A paper written for an upper-division literature course and analyzing one or more elements in one or more literary works is preferred. The writing sample should be approximately five to 10 pages long, and include secondary research. Applicants who do not have course papers available should contact the department graduate adviser for advice.
4. Applicants must submit three letters of recommendation from individuals best qualified to judge their potential for graduate study in English.
5. All applicants, regardless of citizenship, whose preparatory education was principally in a language other than English, must demonstrate competence in English. Those who do not possess a bachelor's degree from a postsecondary institution where English is the principal language of instruction must receive a minimum TOEFL score of 600 (paper) or 100 (Internet), or 7.5 on the International English Language Testing System (IELTS).

### Application Deadlines

The deadlines for completing online applications are provided on the department's website. Applications are available online (csumentor.edu).

### Foreign Language Requirement

Students must satisfy a foreign language requirement with one of the following options:

- (1) two years of foreign language at the college or university level;
- (2) one 400-level course in a foreign language or in literature taught in a foreign language; (3) LING 406 or 412; or (4) another 400-level linguistics course approved by the graduate adviser. This requirement may be satisfied prior to or after admission to the M.A. program.

### Study Plan

All courses in the graduate program must be approved by the graduate adviser.

A study plan must be developed and approved for admission to classified graduate standing within the student's first nine units of graduate coursework. Courses taken by a student admitted to the program with conditionally classified status do not necessarily apply toward the degree. No more than nine units of postgraduate coursework may be applied to the master's degree program. See the graduate adviser for further information.



The study plan allows three units of adviser-approved coursework outside the department and/or three units of graduate independent study. No more than six units are allowed at the 400 level. In addition, at least one proseminar or seminar must be in Comparative Literature or cross-listed in Comparative Literature. A project and portfolio are required of all students. Students are encouraged to take ENGL 500 in their first semester.

### **Core Course (3 units)**

ENGL 500 Introduction to Graduate Studies in Literature (3)

### **Graduate Seminars (9 units)**

*Three units each from three of the following four categories:*

- Language, Composition and Rhetoric
- Creative Writing
- Cultural Studies/Theory
- Literature

### **Electives (15 units), adviser-approved**

#### **Project and Portfolio (3 units)**

Students are required to complete a project in the project writing course, ENGL 595. Students who plan to complete a creative writing project must take a minimum of six units of creative writing workshops, one of which must be at the 500 level.

Project proposals are due the fifth week of the semester preceding enrollment in the project writing course and must be approved by the department Graduate Studies Committee. If the proposal is not approved when first submitted, students may resubmit only once in the same semester. Please consult the graduate adviser or department office for further details.

Based on their interests, and in conjunction with their adviser, students will choose one of three foci for their portfolio: academic professional development, pedagogical development or creative/professional writing development. The entire portfolio must be completed, reviewed and approved by a faculty review committee at least two months prior to the end of the student's final semester in the graduate program. See the department website for further information.

### **CERTIFICATE IN WRITING AND TEACHING (12 UNITS)**

Designed to provide M.A. English candidates additional opportunities for professional development, the Certificate in Writing and Teaching further enhances students' preparation for careers in teaching, publishing or advanced graduate study.

#### **Writing and Teaching Courses (12 units)**

*Three units from the following:*

ENGL 402/402S Theories of Response to Written Composition (3)  
ENGL 515 Professional Editing and Journal Production (3)  
ENGL 590/590S Writing Theory and Practice for Teaching Associates (4)

*Nine units from the following:*

ENGL 404T Advanced Creative Writing (3)  
ENGL 509T Creative Writing Workshop (3)  
ENGL 510 Rhetorical Criticism and Discourse Analysis (3)  
ENGL 525T Proseminar in Rhetoric or Writing (3)  
ENGL 575T Topics in Teaching (3)  
ENGL 591T Seminar: Topics in Rhetoric and Composition (3)

In addition, students are required to attend the Workshop Series in Professional Development, consisting of three meetings offered annually.

For further information, contact the Department of English, Comparative Literature and Linguistics.

### **BACHELOR OF ARTS IN LINGUISTICS MINOR IN LINGUISTICS**

For information on these programs and a listing of linguistics courses, please consult the "Linguistics" section of this catalog.

### **COMPARATIVE LITERATURE COURSES**

Courses are designated as CPLT in the class schedule.

#### **312 The Bible as Literature (3)**

Prerequisite: completion of General Education (G.E.) Category C.2. Literary qualities of biblical literature and the influence of major themes upon Western literary traditions. (Same as CPRL 312)

#### **315 Classical Mythology in World Literature (3)**

Prerequisite: completion of G.E. Category C.2. Greek and Roman myths that have been of continuing significance in Western world literature.

#### **324 World Literature to 1650 (3)**

Prerequisites: junior or senior standing and completion of any literature course from G.E. Category C.2. Asian and Western literature from the beginning to 1650.

#### **325 World Literature from 1650 (3)**

Prerequisites: junior or senior standing and completion of any literature course from G.E. Category C.2. Asian and Western literature from 1650 to the present.

#### **345T Trends and Movements in English Studies and Comparative Literature (3)**

(Same as ENGL 345T)

#### **355T Images of Women in Literature (3)**

(Same as ENGL 355T)

#### **380 Introduction to Asian Literature (3)**

Prerequisite: completion of any literature course from G.E. Category C.2. Selected translations of Arabic, Persian, Indian, Chinese and Japanese literature.

**381 African Literature (3)**

(Same as ENGL/AFAM 381)

**382T Topics in Asian Literature (3)**

Prerequisite: completion of any literature course from G.E. Category C.2. Specific topics will vary from semester to semester. May be repeated with different content for additional credit.

**389 Literature About the War in Vietnam (3)**

(Same as ENGL/ASAM 389)

**450 Medieval Literature (3)**

(Same as ENGL 450)

**451 Literature of the Renaissance (3)**

Prerequisites: survey of English, American, or world literature; an upper-division literature course; or equivalent. The Renaissance as a literary movement, from Erasmus to Montaigne and Cervantes.

**499 Independent Study (1-3)**

Prerequisite: junior or senior standing.

**525T Proseminar in Literature, Rhetoric, or Writing (3)**

(Same as ENGL 525T)

**571T Graduate Seminar: Major Writers (3)**

(Same as ENGL 571T)

**572T Graduate Seminar: Literary Genres (3)**

(Same as ENGL 572T)

**573T Graduate Seminar: Cultural Periods (3)**

(Same as ENGL 573T)

**574T Graduate Seminar: Special Problems in Literature (3)**

(Same as ENGL 574T)

**575T Graduate Seminar: Topics in Teaching (3)**

(Same as ENGL 575T)

**579T Graduate Seminar: Problems in Criticism (3)**

(Same as ENGL 579T)

**599 Independent Study (1-3)****ENGLISH COURSES**

Courses are designated as ENGL in catalog.

For world literature in English translation, see courses under Comparative Literature (CPLT)

**099 Developmental Writing (3)**

Prerequisite: score of T146 or lower on English Placement Test (EPT). Intensive course in basic writing skills. Prepares students for ENGL 101. Degree credit is not awarded for this course.

**100 Analytic College Writing (3)**

Prerequisite: English Placement Test below 147. Corequisite: ENG 100W. Express ideas clearly and effectively in well-developed, focused essays that support arguments with relevant and adequate evidence, and use the style and conventions of standard academic prose.

**100W Analytic College Writing Workshop (1)**

Prerequisite: English Placement Test below 147. Corequisite: ENGL 100. Improve ability to compose analytical college essays with tutorials, computer activities and classroom activities.

**101 Beginning College Writing (3)**

Prerequisite: ENGL 099 with a score of T147 or higher on EPT. Introductory course in the fundamentals of expository prose. Grammatical and basic rhetorical concepts and practices necessary for successful college writing. Instructional fee.

**105 Introduction to Creative Writing (3)**

Prerequisite: ENGL 101. Exploratory creative writing with the opportunity to write in various genres. No credit toward the major or minor.

**199 Intensive Writing Review (3)**

Prerequisite: consent of instructor. Restricted to students who have failed the EWP at least twice. Intensive review of the fundamentals of writing expository prose. Meets examination portion of baccalaureate writing requirement. Carries no credit toward graduation.

**200 Literature and Popular Culture (3)**

For non-English majors who like to read. Uses subjects in popular culture to study fiction, drama and poetry. Subjects include non-conformity and rebellion in modern music, conspiracy theory, visual literacy and the influence of science. Carries no credit toward the major.

**206 Introduction to Language Structure and Language Use (3)**

Introduction to the nature, structure, development and use of English. How sounds are articulated and patterned in meaningful units (phonology); symbolic correspondence (phonics); rules of word formation (morphology); word history (etymology); and language use (pragmatics). (Same as LING 206)

**211 British Literature to 1760 (3)**

Major periods and movements, and major authors and forms through 1760.

**212 British Literature from 1760 (3)**

Major periods and movements, and major authors and forms from 1760 through modern times.

**221 American Literature to Whitman (3)**

Major writers such as Hawthorn, Poe, Melville, Emerson, Thoreau, Whitman and Dickinson.

**222 American Literature from Twain to the Moderns (3)**

Major writers such as Twain, James, Crane, Hemingway, Faulkner, O'Neill, Frost and Eliot.

**300 Analysis of Literary Forms (3)**

Major literary forms: prose fiction, poetry and drama. English majors should schedule this basic course as early as possible.

**301 Advanced College Writing (3)**

Prerequisite: ENGL 101. Writing expository prose for non-English majors. Precision in rhetoric and development of individual style by concentration on matters of diction, audience, emphasis and persuasion. Meets upper-division writing requirement for approved majors.

**302 Advanced Composition and Rhetoric for English Teachers (3)**

Prerequisite: ENGL 101. Expository prose, journalistic prose and creative writing for prospective teachers of English. Meets the university upper-division writing requirement for English majors. Requirement for application to English teaching credential.

**303 The Structure of Modern English (3)**

Prerequisite: junior standing. Grammar of contemporary English. Modern English usage. Requirement for application to English teaching credential.

**305 The English Language in America (3)**

American English, its origins, regional and social dialects, and role in American history and in such institutions as schools, corporations, government and the media. Requirement for application to English teaching credential. (Same as LING 305)

**306 Intermediate Creative Writing (3)**

Prerequisites: completion of G.E. Categories C.1, C.2. Creative writing beyond the introductory level. Poetry, the short story and/or the one-act play.

**307 Advanced Writing in English Studies (3)**

Prerequisite: ENGL/CPLT majors who have completed their lower-division writing requirements. Interpretive frameworks of communities within the discipline of English Studies (literary studies, creative writing, English education, composition, cultural criticism). Uses discursive conventions of these communities to produce formal and informal texts of various genres.

**315 Chaucer (3)**

Prerequisite: ENGL 101 or equivalent. Canterbury Tales and Chaucer's language. Vocabulary, pronunciation, grammar and syntax of the East Midland dialect of Middle English.

**316 Shakespeare (3)**

Prerequisite: ENGL 101 or equivalent. Study of the major plays.

**317 Milton (3)**

Prerequisite: ENGL 101 or equivalent. Poetry and prose in the light of Milton's intellectual development.

**324 Introduction to African-American Literature (3)**

(Same as AFAM 324)

**326 The American Frontier in Literature (3)**

Prerequisite: any courses in American literature, American studies or American history. Thematic study of American literature as it reflects the changing frontier experience and establishes national myths and symbols.

**327 Asian American Literature (3)**

(Same as ASAM 327)

**328 Literature of the American Indians (3)**

Prerequisite: completion of any literature courses from G.E. Category C.2. The prose and poetry of the North American Indian tribes.

**331 Shakespeare on Film (3)**

Prerequisite: ENGL 101. Analysis of representative Shakespeare plays, along with viewing and analyzing several film versions of each play. Uses literary and film terminology to write critical responses to drama and film, develop storyboards and conceptualize a Shakespeare play adaptation "pitch" with set, costume design and marketing strategy.

**341 Children's Literature (3)**

Prerequisite: completion of any literature course in G.E. Category C.2. World literature written primarily for children, including material from the oral tradition, realistic fiction, fantasy and poetry.

**345T Trends and Movements in English Studies and Comparative Literature (3)**

Prerequisites: Completion of all lower-division writing requirements and G.E. Categories A.1, A.2, A.3. Various trends and movements in literature, composition and rhetoric, cultural studies, creative writing, or linguistics through a variety of critical lenses. (Same as CPLT 345T)

**355T Images of Women in Literature (3)**

Prerequisite: junior or senior standing. Images of women in genres such as autobiography, poetry, drama and novel. Individual sections may treat conventional literary periods or specific cultures. May be repeated with different content for additional credit. (Same as CPLT 355T)

**360 Technical Writing (3)**

Open to science and non-science students. Advanced composition stressing professional rhetorical situations, genres and styles. Professional writing, designing and editing, with attention to outlines and abstracts, description, process explanation, instructions and fundamentals of reports, feasibility studies, proposals, internal memos and letters..

**365 Legal Writing (3)**

Advanced composition stressing logic, reasoning and legal analysis.

**370 Horror Fiction (3)**

Prerequisite: ENGL 101 or equivalent. Horror/occult fiction (or "dark fantasy") from Mary Shelley to the present, including such writers as E.A. Poe, J.S. LeFanu, Bram Stoker, H.P. Lovecraft, Fritz Leiber and Stephen King.

**371 Fantasy Fiction (3)**

Prerequisite: ENGL 101 or equivalent. Fantasy in literature from Ariosto to Brautigan.

**372 Crime Fiction (3)**

Prerequisite: ENGL 101 or equivalent. Crime fiction from Edgar Allan Poe to the present, including writers such as Sayers, Christie, Chandler, Hammett and Ross MacDonald.

**373 Science Fiction (3)**

Prerequisite: ENGL 101 or equivalent. Science fiction as a literary genre, including future-scene fiction, the utopian novel, the superman/woman novel and short stories.

**374 The Gothic Novel (3)**

Prerequisite: ENGL 101. Development of the Gothic Novel in England from 1750-1850, including Walpole, Smith, Radcliffe, Lewis, Mary Shelley, Austen, Maturin and Emily Brontë.

**381 African Literature (3)**

Prerequisite: completion of any literature course from G.E. Category C.2. African literature written in the English language; the fiction, poetry and drama of the new nations. (Same as CPLT/AFAM 381)

**389 Literature About the War in Vietnam (3)**

Prerequisite: ENGL 101. Fiction, nonfiction, poetry and film reflecting views of the Vietnam War as experienced by North and South Vietnamese and by Americans, both soldiers and ordinary citizens. (Same as CPLT/ASAM 389)

**401 Composing Identities: The Reflective Writing Teacher (3)**

Prerequisites: undergraduate students, completion of all lower-division writing requirements and G.E. Categories A1, A2, A3. Composing practices and the teaching practices that encouraged and discouraged development; cognitive and cultural issues related to composing and reflexive/reflective teaching. Develop theories supported by research, experience and practice about teaching and learning writing.

**402 Theories of Response to Written Composition (2)**

Prerequisites: ENGL 301 and 303 or equivalents. Corequisite: ENGL 402S. May be taken for letter grade or credit/no credit.

**402S Tutor Supervision (1)**

Prerequisites: ENGL 301, 303. Corequisite: ENGL 402. May be taken for letter grade or credit/no credit.

**404T Advanced Creative Writing (3)**

Prerequisite: ENGL 306 or equivalent. Instruction and practice in a workshop setting for the student with some experience in creative writing; emphasizes writing for professional markets. Consult the class schedule to determine section's emphasis. May be repeated for credit.

**416 Studies in Shakespeare (3)**

Prerequisite: ENGL 316. Problems of dramatic structure and artistic meanings.

**423 Early American Literature (3)**

Prerequisite: ENGL 221. Literature of colonial and revolutionary America, including the Puritans, 18th-century deism and rationalism, and the literary antecedents of American democratic thought.

**429 American Landscape in Literature (3)**

Literary perception of our environment, with special attention to what perceptions of the landscape reveal about human nature.

**434 Young Adult Literature (3)**

Prerequisite: junior or senior standing. Evaluation, selection and interpretation of fiction, non-fiction, drama and poetry reflecting the interests of young people ages 12 to 17.

**442 Changing Words: History, Semantics, and Translation (3)**

(Same as LING 442)

**450 Medieval Literature (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Readings in modern English translation from the medieval literature of England and the continent from St. Augustine to Sir Thomas Malory. (Same as CPLT 450)

**451 Elizabethan and Jacobean Drama (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Dramatic tradition in plays by such dramatists as Marlowe, Jonson, Webster, Beaumont and Fletcher.

**452 Elizabethan Poetry and Prose (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Non-dramatic literature of the English Renaissance.



**453 17th-Century Poetry and Prose (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Non-dramatic literature of the period from 1603 to 1660 excluding Milton.

**454 The Drama of the Restoration and the 18th Century (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Representative plays of the Restoration and 18th century. Development of such dramatic movements as the heroic play, Restoration comedy and sentimental drama.

**455 Restoration and 18th-Century Literature (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Major writers from prose, poetry and dramatic genres, such as Butler, Rochester, Dryden, Pepys, Swift, Addison and Steele, Pope, Boswell, Johnson, Sheridan, Wycherley and Gay, as well as selected minor writers.

**456 The British Novel through Jane Austen (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. British novel from its beginnings to the 19th century, including such novelists as Defoe, Richardson, Fielding, Sterne and Austen.

**457 The Romantic Movement in English Literature (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Major writers such as Burns, Blake, Wordsworth, Coleridge, Byron, Shelley and Keats.

**458 Victorian Literature (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Major writers such as Carlyle, Tennyson, Browning, Arnold, Ruskin and Pater.

**459 The Development of the 19th-Century English Novel (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Major novelists such as the Brontës, Thackeray, Dickens, Eliot and Hardy.

**460 19th-Century American Literature (3)**

Prerequisite: junior, senior or graduate standing. Poetry, drama and prose in 19th-century America. Major writers such as Emerson, Stowe, Dickinson and Thoreau.

**462 Modern British and American Fiction (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Modern British and American fiction from 1900-1960s.

**463 Contemporary Fiction in English (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Fiction (novels and short stories) since the 1960s.

**464 Modern British and American Drama (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. British and American drama from 1900 to 1950.

**465 Contemporary Drama in English (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. Drama in English from the 1960s to the present.

**466 Modern British and American Poetry (3)**

Prerequisite: survey of English, American or world literature; an upper-division literature course; or equivalent. British and American poetry from 1900 to the 1960s.

**467 Contemporary Poetry in English (3)**

Prerequisites: survey of English, American or world literature; an upper-division literature course; or equivalent. Poetry in English from the 1960s to the present.

**491 Traditions of English Literary Criticism (3)**

Prerequisite: ENGL 300 or equivalent. Major English critics, from the Renaissance to the beginning of the 20th century, in relationship to the classical theories of criticism.

**492 Modern Critical Theory (3)**

Prerequisite: ENGL 300 or equivalent. Major movements in 20th-century British and American criticism.

**498 English Internship (1-3)**

Prerequisites: junior standing or consent of faculty supervisor. Practical application of literature and language studies outside the university. Specified hours, limited enrollment, credit/no credit; no credit toward major. May be repeated for a maximum of six units of credit.

**499 Independent Study (1-3)**

Prerequisite: junior or senior standing. Open to advanced students in English with consent of department chair. May be repeated for credit.

**500 Introduction to Graduate Studies in English (3)**

Research techniques, analytical approaches and theories of literature. Basic orientation in graduate literary studies.

**509T Creative Writing Workshop (3)**

Intensive graduate-level workshop in creative writing. Students produce their own work, write critiques of others' works and discuss opportunities for publication. Recommended for students with an interest in creative writing. Workshops may focus on writing poetry or fiction, or a mix of fiction and drama, depending on expertise of instructor. May be repeated for credit with different topic.

**510 Rhetorical Criticism and Discourse Analysis (3)**

Theories of disclosure and rhetorical analysis, ranging from an overview of historically foundational/classical readings and approaches to contemporary rhetorical theories and their applications to textual criticism.

**515 Professional Editing and Journal Production (3)**

First-hand experience editing and producing the English department's literary journal, DASH. Students solicit, review and edit creative writing submissions; design and create one journal issue.

**525T Proseminar in Literature, Rhetoric, or Writing (3)**

Comprehensive reading course focusing on a key area in literature, rhetoric or writing. Major primary works. Students are strongly advised to take proseminars before enrolling in seminars. May be repeated with different content for additional credit. (Same as CPLT 525T)

**571T Graduate Seminar: Major Writers (3)**

As appropriate to the specialized research and publication of instructor; major figures such as Shakespeare, Dante, Cervantes, Goethe, Brontë, Twain, Joyce, Woolf and Morrison. May be repeated with different content for additional credit. (Same as CPLT 571T)

**572T Graduate Seminar: Literary Genres (3)**

As appropriate to the specialized research and publication of instructor, major literary types such as the epic, novel, short story, lyric poetry, tragedy, comedy and historical drama. May be repeated with different content for additional credit. (Same as CPLT 572T)

**573T Graduate Seminar: Cultural Periods (3)**

As appropriate to the specialized research and publication of instructor, the literature of a cultural period from Anglo-Saxon to modern times. May be repeated with different content for additional credit. (Same as CPLT 573T)

**574T Graduate Seminar: Special Problems in Literature (3)**

As appropriate to the specialized research and publication of the instructor, special problems such as influences on literature, including philosophical, religious, scientific, geographic and other ecological viewpoints. May be repeated with different content for additional credit. (Same as CPLT 574T)

**575T Graduate Seminar: Topics in Teaching (3)**

Specific topics will vary from semester to semester. May be repeated with different content for additional credit. (Same as CPLT 575T)

**579T Graduate Seminar: Problems in Criticism (3)**

Historical development and schools of criticism. Individual offerings within this course number may deal with a single critical problem. May be repeated with different content for additional credit. (Same as CPLT 579T)

**590 Writing Theory and Practice for Teaching Associates (3)**

Prerequisites: ENGL 402 and admission to the English Department Teaching Associate Program. Theory and practice of the composing process for the beginning college teacher of expository writing. Required of all English Department Teaching Associates during their first semester of teaching.

**590S Teaching Associate Supervision (1)**

Prerequisite: ENGL 590. Supervised teaching of developmental writing and freshman composition. No credit toward the M.A. in English.

**591T Seminar: Topics in Rhetoric and Composition (3)**

As appropriate to the specialized research of instructor, special topics on rhetoric and composition, including historical and theoretical approaches. May be repeated with different content for additional credit.

**595 M.A. Project Writing (3)**

Process of writing an M.A. project in literature, rhetoric and composition, or creative writing. To enroll in the course, students must receive prior departmental approval of their M.A. project proposal.

**599 Independent Graduate Research (3)**

Research projects in areas of specialization beyond regularly offered coursework. Oral and written reports. May be repeated with different content for additional credit.

**ENGLISH EDUCATION COURSES**

Courses are designated as ENED in catalog.

**442 Teaching English in the Secondary School (3)**

Prerequisite: admission to teacher education. Principles, methods and materials for teaching English in the secondary school.

**449E First Semester Student Teaching (3)**

Student teaching in the secondary school during the first semester of the teacher preparation program. Candidate plans and teaches assigned lessons during the last third of the semester.

**449I Second Semester Student Teaching (10)**

Student teaching in the secondary school during the second semester of the teacher preparation program. Candidate has the same instructional hours of responsibility as the master teacher.

**449S Seminar in Secondary Teaching (3)**

Corequisite: EDSC 449I. Teaching a single subject in secondary schools. Videotape analysis of teaching based on Teaching Performance Assessments. Taken Credit/No Credit. A "B" (3.0) or better is required to receive a grade of credit.



# Environmental Engineering

College of Engineering and Computer Science

## INTRODUCTION

The Master of Science in Environmental Engineering is an online degree program that educates and prepares the future leaders in environmentally related fields. Its structure is based on a cohort model in which students move through the two-year curriculum as a group. The course schedule is based on four 16-week semesters and one summer session. The online format creates an environment where much learning occurs through completion of individual and team projects and analysis of case studies.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

In addition to the learning goals and student learning outcomes described in the Civil and Environmental Engineering department, this program provides students with practical information and technical knowledge on contemporary environmental topics and issues, including: potable water treatment; wastewater treatment and disposal; water reclamation and reuse; stormwater runoff management and treatment; solid and hazardous waste management; contaminated groundwater and soil remediation; landfill design; air pollution control engineering; global warming issues; and sustainable development.

## MASTER OF SCIENCE IN ENVIRONMENTAL ENGINEERING (30 UNITS)

The overall objective of this program is to provide students with practical information and technical knowledge on contemporary environmental topics and issues. Students will train for consulting companies, industries or as officials for local governments, as well as for state or federal regulatory agencies. At the end of the program, students will be prepared to sit for the professional engineering exam in environmental engineering.

### Admission Requirements

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, students with non-engineering baccalaureate degrees will be considered if they have completed: (1) mathematics through differential equations; (2) two semesters of college chemistry; (3) two semesters of college physics; (4) fluid mechanics; and (5) one undergraduate-level environmental engineering course (these deficiency courses may be taken concurrently while conditionally admitted into the program).

### PROGRAM COORDINATOR

Jeff Kuo

### PROGRAM OFFICE/WEBSITE

Engineering 100G  
657-278-3012  
[fullerton.edu/ecs/env](http://fullerton.edu/ecs/env)

### PROGRAM OFFERED

Master of Science in Environmental  
Engineering (online only)

### FACULTY

Harmonie Hawley, Jeff Kuo, Phoolendra Mishara, Prasada Rao, Garrett Struckhoff, Binod Tiwari

### **Program Completion Requirements**

Continuation and completion of the program requires:

- Registration, attendance and successful completion of the virtual initial orientation and midpoint symposium
- The program is based on a cohort model. If circumstances force a student to fall out of the original cohort schedule, the student will be permitted to continue in the program, but will default to the next cohort cycle, provided the student remains in good standing
- Accessibility issues – Special accommodations for disabled students will be made on an individual basis, as needed in compliance with the CSUF Catalog (online catalog at Disabled Services Handbook). Please contact the instructor and the program coordinator if this applies to you
- Continuous enrollment in the program is required. There is a five-year completion time limit for the degree. For more information on the campus' continuous enrollment and leaves of absence, consult Academic Programs at Graduate Academic Policies

### **Study Plan**

The study plan consists of 30 semester units of coursework that must be completed with a minimum overall grade-point average of 3.0.

### **Core Environmental Engineering Classes**

EGCE 570 Fate and Transport of Chemicals in the Environment (3)

EGCE 571 Hydraulics and Hydrology for Environmental Engineers (3)

EGCE 572 Water Supply, Treatment, and System Design (3)

EGCE 573 Environmental Engineering Practices and Project Management (3)

### **Environmental Engineering Applications Classes**

EGCE 481 Remediation of Contaminated Soil and Groundwater (3)

EGCE 482 Wastewater Treatment and Water Reclamation (3)

EGCE 515 Solid Waste Management, System Design, and Sustainability (3)

EGCE 546 Surface Water Pollution and Control (3)

EGCE 583 Air Pollution Control Engineering (3)

### **Capstone Research Project**

EGCE 597 Graduate Project (3)





# Environmental Studies

College of Humanities and Social Sciences

## INTRODUCTION

The master's program in Environmental Studies is a broadly based interdisciplinary program that focuses on human interaction with the environment. The program is geared for students entering or seeking to advance in the rapidly expanding environmental field. Because the scale and scope of environmental issues varies from local and practical to international and theoretical, the program seeks to integrate knowledge and approaches from a range of related disciplines in the sciences, engineering, social sciences and humanities. Topics include sustainability, environmental policy, management, health, pollution, law, philosophy, economics, planning, regulation and education. Given the range of their academic backgrounds, students are encouraged to craft a study plan that meets their own particular career or vocational goals. Students demonstrate their expertise in one of the environmental concentrations by preparing a thesis or project. Students select one of two tracks:

The Environment and Society track addresses the concepts and methods of the social, behavioral and health sciences as applied to environmental policy and planning. Topical concerns include urban and regional planning, environmental health, environmental impact, regulation, law, ethics, economics and environmental education. Students in this track come from many backgrounds, including the natural, health or social and behavioral sciences, or the humanities.

The Environmental Sciences and Technology track deals with applying scientific and engineering principles to environmental issues. Topical concerns include environmental ecology, water and air resources, water management, toxicology and environmental geology. Students in this track typically have a strong background in biology, chemistry, earth science, engineering, geography, geology or mathematics.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and outcomes have been established for students pursuing a Master of Science degree in Environmental Studies:

### Communication and Leadership Skills

- Write with clarity of thought, expression, style and usage
- Design and present oral presentations that summarize and interpret information in an effective manner
- Demonstrate effective team leadership in a diverse environment

### Interpret, Analyze, and Synthesize

- Analyze sustainability through social, economic, and ecological lenses
- Evaluate challenges and develop effective solutions to complex problems

## PROGRAM COORDINATOR

John Bock

## PROGRAM OFFICE/WEBSITE

Humanities 420A

657-278-4373

[hss.fullerton.edu/envstud](http://hss.fullerton.edu/envstud)

## PROGRAM OFFERED

Master of Science in Environmental  
Studies

## PROGRAM COUNCIL AND THESIS/ PROJECT ADVISERS

Gordon Bakken (History), John Bock (Anthropology), David Bowman (Geological Sciences), April Bullock (Liberal Studies), Matt Calarco (Philosophy), Peter Fashing (Anthropology), John Foster (Geological Sciences), Jane Hall (Economics), A. Scott Hewitt (Chemistry and Biochemistry), William Hoese (Biological Science), Mike Horn (Biological Science), Danny Kim (Health Sciences), Jeff Kuo (Civil Engineering), William Laton (Geological Sciences), Elaine Lewinnek (American Studies), Nga Nguyen (Anthropology), Morteza Rahmatian (Economics), Harold Rogers (Chemistry and Biochemistry), Darren Sandquist (Biological Science), Jochen Schenk (Biological Science), Denise Stanley (Economics), Paul Stapp (Biological Science), Jonathan S. Taylor (Geography), Justin Tucker (Political Science), Robert Voeks (Geography), Jindong Wu (Geography)

### Information and Research Skills and Knowledge

- Apply quantitative and qualitative methods as appropriate to environmental research
- Utilize information resources and technology to organize and evaluate environmental research

### Ethics

- Evaluate situations in terms of ethical standards and practices
- Exemplify professional conduct characterized by ethical standards

## MASTER OF SCIENCE IN ENVIRONMENTAL STUDIES (36 UNITS)

### Application Deadlines

The program only admits students in the fall semester of each year. The deadline for completing online applications is March 1 of the year in which a student seeks to begin the program (csumentor.edu). Mailed applications must be postmarked by the same deadline. However, deadlines may change based upon enrollment projections. Check the university graduate studies website for current information: fullerton.edu/graduate.

### Admission to Graduate Standing – Conditionally Classified

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, the program requires a grade-point average of 3.0 in the last 60 units of coursework attempted and two letters of recommendation, at least one of which must come from a college or university.

Because the program accepts students as a cohort, the size of the cohort will limit the number of applicants accepted. Applicants' interests must match those of the faculty advisers. Students must indicate potential advisers in their letters of intent (review faculty adviser interests at: [hss.fullerton.edu/evnstud/](http://hss.fullerton.edu/evnstud/)) and should contact potential advisers prior to submitting applications. Prerequisites for admission differ, depending on the selected track.

The Environment and Society track: one undergraduate course in ecology; one course in quantitative methods.

Environmental Sciences and Technology track: nine upper-division units in the natural and/or physical sciences, mathematics and/or engineering. Students without these prerequisites may be admitted provisionally, but must take these courses during their first year. In addition, students must be assigned an adviser upon entry. Additional requisites may be established at the discretion of the adviser.

### Graduate Standing – Classified

After completing no more than nine semester units of adviser-approved coursework and developing an approved study plan, the student must apply for classified standing.

## STUDY PLAN

### Core Courses (9 units)

ENST 500 Environmental Issues and Approaches (3)

ENST 510 Environmental Evaluation and Protection (3)

ENST 520 Environmental Research and Analysis (3)

### Electives (9-15 units), choose from:

ENST 595T Selected Topics in Environmental Problems (3)

ENST 596 Internship in Environmental Studies (3)

ENST 599 Independent Graduate Research (1-3)

### Cross-Disciplinary Electives (9-15 units)

Courses outside Environmental Studies are chosen with prior approval of the faculty adviser and graduate program adviser. The graduate program adviser will maintain a list of acceptable electives. No more than 12 units can be taken from the undergraduate major department.

### Planning Requirement

A three-unit planning course must be included, either from environmental studies electives or cross-disciplinary electives.

### Thesis or Project (3 units)

All Environmental Studies students are required to register in ENST 597 or 598. Students may only register for this course once. If they do not complete their project or thesis within this semester, they will be assigned a grade of RP for the course until a letter grade can be assigned. Since students are required to maintain continuous enrollment, they must register in GRAD 700, either through University Extended Education (UEE) or CSUF. Students may only enroll in GRAD 700 through UEE for one semester if they are working on a project, and for two semesters if they are working on a thesis.

For further information, consult the graduate program associate coordinator.

## ENVIRONMENTAL STUDIES COURSES

Courses are designated as ENST in the class schedule

### 500 Environmental Issues and Approaches (3)

Prerequisite: graduate standing in Environmental Studies. Interdisciplinary approaches to environmental problems and research methods. Students prepare seminars and papers on research design for potential thesis topics. Meets graduate writing requirement.

### 510 Environmental Evaluation and Protection (3)

Prerequisite: graduate standing in Environmental Studies. Environmental parameters (water, air, solid wastes, noise, radiation, etc.). Techniques in monitoring and measurement; effect on human health; environmental quality standards and controls. Demonstrations and field trips.

**520 Environmental Research and Analysis (3)**

Prerequisite: graduate standing in Environmental Studies.

Research methods used in environmental studies. Research tools used in such areas as environmental field studies, environmental experiments, social environmental impacts, environmental attitudes and behavior, and environmental trend analysis.

**530 Environmental Statistics (3)**

Prerequisites: ENST 500, 510. Corequisite: ENST 520.

Statistics used in the environmental, biological and physical science fields. Emphasizes methodological approaches used to analyze the types of data commonly generated and used in environmental research.

**540 Professional Practice in Environmental Studies (3)**

Prerequisite: graduate standing in Environmental Studies; ENST 500, 510, 520. Current norms and tools in presenting scientific and social scientific information to a variety of audiences. Emphasizes communicating across disciplinary perspectives

**595T Selected Topics in Environmental Problems (3)**

Prerequisite: graduate standing in Environmental Studies.

Various environmental topics, contemporary or historic, that focus on problems (e.g., law, endangered habitats, planning, global environmental issues, etc.) Topic chosen and outline will be circulated prior to registration. One or more sections offered online. May be repeated four times (with different topics) for credit.

**596 Internship in Environmental Studies (3)**

Prerequisite: graduate standing in Environmental Studies. Field experience with a governmental or private agency.

**597 Project (3)**

Prerequisites: classified status in Environmental Studies program and consent of project adviser and program coordinator. Planning, preparing and completing an acceptable, interdisciplinary project. Credit on submission of project and presentation of research findings in a poster session organized by the Environmental Studies Program.

**598 Thesis (3)**

Prerequisites: classified status in Environmental Studies program and consent of instructor and program coordinator. Planning, preparing and completing an acceptable, interdisciplinary thesis. Credit on submission of thesis.

**599 Independent Graduate Research (1-3)**

Prerequisites: graduate standing in Environmental Studies and consent of instructor and program coordinator.



# European Studies

College of Humanities and Social Sciences

## PROGRAM COORDINATOR

Cora A. Granata (History)

## PROGRAM OFFICE/WEBSITE

Humanities 815F

657-278-3568

[hss.fullerton.edu/history/european](http://hss.fullerton.edu/history/european)

## PROGRAMS OFFERED

Bachelor of Arts in European Studies

Minor in European Studies

## PARTICIPATING FACULTY

Renae Bredin (Women's Studies), Gayle Brunelle (History), Jochen Burgtorf (History), Angela Della Volpe (College of HSS), Nancy Fitch (History), Juan Carlos Gallego (Modern Languages and Literatures), Joe Gonzalez (Liberal Studies), Cora A. Granata (History), Ben Hubbard (Comparative Religion), Steven Jobbitt (History) Irene Lange (International Business), Paul Levesque (Comparative Religion), Wayne Engstrom (Geography), Robert McLain (History), Valerie O'Regan (Political Science), Susan Parman (Anthropology), Kenneth Ravissa (Kinesiology), Jared Rubin (Economics), Lynn Sargeant (History), Alexei Shevchenko (Political Science), Bogdan Suceava (Mathematics), Steve Walk (Kinesiology), Larry Ward (Communications), most regular faculty members in the Department of English, Comparative Literature and Linguistics, most regular faculty members in Modern Languages and Literatures who specialize in European languages, and most regular faculty members in the Philosophy Department.

## INTRODUCTION

European Studies offers an interdisciplinary approach to the study of Europe. This gives students the opportunity to explore a dynamic, multicultural world region without being confined to the perspective of one discipline. The program provides broad historical background in the political, economic, social and cultural composition of today's Europe, while setting the study of Europe within a global context. This depth of study allows students to discern and gain insights from multiple disciplines that are most beneficial to their career goals. This is an ideal program for student whose interests and career objectives are in areas such as business, journalism, entertainment, government service, law or education, as well as those who plan to study some aspect of the European experience at the graduate level. It would also be a good choice for students seeking teaching credentials.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and student learning outcomes apply to students pursuing the B.A. in European Studies:

### Knowledge

- Understand holistically the historical development of European politics, economics, society, and culture

### Cultural diversity in Europe

- Recognize and analyze the contributions of cultural diversity to Europe's past and present

### Europe in a Global Context

- Relate European regional developments to the global forces shaping developments in other world regions

### Interdisciplinarity

- Identify the particular approaches of specific academic disciplines that study Europe
- Evaluate the advantages and disadvantages of specific disciplinary approaches to regional studies
- Synthesize from across the humanities and social sciences the multiple disciplinary approaches to the regional study of Europe

### Effective Written and Oral Communication

- Communicate both in writing and orally in a stylistically and grammatically correct manner in order to articulate the information learned in the program



## Critical Thinking

- Think critically and comprehend, analyze, and synthesize information from a variety of primary and secondary sources, including written sources, images, and film

## BACHELOR OF ARTS IN EUROPEAN STUDIES (120 UNITS)

The Bachelor of Arts in European Studies requires 39 units in the major, including a required set of core courses (15 units) and an elective component (24 units). At least 12 but not more than 15 units in the elective component must be drawn from one of the five advisement tracks: (1) European Culture, Religion and Philosophy; (2) European Fine Arts and Literatures; (3) European History, Politics and Society; (4) Communications, Business and Economics in Europe; and (5) Thematic Plan in European Studies.

### Required Core Courses (15 units)

*Geography (3 units)*

GEOG 336 Europe (3)

*History (3 units)*

ANTH 320 Cultures of Europe (3)

ECON 351 European Economic History (3)

HIST 320 Modern European History (1789-present) (3)

POSC 330 Politics in Nation-States (3)

*Introduction to European Studies (3 units)*

EUST 315 A European Tour (3)

*Upper-Division Writing Requirement (3 units)*

European Studies does not offer its own upper-division writing course. Instead, students take an approved writing course in one of the program's constituent departments. For a European Studies major with a declared minor, the writing course in that minor will satisfy this requirement. For double majors, the writing requirement will be satisfied by taking the writing course in the second major.

*European Studies Senior Colloquium (3 units)*

EUST 490 European Studies Senior Colloquium (3)

### Upper-Division Elective Courses (24 units)

Established department prerequisites for courses in the advisement tracks will not be waived for European Studies students. Special topics, variable topics, and new courses, when such courses deal in some significant way with the European experience, may be approved for European Studies credit at the discretion of the Program Coordinator.

Advisement Tracks are designed to help students in their career and educational planning. The tracks represent concentrations within the field of European Studies. While students gain their core knowledge of the category "Europe" by taking the European Studies Core Requirements, the advisement tracks allow students to develop further specialization in one of five central aspects of the European experience.

At least 12 units, but no more than 15, must be drawn from one of the advisement tracks. Students complete the remaining 9-12 units of upper-division electives from the other advisement tracks.

### Optional European Language, Study Abroad or Internship Study Plan (6 units)

Students wishing to pursue this study plan may replace six units of upper-division electives with one of the following:

1. Six units of upper-division European language coursework. With the approval of the Program Coordinator, students wishing to pursue European languages other than those offered at CSUF may satisfy these requirements by enrolling in comparable courses at other CSU or UC campuses or by transferring credits from other accredited language programs.
  - a. Composition and Grammar (3 units)
    - FREN 307 Advanced Composition and Grammar (3)
    - OR FREN 308 Advanced Composition and Grammar (3)
    - GRMN 305 Advanced Conversation and Composition (3)
    - PORT 317 Advanced Conversation and Composition (3)
    - SPAN 301 Advanced Conversation and Composition (3)
  - b. Upper-division specialty course (3 units), selected from the Modern Languages and Literatures courses listed in the student's advisement track;
2. six units of adviser-approved upper-division study abroad coursework; or
3. six units of adviser-approved internship coursework (EUST 495) in Europe or the United States in a European-related professional field.

### ADVISEMENT TRACK ONE – EUROPEAN CULTURE, RELIGION AND PHILOSOPHY (12-15 UNITS)

This track is particularly useful for students whose career objectives are in education, as well as those who plan to study some aspect of the European experience at the graduate level. Students choosing Advisement Track One gain expertise in the changing, contested definitions of European cultural identity. They have the opportunity to examine further the philosophical and religious underpinnings of European culture and to explore how Europeans have defined cultural insiders and outsiders based on ethnicity, race, religion, class and gender.

AFAM 335

ANTH 320 (unless selected to fulfill core requirements)

CPRL 351, 352, 361, 362

FREN 315, 325

GRMN 315, 325

KNES 380, 381

PHIL 300, 301, 303, 311, 323, 324, 345, 348, 355, 380, 381, 382, 383, 410, 420, 430, 440

PORT 320

SPAN 315, 415

WMST 302

### **ADVISEMENT TRACK TWO – EUROPEAN FINE ARTS AND LITERATURE (12-15 UNITS)**

This track is particularly useful for students whose career objectives are in the fine arts, entertainment, as well as those who plan to study some aspect of the European experience at the graduate level. Students choosing Advisement Track Two gain expertise in the production and analysis of high cultural artifacts in art, literature, music, oratory, and theatre. This track also allows students to examine the works of cultural minorities and women in fine arts and literature.

ART 301, 302, 311, 312, 320, 401, 431

CPLT 315, 373, 374, 450, 451

ENGL 315, 316, 317, 374, 416, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 462, 463, 464, 465, 466, 467, 491, 492

HCOM 430, 432

Modern Languages and Literatures – Any adviser-approved upper-division course

MUS 305, 351A, 351B, 351C, 456, 457A, 457B

THTR 388, 475A, 475B, 475C, 475E

### **ADVISEMENT TRACK THREE – EUROPEAN HISTORY, POLITICS AND SOCIETY (12-15 UNITS)**

This track is particularly useful for students whose career objectives are in government service, law, as well as those who plan to study some aspect of the European experience at the graduate level. Students choosing Advisement Track Three gain further expertise in the historical evolution of European political institutions and social relations. This track also allows students to examine European ethnic, gender, and class relations from historical, political and sociological perspectives.

CRJU 450

FREN 315, 325

GRMN 315, 325

HIST 311, 320 (unless selected to fulfill core requirements), 331, 395, 411A, 412A, 412B, 412C, 415A, 417A, 417B, 420, 423A, 423C, 424T, 425A, 425B, 428A, 429A, 429B, 430A, 430B, 432, 433A, 433B, 434A, 434B, 435A, 435B, 436A, 437B, 437C

POSC 330 (unless selected to fulfill core requirements), 340, 350, 438, 457, 461, 476

PORT 320

PSYC 408

SOCI 410

SPAN 315, 415

### **ADVISEMENT TRACK FOUR – COMMUNICATIONS, BUSINESS AND ECONOMICS IN EUROPE (12-15 UNITS)**

This track is particularly useful for students whose career objectives are in business, journalism, as well as those who plan to study some aspect of the European experience at the graduate level. Students choosing Advisement Track Four develop further expertise in the changing impact of European economic integration on global trade, communications and finance.

COMM 426

ECON 330, 331, 335, 351 (unless selected to fulfill core requirements), 411, 431, 450

FIN 370

FREN 310, 311, 407

GRMN 310, 311, 482

HCOM 432

MGMT 346, 350, 480

MKTG 445, 475, 489

PORT 310

RTVF 370

SPAN 310, 311, 407

### **ADVISEMENT TRACK FIVE – THEMATIC PLAN IN EUROPEAN STUDIES (12-15 UNITS)**

This track is useful for students with specialized individual career goals or those with career plans in education. Students must develop their thematic plan in conjunction with the Program Coordinator to insure that their course of study meets European Studies learning goals.

*Option 1* – Individualized plan of study to be developed in conjunction with European Studies Program Coordinator.

*Option 2* – Open to Liberal Studies students only. Individualized plan of study to be developed in conjunction with Liberal Studies adviser and European Studies Program Coordinator.

### **MINOR IN EUROPEAN STUDIES**

The minor consists of 19 upper-division units including a required set of core courses (10 units) and an elective component (9 units).

#### **Required Core Courses (10 units)**

*Geography (3 units)*

GEOG 336 Europe (3)

*History (3 units)*

ANTH 320 Cultures of Europe (3)

ECON 351 European Economic History (3)

HIST 320 Modern European History (1789-present) (3)

POSC 330 Politics in Nation-States (3)

### *Introduction to European Studies (3 units)*

EUST 315 A European Tour (3)

### *European Studies Senior Colloquium (1 unit)*

EUST 490 European Studies Senior Colloquium (1)

### **Upper-Division Elective Courses (9 units)**

Students may choose to take any of the courses listed as electives for the major.

### **Optional European Language, Study Abroad or Internship Study Plan (3 units)**

Students wishing to pursue this study plan may replace three units of upper-division electives with one of the following:

1. Three units of upper-division European language coursework.  
With the approval of the Program Coordinator, students wishing to pursue European languages other than those offered at CSUF may satisfy these requirements by enrolling in comparable courses at other CSU or UC campuses or by transferring credits from other accredited language programs.
  - a. Composition and Grammar (3 units)  
FREN 307 Advanced Composition and Grammar (3)  
OR FREN 308 Advanced Composition and Grammar (3)  
GRMN 305 Advanced Conversation and Composition (3)  
PORT 317 Advanced Conversation and Composition (3)  
SPAN 301 Advanced Conversation and Composition (3);
2. three units of adviser-approved upper-division study abroad coursework; or
3. three units of adviser-approved internship coursework (EUST 495) in Europe or the United States in a European-related professional field.

### **EUROPEAN STUDIES COURSES**

Courses are designated as EUST in the class schedule.

#### **315 A European Tour (3)**

Prerequisite: Completion of General Education Category D.1. Interdisciplinary introduction to the development of European civilization in the pre-modern period through an examination of select sites. Investigates geographical and environmental context, the peopling of Europe and the evolution of cultural, political, economic, and religious ideas and institutions. (Same as LBST/HIST 315)

#### **399 Directed Study (1-3)**

Prerequisite: adviser approval. Supervised individual or small group study. May be repeated for credit with different topics in European Studies for a maximum of six units. No more than three units may be taken in any one semester.

#### **490 European Studies Senior Colloquium (1-3)**

Course open only to European Studies majors and minors with senior standing who have completed 6 units of European Studies Required Core Courses. Senior capstone seminar requires majors and minors to assemble a portfolio of prior work in European Studies and majors to complete an additional original research paper/project that deals in some way with a problem or challenge facing Europe today.

#### **499 Independent Study (1-3)**

Prerequisite: adviser approval. Supervised individual study. May be repeated for credit with different topics in European Studies for a maximum of six units. No more than three units may be taken in any one semester.

#### **495 European Studies Internship (3)**

Supervised work experience in a European-related professional field in Europe or the United States. Require 120 hours and a course project.



# Finance

Mihaylo College of Business and Economics

## DEPARTMENT CHAIR

Mark Hoven Stohs

## DEPARTMENT OFFICE/WEBSITE

Steven G. Mihaylo Hall 5113  
657-278-2217  
[business.fullerton.edu/finance](http://business.fullerton.edu/finance)

## PROGRAMS OFFERED

Bachelor of Arts in Business  
Administration  
Concentrations:  
Finance  
Risk Management and Insurance  
Joint Emphasis in Accounting and Finance  
Master of Business Administration  
Concentrations:  
Finance  
Risk Management and Insurance

## FACULTY

Vipin Agrawal, Mehmet Akbulut,  
Ajay Bhootra, Carolyn Chang, Marcia  
Clark, Donald Crane, Amadeu DaSilva,  
Dipasri Ghosh, Joseph Greco, Yi Jiang,  
Jeffrey Jolley, Michael LaCour-Little,  
Yuming Li, Zhenguo Lin, Yue Liu,  
Weili Lu, Michael Milligan, Thanh  
Nguyen, Mark Hoven Stohs, Yingdi  
Wang, Xiaoying Xie, Jing Yang

## INTRODUCTION

In choosing their coursework, students may choose one of the five advisory tracks within the finance concentration. The corporate/international financial management track is designed to provide entry-level skills for students interested in the financial management of a non-financial firm. The international component of this track is designed for students who are interested in international corporate financial management. The financial institutions track may lead to employment in banks or savings and loan associations. The investment/financial planning track is designed for students interested in positions with brokerage firms or financial planning firms. The insurance and financial services track is designed for students interested in positions with insurance firms. The real estate professions track is designed for students interested in careers in commercial brokerage, property management, property development and real estate finance. Students may combine courses from different advisory tracks to meet a specialized educational objective.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in business administration:

### Problem solving and critical thinking skills

- Effectively use quantitative/analytical, problem-solving and critical thinking skills in a business situation

### Interpersonal relations

- Motivate self and others to achieve group and organizational goals
- Diagnose and resolve conflict in group and organizational settings

### Ethical awareness

- Demonstrate an awareness of ethical issues and responsibilities

### Functional knowledge

- Understand and appreciate the principles and roles of each of the major business disciplines and the interrelationships of these disciplines within a strategic framework

### Multicultural awareness

- Appreciate diversity and understand how workforce and market diversity challenge, benefit and influence the activities of the organization

### Information technology skills

- Use information technology to support business analysis and operations



### **Global awareness**

- Understand the impact of the global economy and business environment

### **Economic and legal environment knowledge**

- Demonstrate knowledge about the economic and legal environments in which business operates

### **Communications skills**

- Demonstrate knowledge and skills to communicate effectively about business issues using written and oral communications

## **BACHELOR OF ARTS IN BUSINESS ADMINISTRATION**

See “Business Administration, Finance Concentration; Joint Emphasis in Accounting and Finance; Risk Management and Insurance Concentration”

## **MASTER OF BUSINESS ADMINISTRATION**

See “Business Administration, MBA; Finance Concentration; Risk Management and Insurance Concentration”

## **FINANCE COURSES**

Courses are designated as FIN in the class schedule.

### **310 Personal Financial Management (3)**

Financial problems of the household in allocating resources and planning expenditures. Housing, insurance, installment buying, medical care, savings and investments. Special financial planning problems faced by minorities and women. May not be used to fulfill the concentration requirement in finance.

### **320 Financial Management I (3)**

Prerequisite: ACCT 201A. Corequisites: ISDS 361A, BUAD 301. Financial statement analysis. Interest rates and valuing cash flows (TVM; valuing stocks and bonds) Investment decision rules and capital budgeting. Risk and return (CAPM) and cost of capital.

### **321 Financial Management II (3)**

Prerequisite: FIN 320. Risk and return analysis. Valuing cash flows, risk/return and capital budgeting. Long-term financing, capital structure and payout policy, financial planning and forecasting, focusing on firm valuation.

### **331 Working Capital Management and Computer Applications (3)**

Corequisite: FIN 321. Analysis of working capital management and policy, liquidity measurement, sources of financing for periods of cash deficits; management of accounts receivable and inventories; financial forecasting; and short-term financing.

### **335 Financial Analysis for Investors and Lenders (3)**

Corequisite: FIN 321. Interpretation of financial statements from the perspective of the financial analyst and creditor. Economic meaning of financial statement data for the purpose of evaluating a company's financial performance.

### **340 Introduction to Investments (3)**

Corequisite: FIN 321. Institutional characteristics of securities markets, security valuation and trading methods, fundamental and technical analysis, selection and management of securities, role of the capital asset pricing model in investing, options and futures markets, portfolio analysis and mutual funds.

### **342 Capital and Money Markets (3)**

Corequisite: FIN 321. Capital and money markets in the American and international economies; markets for new corporate and government issues; secondary markets; use of derivative securities for hedging; factors influencing yields and security prices.

### **351 Introduction to Real Estate (3)**

Prerequisite: FIN 320. Real estate principles, practices and investment decisions. Equity investment, finance, legal aspects, practices, principles, property development, real estate administration in the public sector, real estate market analysis, and valuation.

### **352 Real Estate Finance (3)**

Prerequisite: FIN 351. Financial institutions and real estate credit. Sources and uses of capital (funds) in financing real estate transactions. Money and capital markets and their effect on credit availability. Mortgage mechanics and the workings of primary and secondary markets.

### **353 Real Estate Valuation (3)**

Prerequisite: FIN 351. Comprehensive coverage of the basic concepts and principles of real estate valuation. Use of the three approaches to valuation for the appraisal of residential and income-producing properties. Role of valuation in real estate investment. Government regulation of appraisers.

### **355 Real Estate Investment Analysis (3)**

Prerequisite: FIN 351 or consent of instructor. Alternative analytical techniques in evaluating real estate investments. Tax aspects, measurement of investment returns, application of computer models to investment decisions. Lecture, discussion and case analysis of major investment types – raw land, apartment houses, commercial and industrial uses.

### **360 Principles of Insurance (3)**

Prerequisite: FIN 320. Analysis of the risk management process, introduction to property and liability insurance, employee benefits and financial planning. Overview of the insurance industry and insurance problems.

### **370 International Business Finance (3)**

Prerequisite: FIN 320. Financing problems of the multinational business. International financial environment, taxation of foreign income, the cost of capital in international capital and money markets, problems of risk in foreign investments and financial techniques for the operation of the multinational firm. One or more sections offered online.

**371 Export-Import Financing (3)**

Prerequisite: FIN 320. Institutional arrangements, methods and techniques used to finance international trade. Government and financial institution services. Risk-return aspects of international sales, insurance needs, the use of letters of credit, international factoring, accounts receivable insurance and other financing techniques. Review of required export-import documentation.

**373 Asia-Pacific Financial and Security Markets (3)**

Prerequisite: FIN 320. Overview of financial markets in Japan, Korea, Taiwan, China, Hong Kong, Singapore and Southeast Asia. Historical perspectives, regulations, more recent liberalization and internationalization and institutional technical aspects of the stock, bond and other financial markets.

**410 Theory and Practice of Personal Financial Planning (3)**

Corequisite: FIN 321. Developing, implementing and monitoring comprehensive personal financial plans. Risk management, investments, taxation, retirement and estate planning, professional practices.

**411 Retirement and Estate Planning (3)**

Corequisite: FIN 321. Development of retirement objectives, needs and financial condition. Forecasting retirement income from employer based retirement plans, IRAs, insurance policies, social security, and investment programs. Medicare, medical, group life and health benefits after retirement. Property titling, wills and transfers in contemplation of death.

**425 Commercial Bank and Financial Institution Management (3)**

Corequisite: FIN 321. Solution of financial institution problems. Major financial intermediaries and the decision-making problems they face. Regulation and its effect on management operations. Group problems and case studies.

**432 Financial Forecasting and Budgeting (3)**

Corequisite: FIN 321. Forecasting in financial management; profit planning and control process; goals, technical procedures, and effects of budgeting; mechanics of forecasting and budgeting, follow-up and control.

**433 Problems in Business Finance (3)**

Prerequisite: FIN 321. Case studies. Group problems and case studies relating to estimation of funds requirements, long-term financial planning, evaluation of cash flows, financing acquisitions and mergers, capital budgeting and cost of capital. Team-building, leadership and computer-assisted presentation skills. Not applicable for graduate degree credit.

**435 Capital Markets and Fixed Income Analysis (3)**

Prerequisite: FIN 320 or 517. Corequisite: FIN 340 or 541. Fixed income markets, including the price dynamics and risk profiles of various fixed-income securities, derivatives, yields, duration, credit analysis of bonds, portfolio management strategies, calculating performance and identifying factors driving fixed income returns.

**440 Business Valuation, Mergers and Acquisitions (3)**

Prerequisites: FIN 321 and classified CBE status; FIN 517 for graduate students. Valuation, especially for mergers and acquisitions. Valuation methods and their application in mergers and acquisitions. May not receive credit for both FIN 440 and FIN 540.

**442 Advanced Investment Analysis (3)**

Prerequisites: FIN 340 and InfoSys/DecSci 361A. Securities markets and company analysis, security valuation models, the CAPM and the APT, option pricing and portfolio models. Practical application of investment theory and recent literature. Students may not receive credit for both FIN 442 and 541.

**444 Options and Futures (3)**

Prerequisite: FIN 340. Put and call options, option pricing theory and models. Financial futures pricing, hedging strategies and models. Institutional characteristics of futures trading. Options and futures on stock indices. Options on futures, theoretical relationship between options and futures.

**454 Real Estate Market Analysis (3)**

Prerequisite: FIN 351. Factors and influences of urban growth and development. Economic factors and real estate supply and demand. Location theory and urban growth patterns. Public policy as a factor in real estate development. Analysis of real estate markets.

**461 Business Property and Liability Risk Management (3)**

Prerequisite: FIN 360. Duties and functions of a corporate risk manager, the major commercial property liability lines, including business income, general liability, commercial auto workers compensation, business owner insurance and operation of property liability insurers.

**462 Life and Health Insurance (3)**

Prerequisite: FIN 360. Analysis of various types of life annuity and health insurance contracts, major employee benefit plans adopted by corporations and the organization and management of life and health insurance companies.

**463 Professional Ethics, Corporate Compliance and Regulation (3)**

Prerequisites: FIN 320 and Management 246. How organizations can best assess and manage their exposure to legal, regulatory and ethical issues through corporate compliance programs.

**464 Insurance Marketing and Distribution (3)**

Prerequisites: FIN 320 and Marketing 351. Overview of practices and procedures involved in insurance marketing and distribution; Analyzes insurance marketing environment, marketing strategies and product promotion; introduction to insurance distribution channels and sales force management.

**495 Internship (3)**

Prerequisites: 2.5 GPA and completion of one 400-level finance course. A supervised experience where financial principles or methods are applied in a fieldwork setting. Mandatory class meetings to discuss experiences and integrate financial practice. Sections for other concentrations within the department will include application of relevant principles. May be repeated for credit up to a total of six units.

**499 Independent Study (1-3)**

Prerequisites: FIN 321, 340 and consent of the department chair. Open to undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

**517 Managerial Finance (3)**

Prerequisite: Accounting 510 and classified MCBE status. Modern theory and practice of financial management. Net present value and the time value of money. Basic principles of risk and return, from an asset pricing perspective, as applied to the valuation of debt and equity. Capital budgeting and forecasting. Capital structure and dividend theory. Firm valuation from a value-based management and corporate governance perspective.

**523 Seminar in Corporate Financial Management (3)**

Prerequisites: FIN 517 or equivalent and classified MCBE status. Analysis of financial decision-making process through case studies and seminar presentations. Current financial theory and models. International applications.

**528 Financial Economics (3)**

Prerequisite: FIN 517. Valuation of corporate liabilities and other securities. Economic decision-making under uncertainty and asset pricing theories are analyzed rigorously. Other topics may include optimal capital structure, the market for corporate control, or macroeconomic aspects of finance. (Same as ECON 528)

**533 Seminar in Financial Administration (3)**

Prerequisites: FIN 517 and classified MCBE status. Optimal financing and asset administration; advanced techniques of capital budgeting; application of analytical methods to the administration of the finance function of the business firm.

**540 Seminar in Business Valuation, Mergers and Acquisitions (3)**

Prerequisite: FIN 517. Issues and techniques related to business valuation and mergers and acquisitions. May not receive credit for both FIN 440 and FIN 540.

**541 Seminar in Investment Management (3)**

Prerequisites: FIN 517 or equivalent and classified MCBE status. Problems of investment and portfolio management; concepts of risk evaluation and investment criteria; analysis of interest rate movements; investment valuation and timing; regulation and administrative problems of the industry. Students may not receive credit for both FIN 442 and 541.

**543 Entrepreneurial Finance (3)**

Prerequisites: FIN 517, Accounting 510 and Accounting 511. Financing a new/small firm, including forecasting the firm's investment needs, raising short-term funding and banking relationships, managing working capital, making fixed asset investments and managing risk.

**551 Seminar in Real Estate Investment (3)**

Prerequisites: FIN 517 or equivalent and classified MCBE status. Problems of real estate investment; concepts of evaluation and investment criteria; analysis of real property values; real estate development and financing. Case studies.

**560 Corporate Risk Management and Insurance Seminar (3)**

Prerequisite: FIN 517. Considers how risks are managed with diversification, capital structure, loss control, corporate governance, and how they are financed with commercial insurance contracts and other alternatives. Analyzes markets and instruments created to enable corporations to manage downside risks.

**562 Enterprise Risk Management (ERM) (3)**

Prerequisite: FIN 517. ERM framework with the integration of pure, financial, strategic and operational risks. Discusses seven building blocks for developing an ERM program. Legal and regulatory environment, technical tools and future prediction on ERM.

**570 Seminar in International Financial Management (3)**

Prerequisites: FIN 517 or equivalent and classified MCBE status. Financial problems of the multinational firm. International financing instruments, capital investment decisions and constraints on the profitability of multinational businesses.

**597 Project (3)**

Prerequisites: FIN 517 or equivalent and classified MCBE status, consent of instructor and approval by Department Chair. Directed independent inquiry. Not open to students on academic probation.

**599 Independent Graduate Research (1-3)**

Prerequisites: FIN 517 or equivalent and classified MCBE status, consent of instructor and approval by Department Chair and Associate Dean. May be repeated for credit. Not open to students on academic probation.



College of Humanities and Social Sciences

#### DEPARTMENT CHAIR

John Carroll

#### DEPARTMENT OFFICE/WEBSITE

Humanities 420A  
657-278-3161  
[geography.fullerton.edu](http://geography.fullerton.edu)

#### PROGRAMS OFFERED

Bachelor of Arts in Geography  
Minor in Geography  
Master of Arts in Geography

#### FACULTY

John Carroll, Mark Drayse, James  
Miller, Jon Taylor, Robert Voeks,  
Jindong Wu, Lei Xu

#### INTRODUCTION

Geography is the study of the earth as the home of humanity. Geography provides a broad understanding of the processes that unite people, places and environments. Geographers explore the diverse regions of the contemporary world in pursuit of global understanding. They tie together the study of human spatial organizations and cultural landscapes with an in-depth investigation of the earth's landforms, climates and vegetation. Their methods range from fieldwork in foreign areas to advanced information technologies like computerized geographic information systems and remote sensing. Geography graduates find rewarding careers in environmental analysis and planning, business, government agencies and education.

#### LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following learning goals and learning outcomes have been established for students pursuing a degree in Geography:

##### Personal, civic, educational and career

- Students' interests reflect the diversity of the discipline
- Students prepared to thrive in a world of shrinking distances and global economies
- Students have access to courses that prepare them for graduate school and careers in planning, environmental analysis, education and geospatial technologies

##### Intellectual inquiry and effective communication

- Understand the patterns and processes of human and physical geography including the interaction between humanity and the earth's environments
- Appreciate the values of intellectual inquiry involving both synthesis and analysis
- Develop skills of observation and measurement needed for geographic inquiry
- Communicate with maps as well as text and graphics

##### Technology

- Solve problems using advanced Geographic Information Systems and remote sensing technology
- Understand the role of the Internet for accessing geographic information

##### Multi-cultural environments

- Develop a strong global perspective
- Understand the diversity of the earth's peoples and environments

##### Collaborative experiences

- Experience substantial involvement with small group learning
- Interact with faculty outside of classroom



## **BACHELOR OF ARTS IN GEOGRAPHY (120 UNITS)**

The Bachelor of Arts in Geography requires at least 39 units in the major – of which at least 21 must be in upper-division courses – plus General Education, all-university requirements and free electives. Students may satisfy some requirements with equivalent coursework taken at other institutions. Courses toward the major must be passed with a “C” (2.0) or better. Students are encouraged to take additional geography courses beyond the minimum required for the major.

### **Credential Information**

The bachelor’s degree in geography may be effectively combined with subject matter studies necessary for either the multiple subject teaching credential (K-8) or single subject credential (7-12) in social studies. Undergraduates are encouraged to work with the Center for Careers in Teaching (657-278-7130) as early as possible in their academic careers to plan efficient course selections for general education, the major and electives. With careful planning, it may be possible to enter the credential program in the senior year of the bachelor’s degree. Postgraduate students should contact the Admission to Teacher Education office in the College of Education (657-278-3352) to obtain information on attending an overview presentation.

### **Core Courses (15 units)**

GEOG 100 Global Geography (3)  
GEOG 110 Introduction to the Natural Environment (3)  
GEOG 160 Human Geography (3)  
GEOG 281 Map Making with GIS (3)  
Three additional units from courses numbered 280 to 289

### **Upper-Division Courses**

#### *Environmental Geography (3 units)*

GEOG 329 Cities and Nature (3)  
GEOG 350 Nature and Society (3)

#### *Human Geography (3 units)*

GEOG 357 Spatial Behavior (3)  
GEOG 360 Geography of the World’s Economies (3)  
GEOG 370 Cities and Suburbs (3)  
GEOG 375 Population Geography (3)

#### *Physical Geography (3 units)*

GEOG 323 Weather and Climate (3)  
GEOG 325 Natural Vegetation (3)

#### *Regional Geography (3 units)*

Select from courses numbered 330 to 349

#### *Advanced Geography (6 units)*

Select from courses numbered 400 to 489

#### *Geography Elective (3 units)*

Select lower- or upper-division courses not used to satisfy any other requirement

### **Upper-Division Writing Requirement (3 units)**

GEOG 300A Geographical Thought (3)

### **Capstone Requirement**

Prior to graduation, each student must demonstrate a critical understanding of the major processes that shape the earth’s landscapes, regions and places, and that influence human interaction with the earth’s cultural and physical environments. This requirement will be met through satisfactory completion of one of the following capstone courses:

GEOG 422, 425, 426, 450, 452, 475, 478, 488

Units earned from the capstone course can be used to satisfy the Advanced Geography or Geography Elective requirements of the Geography Major.

## **EMPHASIS IN ENVIRONMENTAL ANALYSIS (39 UNITS)**

Geography graduates often find employment in such areas as environmental planning and related technical fields. For this reason, an optional upper-division emphasis in environmental analysis is available within the major.

### **Core Courses (15 units)**

GEOG 100 Global Geography (3)  
GEOG 110 Introduction to the Natural Environment (3)  
GEOG 160 Human Geography (3)  
GEOG 281 Map Making with GIS (3)  
Three additional units from courses numbered 280 to 289

### **Upper-Division Courses**

#### *Environmental Geography (3 units)*

GEOG 350 Nature and Society (3)

#### *Human Geography (3 units)*

GEOG 357 Spatial Behavior (3)  
GEOG 360 Geography of the World’s Economies (3)  
GEOG 370 Cities and Suburbs (3)  
GEOG 375 Population Geography (3)

#### *Physical Geography (6 units)*

GEOG 312 Geomorphology (3)  
GEOG 323 Weather and Climate (3)  
GEOG 325 Natural Vegetation (3)

GEOG 329 Cities and Nature

#### *Regional Geography (3 units)*

Three units from geography courses numbered 330 to 347

### *Advanced Geography (6 units)*

GEOG 422 Global Climate Change (3)

GEOG 425 Tropical Rainforests (3)

GEOG 426 The Coastal Environment (3)

GEOG 482 Environmental Impact Assessment (3)

GEOG 488 Land Use Analysis (3)

### **Upper-Division Writing Requirement (3 units)**

GEOG 300A Geographical Thought (3)

### **Capstone Requirement**

Prior to graduation, each student must demonstrate a critical understanding of the major processes that shape the earth's landscapes, regions and place, and that influence human interaction with the earth's cultural and physical environments. This requirement will be met through satisfactory completion of one of the following capstone courses:

GEOG 422, 425, 426, 450, 452, 488

Units earned from the capstone course can be used to satisfy the Advanced Geography requirement of the Emphasis in Environmental Analysis.

### **MINOR IN GEOGRAPHY (21 UNITS)**

The minor in geography serves students seeking a geographic perspective to complement their major. The study plan includes GEOG 100 and three units from the following: 110, 120, 160 or 281; and a minimum of 12 units of upper-division work. All courses counted toward the minor must be passed with a "C" (2.0) or better. Faculty advisers are available to help students structure their minor in geography.

### **MASTER OF ARTS IN GEOGRAPHY (30 UNITS)**

This program provides advanced study in human and physical geography with an emphasis on theory and research. Graduates are prepared in the application of interpretive and analytical concepts and techniques to a broad spectrum of geographic situations. Such study directly serves those whose careers involve urban, regional, and environmental planning and geographic education. Geographic perspectives and methods are highly applicable to a wide range of careers in business, industry and government.

### **Admission and Conditional Classification**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, the department requires a grade-point average of at least 3.0 in the last 60 semester units attempted and a 3.0 grade-point average in all geography courses. Students who have no, or a limited, background in geography will be expected to make up the deficit by taking appropriate coursework in consultation with the departmental graduate adviser.

All students are required to demonstrate competency in each of geography's four main subfields: human, physical, regional and technical. Competency is normally demonstrated by completion of at least 18 units at the upper-division or graduate level with a 3.0 grade-point average.

### **Graduate Standing – Classified**

After completing all prerequisites and removing deficiencies, the student must develop an approved study plan in consultation with a personal faculty adviser and the graduate program adviser in order to be classified.

All students must complete six units of upper-division technical courses. Three units are prerequisite to classified standing. If the remaining three units were not taken as undergraduate work, they may be included in the study plan.

### **Required Courses**

GEOG 500 Seminar in Geographic Research (3)

GEOG 520 Seminar in Physical Geography (3)

GEOG 550 Seminar in Human Geography (3)

GEOG 599 Independent Graduate Research (3)

One additional 500-level geography course (3)

### **Electives (12-15 units)**

Senior-level or graduate coursework in geography (15 units unless approved for thesis; may include additional GEOG 500-level courses; up to six units from related fields).

### **Thesis or Comprehensive Exam (0-3 units)**

GEOG 598 Thesis (3) (department approval required)

Students must follow one of two plans – Plan A, requiring a comprehensive examination; or Plan B, requiring a thesis.

Plan A requires the development of a specific field of interest and a written, three-part comprehensive exam testing knowledge in human geography, physical geography and the student's specified area of interest. The examination may be repeated only once. Plan B requires the development of a specific field of interest, a written thesis and a subsequent oral defense.

All students will follow Plan A unless approval for the thesis option is granted. In order to follow Plan B, the thesis option, students must have the written consent of their thesis supervisor and all members of a thesis committee. Permission to write a thesis may be granted only to students who have: (1) achieved a 3.25 grade-point average after 15 units of upper-division and graduate coursework; and (2) demonstrated proficiency in research and writing skills.

For further details or advisement, communicate with the Department of Geography graduate program adviser.

## GEOGRAPHY COURSES

Courses are designated as GEOG in the class schedule.

### 100 Global Geography (3)

Introduction to world's geographical regions. Cultural patterns and their evolution in diverse physical environments. One or more sections offered online.

### 110 Introduction to the Natural Environment (3)

Prerequisite: completion of General Education (G.E.) Category B1 or B4. Introduction to the major components of the physical environment, including landforms, climate, natural vegetation and soils. One or more sections offered online.

### 120 Global Environmental Problems (3)

Prerequisite: completion of G.E. Category B.1. Geographical analysis of the Earth's principal environmental problems. Subjects include population growth, agriculture and pesticides, climate change, forestry and fishing, energy, endangered species and appropriate development. One or more sections offered online.

### 160 Human Geography (3)

Prerequisite: completion of G.E. Category D.1. An Introduction to Human Geography. Understanding the regional distribution of language, religion, population, migration and settlement patterns, political organization, technology, methods of livelihood over the earth. One or more sections offered online.

### 220 Introduction to Gender and Social Space (3)

(Same as WMST 220)

### 281 Map Making with Geographic Information Systems (3)

Principles and practice of effective map making using computerized geographic information systems technology. (2 hours lecture, 2 hours laboratory)

### 283 Introduction to Spatial Data (3)

Introduction to the variety of evidence used in geographic analysis and the sources and techniques for acquiring geographic evidence.

### 300A Geographical Thought (3)

Prerequisites: GEOG 100, 110, 160. Introduction to geographical thought through readings, discussion and writing assignments. Environmental, regional and spatial tradition in geography, and current themes in geographical research. Meets the upper-division writing requirements for geography majors.

### 300B Geographic Methods (3)

Prerequisite: GEOG 300A. Quantitative and qualitative methods used in geographic research, including statistical techniques such as descriptive statistics, probability, sampling, inferential statistics, correlation and regression, and qualitative methods such as interview and surveys.

### 312 Geomorphology (3)

Prerequisites: GEOG 110, 101. Landforms and the processes responsible for their evolution.

### 323 Weather and Climate (3)

Prerequisite: GEOG 110. Atmospheric elements and controls, fronts, severe weather and climatic classification systems.

### 325 Natural Vegetation (3)

Geography of the globe's natural vegetation associations. Role of plate tectonics, climate, soils, fire and humans as agents of landscape-level vegetation change.

### 328 Global Change and Environmental Systems (3)

Prerequisite: completion of G.E. category B.1 or B.4. Introduction to the Earth's environment in the context of global change. Interdisciplinary discussion of the nature, causes and consequences of the natural and human aspects of global environmental change. One or more sections offered online.

### 329 Cities and Nature (3)

Prerequisites: completion of G.E. Category B.1 or B.4. Overview of the impact of urbanization on landforms, climate, vegetation, and animals. Planning implications and case studies.

### 330 California (3)

Landscapes of California, their environmental characteristics, development patterns and current problems. One or more sections offered online.

### 332 United States and Canada (3)

Prerequisite: completion of G.E. Category D.1. United States and Canada. Interrelated physical and cultural features that give geographic personality to the regions.

### 333 Latin America (3)

Prerequisite: completion of G.E. Category D.1. Mexico, Central America, the Caribbean and South America. Explores the regions' physical and cultural landscapes. Emphasizes nature-society problems. One or more sections offered online.

### 336 Europe (3)

Basic physical and human lineaments of Europe. Elements that distinguish and give character to its major regional divisions.

### 340 Asia (3)

Prerequisite: completion of G.E. Category D.1. Physical, human and regional geography of Asia, from Pakistan and India through Southeast Asia and the Malay Archipelago to China, Japan and Korea. One or more sections offered on line.

### 342 The Middle East (3)

Prerequisite: completion of G.E. Category D.1. Geography of the Middle East from North Africa to Central Asia, with emphasis on the region's physical, cultural, historical, economic, and political geography and contemporary issues facing the region.

**344 Africa (3)**

Physical, human and regional geography of Africa. Saharan borderlands, East Africa and Southern Africa.

**345 China (3)**

Prerequisite: completion of G.E. Category D.1. China's spatial organization, emphasizing spatial patterns of population, migration, regional politics and economies; and China's many types of physical and cultural environments.

**350 Nature and Society (3)**

Prerequisite: completion of G.E. Category D.1. Interface between human systems and natural systems. Factors affecting human interaction with the earth, including environmental ethics, public policy and technology.

**352 The National Parks (3)**

The park system and its evolution as related to conservation, preservation and recreational land use. Cultural heritage and physical environment.

**353 Geography of Illegal Drugs (3)**

Prerequisite: completion of G.E. Category D.1 and junior or senior standing. Global patterns of illegal drug production and use, including agricultural aspects, trafficking, consumption patterns, political economy, laws and politics, drug tourism, environmental aspects and related issues. Focuses on case studies around the world. One or more sections offered online.

**355 Global Cuisine (3)**

International dimensions of food and wine traditions in the cultural landscape. Foods and drinks that are wild, tabooed, medicinal, gendered and erotic. Migrant cuisines from Mexico, Europe, Africa, Asia and the Middle East.

**357 Spatial Behavior (3)**

Geographic approach to perception and behavior in local and global spatial settings.

**360 Geography of the World's Economies (3)**

Geographic perspectives on the global production of goods and services and their distribution to consumers. Key geographic issues in uneven development, international trade, investment patterns, and the spatial integration of local and regional economies.

**370 Cities and Suburbs (3)**

American metropolitan systems and city-region linkages. Theories and spatial models of social and economic patterns within cities and suburbs; planning implications of these locational patterns.

**375 Population Geography (3)**

Prerequisites: GEOG 160 and junior standing. Theories, models, concepts and facts in the field of population geography, growth and distribution, with an emphasis on birth, death and migration processes.

**422 Global Climate Change (3)**

Prerequisite: GEOG 323. Physical factors that produce climatic patterns and regional impacts of climate change.

**424 Desert Landscapes (3)**

Prerequisite: GEOG 110. Desert landscapes, including climate, geomorphology, vegetation, natural history, settlement and unique urban planning challenges. The desert as "place" in geographic literature. Focuses on North American deserts. A field trip is required.

**425 Tropical Rainforests (3)**

Prerequisites: GEOG 110 and 325 or equivalent. Discussion/seminar examining the geography, ecology and human use of tropical rainforests. Causes and consequences of deforestation, sustainable development and preservation.

**426 The Coastal Environment (3)**

Prerequisites: GEOG 110; one upper-division physical geography course. An overview of coastal geomorphology, climatology, and plant geography with an emphasis on Southern California. Human interaction, modification, and management of those systems.

**450 Human Response to Environmental Hazards (3)**

Prerequisites: GEOG 110 and at least one 300-level geography course; GEOG 350 preferred. Issues involved as humans endeavor to minimize the impact of hazards in the environment. Importance of cognition, perception, communication, mitigation and preparedness as societies cope with hazards posed by the natural world and human action.

**452 Ecotourism (3)**

Evolution and distribution of nature-based tourism. Role of ecotourism in regional development and environmental conservation. Sociocultural impacts in less developed countries.

**475 Interpretation of Urban Landscapes (3)**

Prerequisites: GEOG 357 or 370 and consent of instructor. Geographic view of the city as a landscape composite of structure, space, place and experience. Emphasizes the European and North American city.

**478 Urban Planning Principles (3)**

Prerequisite: GEOG 370 or POSC 320. Seminar/discussion on conceptual themes and legal foundations of American urban planning. Policy areas associated with urbanization and suburbanization processes: land use, economic development, redevelopment, housing systems, neighborhood dynamics and growth management. (Same as POSC 478)

**480 Field Mapping with GIS and GPS (3)**

Prerequisite: GEOG 281. Field-based study of the principles and techniques used in constructing a digital spatial database from field observations utilizing traditional field methods, GIS and GPS technology.



**481 Geographic Information Systems: Introduction (3)**

Methods and applications of computer-assisted mapping and geographic information systems. (2 hours discussion, 3 hours lab)

**482 Environmental Impact Assessment (3)**

Prerequisites: GEOG 350, 478 or equivalent. Techniques relevant to environmental impact assessment in accord with CEQA (state) and NEPA (federal) regulations. Systematic evaluation of major environmental impact topics. Individual and small team activities.

**483 Mountain Field Geography (3)**

Prerequisite: GEOG 119, 281. Summer field study of the physical and environmental geography of mountain systems in the West. Alpine/subalpine glacial action, weather and climate, biogeography, soils, human impacts and sustainability.

**484 Urban Planning Methods (3)**

Prerequisite: GEOG 478 or POSC 478. Seminar and Practicum on methods in urban planning. Analytical techniques and basic data sources. Population forecasting, housing surveys, economic development, fiscal impacts and area revitalization. Individual and team projects. (Same as POSC 484)

**485 Geographic Information Systems: Principles and Applications (3)**

Prerequisite: GEOG 481 or equivalent. Integrated computer-assisted methods for handling spatial data, including database design, data conversion and updating, information retrieval, analysis, modeling and mapping. Instructional fee.

**486 Environmental Remote Sensing (3)**

Prerequisite: MATH 110. Fundamentals of remote sensing science and digital image processing. Remote sensing principles and the processing and interpretation of remotely sensed data using image processing techniques and software.

**488 Land Use Analysis (3)**

Prerequisites: junior, senior or graduate standing and consent of instructor. Urban and rural land use and settlement; geographic field problems. Application of geographic techniques and tools to local field studies.

**489 Digital Image Processing (3)**

Beginning and advanced techniques in digital image processing. Provides working knowledge of remote sensing with a primary focus on how to analyze and interpret remotely sensed data using image processing techniques. May be repeated once for credit.

**495 Internship in Applied Geography (1-3)**

Students work specified number of hours in appropriate public or private organizations under the supervision of their staff and as coordinated by departmental faculty. Interns meet with instructor by arrangement. May be repeated for a maximum of three units of credit.

**499 Independent Study (1-3)**

Prerequisite: senior standing. Consent of instructor under whom study will be taken required before enrolling. May be repeated for a maximum of six units of credit.

**500 Seminar in Geographic Research (3)**

Prerequisites: graduate standing and consent of instructor. A required seminar to be taken prior to the development of a thesis.

**520 Seminar in Physical Geography (3)**

Prerequisite: graduate standing. Research in physical geography: methods and contemporary themes. Case studies in climatology, geomorphology and plant geography.

**530T Seminar: Selected Topics in Geography (3)**

Prerequisite: graduate standing. Various topics selected from any of the subfields of geography. The topic chosen and a general outline of the seminar are circulated prior to registration. May be repeated for credit.

**550 Seminar in Human Geography (3)**

Prerequisite: graduate standing. Survey of methodology and case studies, including: experiential environments; rural landscapes; urban, social and economic structure; geography and public policy; and Third World development. Meets the graduate level writing requirement.

**597 Project (3)**

Prerequisites: GEOG 500 and consent of adviser.

**598 Thesis (3)**

Prerequisites: completion of GEOG 500, advancement to candidacy and consent of instructor.

**599 Independent Graduate Research (1-3)**

Open to graduate students by consent of instructor. May be repeated for credit.



# Geological Sciences

College of Natural Sciences and Mathematics

## DEPARTMENT CHAIR

Phillip A. Armstrong

## DEPARTMENT OFFICE/WEBSITE

McCarthy Hall 254  
657-278-3882  
geology.fullerton.edu

## PROGRAMS OFFERED

Bachelor of Science in Geology  
Bachelor of Arts in Earth Science  
Minor in Geology  
Master of Science in Geology  
Emphasis in Geochemistry  
(see Master of Science in Chemistry)

## FACULTY

Phillip A. Armstrong, Nicole Bonuso,  
David Bowman, Galen R. Carlson,  
Diane Clemens-Knott, John H. Foster,  
Matthew E. Kirby, Jeffrey Knott, W.  
Richard Laton, James F. Parham, Brady  
Rhodes, Adam D. Woods

## INTRODUCTION

Geological Sciences is the study of Earth through time, including its physical nature, chemical composition and dynamics, as well as its origin and evolution. In addition to the quest for understanding the way Earth works and its relation to the solar system, Earth scientists are involved in the search for energy, mineral and water resources, the evaluation and remediation of environmental hazards, and the prevention and/or prediction of natural disasters such as earthquakes, volcanic eruptions, landslides, coastal erosion and floods. Earth scientists are employed by private industry, (primarily by engineering, environmental, petroleum and mining companies), government agencies, educational institutions and research centers.

The B.S., B.A. and M.S. requirements are designed to help students develop an appreciation and understanding of Earth, as well as prepare them for: (1) employment in industry or government; (2) teaching at the elementary, high school and community college level; and (3) further graduate studies in the geological sciences. Over 30 300-, 400- and 500-level electives are offered on a regular schedule, enabling students to design individual study plans that satisfy their personal educational goals.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a bachelor's degree in geological sciences:

### Skills, concepts and processes

- Describe, classify and interpret geologic field data and interpret the geologic history of an area by integrating all types of field data
- Read, interpret, and construct geologic maps, cross sections and block diagrams and use such diagrams to visualize geologic relations in the four dimensions of space and time
- Understand geologic time, explain the geologic time scale and its scientific basis, recount the milestone events in Earth history, and understand the basics of common dating methods

### Integrative approach to Earth Science problems

- Apply physics, chemistry and biology to the understanding of Earth systems and cycles, including plate tectonics and the rock cycle, the water cycle, and the life cycle and evolution
- Understand the role of geology in everyday life, appreciate the extent of human impact on Earth systems and environments, and understand the processes that create natural hazards, and the strategies that minimize their impact on society

### Scientific method

- Perform independent geological research by applying the scientific method, identify and locate existing geologic information, and communicate data and interpretations orally and in writing using appropriate technology

## **BACHELOR OF SCIENCE IN GEOLOGY (120 UNITS)**

The Bachelor of Science in Geology requires 48 units in the major. Students must have a “C” (2.0) or better in all geological sciences courses applied towards the requirement; in addition, students must have a 2.0 average in required courses in related fields. Proficiency in English composition is required.

### **Undergraduate Thesis (3 units)**

In this capstone experience, majors work one-on-one with a faculty adviser on a research project. Students are encouraged to begin research during their junior year. GEOL 498 satisfies the university's upper-division writing requirement.

### **Minimum Course Requirements for the Major**

GEOL 101 Physical Geology (3)  
OR GEOL 110T Topics in Earth Science (4)  
OR GEOL 140 Earth's Atmosphere and Oceans (3)  
GEOL 101L Physical Geology Lab (1)  
GEOL 201 Earth History (3)  
GEOL 303A Earth Materials (4)  
GEOL 303B Igneous and Metamorphic Petrology (4)  
GEOL 321 Sedimentation and Stratigraphy (4)  
GEOL 335 Hydrology and Surface Processes (3)  
GEOL 360 Structural Geology (4)  
GEOL 380 Geologic Field Techniques (3)  
GEOL 456 Geophysics (3)  
OR GEOL 406 Geochemistry (3)  
GEOL 481A Geology Field Camp I (4)  
GEOL 498 Undergraduate Thesis (1-3) – must take a total of three units

### **Upper-Division Geological Sciences Electives (8-9 units)**

Electives should be selected in consultation with an undergraduate adviser and/or the student's thesis adviser. No more than 3 units from any combination of GEOL 493, 495, 496L and 499L can be counted toward meeting this eight- to nine-unit requirement.

*Note:* GEOL 310T is not accepted as credit toward meeting requirements for the B.S. in Geology major.

### **Related Fields (30 units minimum)**

At least one of the related field's tracks must include a second-semester lab course. If the selected related field's courses total less than 30 units, additional units must be taken from other science-math-engineering departments (see list below). Courses not included on the list must be approved in writing by an undergraduate adviser.

BIOL 101 Elements of Biology (3)  
OR BIOL 171 Evolution and Biodiversity (5)  
OR a life science course from another institution that is acceptable to CSUF and demonstrates treatment of whole-organism biology and concepts of evolution and ecology.

CHEM 120A and 120B General Chemistry (5,5)  
OR CHEM 120A General Chemistry (5)  
AND CHEM 125 General Chemistry for Engineers (3)  
MATH 150A and 150B Calculus (4,4)  
OR MATH 130 A Short Course in Calculus (4)  
AND MATH 337 Introduction to Experimental Design  
Statistics in Laboratory Sciencesn(3)  
OR MATH 338 Statistics Applied to Natural Sciences (4)  
PHYS 225, 225L Fundamental Physics - Mechanics (3,1)  
AND PHYS 226 Fundamental Physics - Electricity and Magnetism (3)  
OR PHYS 211, 211L, 212 Elementary Physics (3,1,3),  
with consent of adviser

*One additional semester course selected with approval of adviser from courses such as the following:*

BIOL 172, 210, 300, 319  
CHEM 301A, 315, 325, 361A  
CPSC 241  
EGCE 301, 324, 436, 441  
GEOG 481, 485  
MATH 250A, 250B  
PHYS 227, 227L, 300, 310, 320, 330

Science- or engineering-based transferable extension certificate courses from other universities

### **Undesignated Units (0-3 units)**

These are to be taken in geological sciences, related fields and/or career-supporting fields, with adviser approval.

## **BACHELOR OF ARTS IN EARTH SCIENCE (120 UNITS)**

The Bachelor of Arts in Earth Science requires a minimum of 32 units of Earth science courses in Geology and Geography, plus a minimum of 24 units in related fields. Students must have a “C” (2.0) or better in all Earth science courses applied toward the requirement; in addition, students must have a 2.0 average in required related fields courses.

### **Core Courses (20-21 units)**

GEOL 101 Physical Geology (3)  
OR GEOL 110T Topics in Earth Science (4)  
OR GEOL 140 Earth's Atmosphere and Oceans (3)  
OR GEOL 102 Earth and Astronomical Science for Future Elementary Teachers (3)  
GEOL 101L Physical Geology Lab (1)  
GEOL 201 Earth History (3)  
GEOL 333 General Oceanography (3)  
GEOL 335 Hydrology and Surface Processes (3)  
GEOL 380 Geologic Field Techniques (3)  
GEOL 420 Earth Science for Science Teachers (4)  
OR GEOL 470 Environmental Geology and Planning (4)

### Earth Science Electives (12-15 units)

GEOL 303A, 303B, 305, 310T\*, 321, 322, 355, 360, 376, 404, 406, 408, 410, 420, 436, 455, 456, 470, 475, 481A, 481B, 481C, 493, 495, 496L, 498, 499L

GEOG 312, 323, 325, 328\*\*, 329\*\*, 350\*\*, 422, 425, 426, 450, 452\*\*, 481, 482, 485, 486, 488

Additional courses may be approved by the Department of Geological Sciences Undergraduate Adviser. At least 6 units must be Geological Science.

*Note:* no more than 3 units from any combination of GEOL 493, 495, 496L, 498 and 499L can be counted toward the requirement. GEOL102 (if GEOL101 is taken in core) and/or GEOL140 may be taken if student is in teaching pathway

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\* No more than 6 units of GEOL 310T may be taken

\*\* No more than 6 units of these courses may be taken

### Related Fields Core (16-22 units)

Courses not included on the list must be approved in writing by an undergraduate adviser. Students must take at least one class from each of the related field subjects and at least one of these courses must have an associated lab.

BIOL 101/L Elements of Biology/Lab (3,1)

OR BIOL 171 Evolution and Biodiversity (5)

OR BIOL 102 Biology for Future Teachers (3)\*

OR accepted life science course from another institution

CHEM 100L Survey of Chemistry/Lab (3,1)

OR PHYS/CHEM 102 Physical Science for Future Elementary Teachers (3)\*

OR CHEM 120A General Chemistry (5)

PHYS 101/L Survey of Physics/Lab (3,1)

OR PHYS/CHEM 102 Physical Science for Future Elementary Teachers (3)\*

OR 115 Introductory Physics - Mechanics (4)

OR PHYS 211/L Elementary Physics/Lab (3,1)

OR PHYS 225/L Fundamental Physics: Mechanics/Lab (3,1)

MATH 120 Introduction to Probability and Statistics (3)

OR MATH 125 Precalculus (5)

OR MATH 130 A Short Course in Calculus (4)

OR MATH 135 Business Calculus (3)

OR MATH 150A Calculus (4)

GEOG 110 Introduction to the Natural Environment (3)

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\* Courses recommended for elementary school teaching pathway and must be approved by Department Undergraduate Adviser. Students not in an elementary school teacher path cannot receive credit for BIOL102 or PHYS/CHEM 102

### Elective Related Fields (8 units)

Taken with adviser approval, depending on the track; including, but not limited to, the following:

GEOG 312, 323\*, 325, 328, 329, 350, 422, 425, 426, 450, 452, 481, 482, 485, 488

BIOL 172, 274, 300, 305\*, 318, 319, 352, 409\*, 453\*

CHEM 120A\*, 120B, 125, 303A,B,C, 313A,B,C\*

MATH 120, 125, 130, 135, 150A, 150B, 250B

PHYS 120\*, 212, 226, 301

ANTH 344, 403, 404, 409

EGCE 214/L, 305, 324

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\* Courses recommended for elementary school teaching pathway

### Undesignated electives (22 units)

Undesignated electives must be adviser-approved.

### Upper-Division Writing Requirement (3 units)

ENGL 301 Advance College Writing (3)

ENGL 360 Scientific and Technical Writing (3)

GEOL 498 Undergraduate Thesis (3)

### MINOR IN GEOLOGICAL SCIENCES (20 UNITS)

At least 12 units toward the Minor in Geological Sciences must be upper division; at least six of which must be taken in residence. Up to three units of GEOL 310T may be applied. Prospective minors should make an appointment with a department adviser in order to select courses that most closely match their educational goals. Prospective teachers should include courses in physical geology, Earth history, hydrology and surface processes, oceanography, mineralogy, petrology, plus GEOL 420.

### GRADUATE EMPHASIS IN GEOCHEMISTRY

The Geochemistry Emphasis is offered jointly by the Department of Chemistry and Biochemistry and Department of Geological Sciences. Contact the graduate program adviser in the Department of Chemistry and Biochemistry for information regarding the Chemistry M.S. requirements, and the Department of Geological Sciences regarding the selection of appropriate graduate electives.

### MASTER OF SCIENCE IN GEOLOGY (30 UNITS)

The Master of Science in Geology is based on the assumption that every geologist must have a thorough knowledge of fundamental geologic principles and that this knowledge must be rooted in field- and laboratory-based experiences.

### Admission Requirements

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, acceptance into this program in a classified standing is contingent upon the following:



- Bachelor's degree in geology from an accredited institution, with an expected grade-point average of 3.0 in geology courses, which normally includes the equivalent to core courses of the Cal State Fullerton Geology B.S. program and a 2.5 grade-point-average in related science and mathematics courses; or, in the case of a bachelor's degree in a related area, a selection of science courses deemed as adequate preparation for further study in geology by the Department Graduate Committee
- Satisfactory performance on the Graduate Record Examination Aptitude Test with an expected score in the 50th percentile or better on the verbal and quantitative tests
- Three letters of recommendation
- Completion of the departmental application
- Availability of faculty and resources in the student's stated area of interest

Students with limited subject or grade deficiencies may be considered for conditional acceptance into the program if they meet all other departmental and university requirements. Conditionally classified graduate standing may be removed upon completion of adviser- and graduate-committee-approved postgraduate courses in geology, mathematics, chemistry or physics, with grades of "B" (3.0) or better.

Students with a degree in a related field and/or substantial subject deficiencies are encouraged to apply. Such applicants may be considered for conditional acceptance if they meet all other departmental and university requirements. Such a student may later qualify for classified standing by completing all courses recommended by the Department Graduate Committee and by maintaining a 3.0 grade-point average in geology and in related science and mathematics courses.

### Application Deadlines

Materials and deadlines for department and university applications are available on the Geological Sciences website: [geology.fullerton.edu/](http://geology.fullerton.edu/).

### Classified Standing

Students should achieve classified graduate standing as soon as they are eligible, since no more than nine units of graduate work taken before classification can be included on the study plan for the degree (see below). Students may apply for classified standing when they: (1) have met all university and departmental admission requirements; and (2) have filed a study plan approved by the adviser, the Department Graduate Committee and the Associate Vice President for Graduate Studies and Research.

Students must meet the Graduate Level Writing Requirement as described in this catalog under "Master's Degree Requirements." Students will meet this requirement by taking GEOL 501, Research Methods in Geology.

### Advancement to Candidacy

Advancement to candidacy is attained by applying for graduation and receiving a recommendation by the Department Graduate Committee.

### STUDY PLAN

A study plan must be approved by the Graduate Adviser. At least 21 units must be at the graduate level; a maximum of nine units may be 400 level. A minimum grade point average for courses satisfying the study plan is 3.0.

### Required Courses (9-12 units)

GEOL 500 Advanced Concepts in Geology (3)

GEOL 501 Research Methods in Geology (1)

GEOL 590 Graduate Seminar (1,1) – must be taken twice for one unit each time

GEOL 598 Thesis (1-3) – must take a total of at least three, but no more than six units

*Note:* A public, oral defense of the thesis is required.

### Focus and Breadth Courses (18-21 units)

Focus Geology Courses: Graduate adviser-approved 400- or 500-level geology courses. A maximum of three units of GEOL 599 and a maximum of three units of GEOL 593 may be taken. Course selection will be dependent on the student's academic objectives and selected in consultation with the student's thesis adviser.

Breadth Courses in Related Fields: A maximum of six units of graduate adviser-approved 400- or 500-level breadth courses offered by departments other than Geological Sciences. Courses may be taken from departments or programs such as, but not restricted to, Biological Sciences, Chemistry and Biochemistry, Physics, Mathematics, Geography, Civil and Environmental Engineering, or Environmental Studies. Course selection will be dependent on the student's academic objectives and selected in consultation with the student's thesis adviser.

### COURSES IN GEOLOGY

Courses are designated as GEOL in the class schedule.

#### 101 Physical Geology (3)

Prerequisite: high school chemistry or physics, or equivalent. Physical nature of the planet Earth, genesis of rocks and minerals, erosion processes and their effects.

#### 101H Physical Geology (Honors) (3)

Prerequisite: high school chemistry or physics, or equivalent. Physical nature of the planet Earth, genesis of rocks and minerals, erosion processes and their effects. (weekend field trips)

#### 101L Physical Geology Laboratory (1)

Pre- or corequisite: GEOL 101, 110T or 140. Rocks, earthquakes and map and aerial photographic interpretation. (3 hours laboratory or field trip)

### **102 Earth and Astronomical Science for Future Elementary Teachers (3)**

Designated especially for the prospective elementary school teacher, this activity-based course examines fundamental Earth/astronomical science concepts and the potential impacts of natural hazards on ecosystems on planet Earth.

### **105 Field Experiences in California Geology (1)**

Pre- or corequisite: GEOL 101, 110T or 140. Three field trips that examine the rich geology of California. Read and discuss topical papers and make presentations on selected topics. Weekend field trips are required. May be repeated once for credit.

### **110T Topics in Earth Science (4)**

Prerequisite: high school chemistry or physics, or equivalent. Public interest topics in Earth science. Alternating topics include: dinosaur world; earthquakes and volcanoes. Each course includes integrated labs, lectures and field trips that explore mainstream Earth science issues. (3 hours lecture, 3 hours lab and field trips.)

### **140 Earth's Atmosphere and Oceans (3)**

Prerequisite: high school chemistry or physics, or equivalent. Composition, structure and circulation of the Earth's atmosphere and oceans with a general focus on their interactions. Interdisciplinary topics that highlight atmosphere-ocean interactions will include global warming, ice ages, El Niño, Southern California storm activity and Santa Ana winds. (3 hours lecture, field trips)

### **201 Earth History (3)**

Prerequisite: GEOL 101L. Evolution of Earth as interpreted from rocks, fossils and geologic structures. Plate tectonics provides a unifying theme for consideration of mountain building, evolution of life and ancient environments. (2 hours lecture, 3 hours laboratory, field trips)

### **201L Earth History Supplemental Lab (1)**

Prerequisite: GEOL 101L. Corequisite: GEOL 201. Supervised research on topics related to Earth history. Project will result in a term paper and/or web page. (3 hours laboratory, field trips)

### **303A Earth Materials (4)**

Prerequisites: GEOL 101, 101L, ENGL 101. Pre- or corequisite: CHEM 120A, MATH 125 or equivalent. Identifying rock-forming minerals based on their chemical, physical and optical properties; relating mineral identification to rock lithology and classification; interpreting the significance of a rock's mineral assemblage in terms of its igneous, metamorphic, sedimentary or hydrothermal origin. (2 hours discussion, 6 hours laboratory, field trip)

### **303B Igneous and Metamorphic Petrology (4)**

Prerequisites: GEOL 303A, 380; CHEM 120A. Corequisite: CHEM 120B or 125. Description, classification, occurrence and origin of igneous and metamorphic rocks. (1 hour discussion, 2 hours activity, 6 hours laboratory, field trips)

### **305 Earthquake Impact on Structures (3)**

(Same as EGCE 305)

### **310T Topics in California-Related Geology (1-3)**

Prerequisites: completion of one course each from General Education (G.E.) Categories B.4 and B.1. Directed investigations of one aspect of Earth science. Alternating topics are California geology, earthquakes, California geologic hazards, national parks geology, Earth's environmental crisis and California's water crisis. May be repeated for credit with a different topic. One or more sections offered online; some topics offered for three units only. (3 hours lecture for 5, 10, or 15 weeks; optional field trip)

### **321 Sedimentation and Stratigraphy (4)**

Prerequisites: GEOL 201, 303A. Sedimentary rocks, including classification, texture, mineralogy and provenance; sedimentary environments and interpretation of ancient environments in the rock record; stratigraphic methods and patterns. (2 hours lecture, 6 hours laboratory, field trips)

### **322 Paleontology (4)**

Prerequisites: GEOL 201; BIOL 101, 171 or equivalent. Identification, systematic, evolution, ichnology, biostratigraphy, taphonomy and paleoecologic analysis of fossil groups. (3 hours lecture, 3 hours laboratory, field trips)

### **333 General Oceanography (3)**

Prerequisites: GEOL 101L and junior or senior standing. Chemical, physical and geological nature of the oceans. (2 hours lecture, 3 hours laboratory, field trips)

### **335 Hydrology and Surface Processes (3)**

Prerequisite: GEOL 101 or equivalent, or completion of G.E. Category B.2. Impact of surface water on the formation of soils, weathering, surface features (rivers) and groundwater. Application of hydrology as a predictive and postdictive tool on geologic, biotic and engineering problems.

### **355 Earth's Interior (3)**

Prerequisites: GEOL 101; 303A; MATH 120 or 150A; PHYS 225, 225L or 211, 211L; CHEM 120A or equivalent. Geophysical, geochemical properties of mantle and core. Data collection techniques. Impact of internal processes on crustal/surface phenomena.

### **360 Structural Geology (4)**

Prerequisites: GEOL 380, MATH 125. Faults, folds, mechanics of rock deformation and elementary tectonics; solution of problems by geometric, trigonometric and stereographic analysis. (3 hours lecture, 3 hours laboratory, field trips)

### **376 Engineering Geology (3)**

Prerequisites: MATH 130 or 150A; GEOL 380 or EGCE 214 and 214L. Geology applied to engineering works. Earth materials, processes; site evaluation techniques; geologic hazard analysis; case histories. (2 hours lecture, 3 hours laboratory, field trips)

### **380 Geologic Field Techniques (3)**

Prerequisites: GEOL 101, 101L, ENGL 101; MATH 115, 125 or equivalent. Pre- or corequisite: GEOL 201. Basic geologic field equipment. In-class and weekend field projects include: basic geologic mapping on topographic maps and aerial photographs; field note-taking methods; field data interpretation; preparing geologic maps; preparing stratigraphic columns and geologic cross-sections; technical report writing. (2 hours lecture, 6 hours in-field activity, weekend field trips)

### **404 Optical Mineralogy and Petrography (3)**

Prerequisite: GEOL 303A. Principles of optical mineralogy and use of petrographic microscope to analyze minerals and textures of igneous, metamorphic and sedimentary rocks. (1 hour lecture, 6 hours laboratory, field trip)

### **406 Geochemistry (3)**

Pre- or corequisites: GEOL 303B, CHEM 120B or 125, MATH 130 or 150A. Basic chemical and thermodynamic principles applied to the origin and alteration of igneous, metamorphic and sedimentary rocks (2 hours lecture, 3 hours lab, field trips).

### **408 Volcanology (3)**

Prerequisites: GEOL 303B; MATH 130 or 150A or equivalent. Volcanic eruptions as well as their deposits, hazards and impact on society. Classroom activities and field trips (required) will explore modern and ancient volcanic environments. (3 hours lecture, field trips)

### **410 Physical Earth/Space Systems (3)**

Prerequisites: completion of one course each from G.E. Categories B.4. and B.1. Physical and chemical interactions among major Earth systems (e.g., geosphere, atmosphere and hydrosphere) considered within the context of Earth's position in its solar system and in space. Appropriate for elementary teachers. Not available for degree credit in B.S. or M.S. in Geology; available for credit in M.A.T.S. in the Science Education program. (2 hours lecture, 2 hours activity)

### **420 Earth Science for Science Teachers (4)**

Prerequisites: GEOL 101, 101L and junior or senior standing, or science teaching credential. Major concepts of the earth sciences with primary emphasis on physical and planetary geology and secondary emphasis on meteorology and oceanography. (3 hours of lecture, 3 hours of laboratory, field trips)

### **436 Hydrogeology (3)**

Prerequisites: GEOL 101L and 335 or equivalent; MATH 130 or 150A. Occurrence, movement and utilization of groundwater resources; geological, geophysical and hydrological methods for groundwater exploration and development. Well hydraulics and ground-water contamination. (2 hours lecture, 3 hours laboratory, field trips)

### **440 Paleoclimatology (3)**

Prerequisite: GEOL 335. Methods and archives used to understand past climate; examining atmospheric circulation, oceanic circulation and the Earth's energy budget in the context of past climate change. (3 hours lecture, field trips)

### **455 Earthquake Seismology (3)**

Prerequisites: GEOL 101; 360; PHYS 225, 225L or 211, 211L; MATH 130 or 150A. Seismic waves, their recording and measurement. Estimation of earthquake source strength, location and mechanism. Introduction to seismic risk and strong motion studies. (3 hours lecture, field trips)

### **456 Geophysics (3)**

Prerequisites: MATH 150A or 130; PHYS 225, 225L or 211, 211L; PHYS 226, 226L or 212, 212L recommended. Seismic refraction, gravity, magnetic and electrical techniques and fundamentals as applied to determine subsurface structure, groundwater and location of mineral resources. (2 hours lecture, 3 hours laboratory, field trips)

### **470 Environmental Geology and Planning (4)**

Prerequisite: GEOL 101L or 420. Geologic processes, hazards, mineral and energy resources and their interaction with planning and environmental regulations. (3 hours lecture, 3 hours lab, field trips)

### **475 Quaternary Tectonics (4)**

Prerequisites: GEOL 360, 380. Processes and products of relatively young Quaternary tectonics. Evaluation of surface tectonic features, their ages, deformation styles and structural regimes. Assessment of past and contemporary deformation rates. (2 hours lecture, 6 hours lab, field trips)

### **481A Geology Field Camp I (4)**

Prerequisites: GEOL 303B, 321, 335, 360, 380. Advanced geologic mapping in a variety of geologic settings. Field report, map and cross-sections required. Instructional fee required. (45 hours per week for four weeks during summer)

### **481B Geology Field Camp II (3)**

Prerequisites: GEOL 380 and consent of instructor. Advanced geologic field work in a variety of geologic settings. Field report, map and cross-sections required. Instructional fee required. (45 hours a week for three weeks during summer)

### **481C Hydrology and Engineering Geology Field Camp (4)**

Prerequisites: GEOL 376, 380, 436. Geologic mapping and hydrologic mapping and techniques applied to integrated hydrogeologic model for selected areas. Field report(s), map(s), cross-sections required. Instructional fee required. (45 hours per week for three weeks during summer)

#### **493 Directed Studies (1-4)**

Prerequisites: junior and senior standing and consent of instructor. Directed studies in specialized areas of the geological sciences, such as petroleum geology, sedimentology, optical and instrumentation techniques. Library research and written reports required. May be repeated once with a different topic. Not available for M.S. Geology graduate credit.

#### **495 Geological Sciences Internship (3)**

Prerequisite: junior or senior standing in geological sciences. Geological sciences work experience, salaried or volunteer, with industry, government or private agencies. Student intern will be supervised by faculty adviser and employer. (1 hour of seminar per week plus a total of 120-150 hours of work experience)

#### **496L Geological Sciences Tutorial (2)**

Prerequisites: at least 20 completed units in geological sciences, in good academic standing. Provides a maximum of 6 hours per week of supervised tutoring or teaching experiences (including office hours) for undergraduate students assisting in laboratory or field geology classes. Not available for M.S. geology graduate credit.

#### **498 Undergraduate Thesis (1-3)**

Prerequisites: approval of thesis adviser for first unit; completion of thesis proposal that is approved by thesis adviser and the Department Undergraduate Adviser for second and subsequent units. Extension of an advanced course, conducted independently by the student under faculty supervision, culminating in a paper of professional quality. Must be repeated for three units total.

#### **499L Independent Study (1-3)**

Independent study of a topic selected in consultation with and completed under the supervision of the instructor. Not available for M. S. Geology degree credit.

#### **500 Advanced Concepts in Geology (3)**

Current advances in geological concepts with emphasis on Southern California geology. Concepts include: plate tectonics; igneous processes; sedimentary record; surficial processes; water resources. (2 hours lecture, 2 hours activity, field trips)

#### **501 Research Methods in Geology (1)**

Prerequisite: GEOL 500. Introduction to research planning: choosing a thesis topic; bibliographic search; research design (laboratory and field); research proposal preparation. (2 hours activity)

#### **506T Advanced Topics in Geochemistry (3)**

Prerequisite: GEOL 406 or consent of instructor. Special topics on modern techniques and recent advances in geochemistry, such as geochronology and environmental isotope geochemistry. May be repeated for credit with a different topic. (3 hours lecture; field trips)

#### **510T Advanced Topics in Geology (3)**

Prerequisite: consent of instructor. Modern techniques and recent advances in geology, such as basin analysis, carbonate sedimentology, paleontology, paleolimnology, igneous petrology, tectonics and studies of the Mesozoic Era. May be repeated for credit with a different topic. (3 hours lecture; field trips)

#### **535T Advanced Topics in Hydrogeology (3)**

Prerequisite: graduate standing or consent of instructor. Modern techniques and recent advances in hydrogeology, such as groundwater modeling, well hydraulics and aquifer analysis, contaminant hydrogeology, hydrogeochemistry and environmental sampling and protocols. May be repeated for credit with a different topic. (3 hours lecture; field trips)

#### **555T Advanced Topics in Geophysics (3)**

Prerequisite: consent of instructor. Selected topics in geophysics. Whole-Earth geodynamics; geophysical evidence of large-scale Earth properties; links between earthquakes and plate tectonics. May be repeated for credit once with different topic. (3 hours lecture/discussion, field trips)

#### **575T Advanced Topics in Engineering Geology (3)**

Prerequisite: consent of instructor. Modern techniques and recent advances in engineering geology, such as Quaternary geology, landslide analysis and paleoseismology. May be repeated for credit with a different topic. (3 hours lecture; field trips)

#### **590 Geoscience Seminar (1)**

Attendance at departmental and other seminars. Discussion and/or written assignments based on seminar topics required. Must be repeated at least once.

#### **593 Directed Graduate Studies in the Geosciences (1-3)**

Prerequisites: postbaccalaureate standing and consent of instructor. Directed studies of specialized geoscience topics not covered by existing courses and tailored to individual student interest. Literature research, recitations and written reports required. May be repeated for a total of 3 units.

#### **598 Thesis (1-3)**

Prerequisites: approval of thesis adviser for the first unit; completion of M.S. Thesis proposal that is approved by thesis committee and the Department Graduate Committee Chair for second and subsequent units. Design, analysis and presentation of a research problem culminating in a thesis for the master's degree. May be repeated for up to six units total.

#### **599 Independent Graduate Research (1-3)**

Prerequisites: approval of adviser and Department Graduate Committee. Independent research on an approved topic. May be repeated for up to 3 units maximum.





# Gerontology

College of Humanities and Social Sciences

## INTRODUCTION

Gerontology, the study of aging, is a multidisciplinary field that examines the biological, psychological, social and health/fitness aspects of the aging process. The unprecedented growth of the older population has created a growing demand for professionals in a variety of fields who understand issues related to the aging process.

Programs in Gerontology provide students with knowledge and critical understanding of the processes of adult development and aging. They prepare students for a variety of career opportunities in business, government, industry, public and private agencies, health and human services, research and education, and entrepreneurial endeavors. Many career options involve working with healthy and independent older adults, while other positions involve working with older adults who have health problems and other age-related limitations.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a Master's Degree in Gerontology (MSG):

### Understand relevant gerontology theories, concepts and research findings

- Describe and explain relevant theories, concepts and related research findings in physiological, psychological and social aspects of aging
- Be sensitive to the political, economic and cultural context and aging outcomes
- A life course perspective related to older adult development

### Information literacy and research analysis skills

- Identify, access, analyze and synthesize relevant sources
- Critically analyze research studies
- Build a good foundation for doctoral study in gerontology

### Communication skills

- Write in APA style and effectively take purpose and audience into account
- Make effective oral presentations, taking purpose and audience into account

### Field-based practice and skills

- Develop competence in the involvement of service, implementation and administration of programs in a variety of settings that involve older people and their caregivers
- Exhibit knowledge of the purpose, structure and processes of community organizations and government agencies serving older adults, and demonstrate an ability to use that knowledge effectively to enhance the welfare of older populations

## PROGRAM COORDINATOR

William W. Haddad

## PROGRAM OFFICE/WEBSITE

Ruby Gerontology Center  
657-278-7057  
[hss.fullerton.edu/gerontology](http://hss.fullerton.edu/gerontology)

## PROGRAMS OFFERED

Minor in Gerontology  
Concentration in Gerontology  
Master of Science in Gerontology

## PROGRAM COUNCIL

Susan Cadwallader (Marketing)  
Echo Chang (Gerontology)  
David Cherin (Social Work)  
Barbara Cherry (Psychology)  
Angela Della Volpe (HSS College Dean)  
John Doyle (Human Services)  
Barbara Erickson (Anthropology)  
Barbara Haddad (Nursing)  
Melanie Horn-Mallers (Human Services)  
Sara Johnson, (Anthropology)  
Jessie Jones (Health Science)  
Kristin Kleinjans (Economics)  
Robert Koch (Biology)  
Edyth Krampe (Sociology)  
Margaret Luzzi (Extended Education)  
Shari McMahan (HHD College Dean)  
Sang June Oh (Mechanical Engineering)  
Ron Osajima (OLLI)  
Nilay Patel (Biological Science)  
Jennifer Piazza (Health Sciences)  
Carter Rakovski (Sociology)  
Mary Read (Counseling)  
Carl Renold (Human Services)  
Charles Ritz (OLLI)  
Debbie Rose (Director, Institute of Gerontology)  
Dana Rutledge (Nursing)  
Kirt Spradlin (OLLI)  
Chandra Srinivasan (Biochemistry)  
Stefanie Vaughn (Nursing)  
Eileen Walsh (Sociology)  
Joseph A. Weber (Sociology)  
Karen Wong (Sociology and Gerontology)  
Laura Zettel-Watson (Psychology)

- Understand that needs in old age are multifaceted and may best be addressed from a collaborative, interdisciplinary approach
- Identify relevant ethical and legal issues and the impact of possible actions in real-world situations

### **RUBY GERONTOLOGY CENTER**

The Charles L. and Rachael E. Ruby Gerontology Center serves as a forum for intellectual activity and creative scholarship in the area of gerontology. The center houses the activities of the Osher Lifelong Learning Institute, the Institute of Gerontology, and the Gerontology Academic Program.

The center's goals include: promoting educational programs concerning adult development and aging; developing productive intergenerational activities in education and research; fostering cross-disciplinary research on topics related to aging and later life; providing opportunities for lifelong learning; and expanding opportunities for professional growth and development for those interested in gerontology.

Students are encouraged to become involved in research, conferences and community service activities of the Center.

### **MINOR IN GERONTOLOGY (21 UNITS)**

#### **Lower-Division Requirements (3 units)**

GERO/HUSR/PSYC/SOCI 133 Introduction to Gerontology (3)\*

#### **Upper-Division Requirements (9 units from the following)**

BIOL 306 Biology of Aging (3)\*

KNES 454 Physical Dimensions of Aging (3)

PSYC 362 Psychology of Aging (3)\*

SOCI 443 Sociology of Aging (3)

#### **Required Internship (3 units)**

One three-unit internship at the 300/400 level in a related field. An internship is a supervised experience working within the community. Internships are coordinated through the student's major department.

#### **Upper-Division Electives (6 units, adviser approved)**

ANTH 308, 408, 417

BIOL 306, 311\*

CAS 312\*

FIN 411

HIST/GERO 493B

HESC 342\*, 401, 440, 450

HCOM 320\*, 345\*

HUSR 310, 380\*, 385, 400, 410, 420, 480

KNES 353\*, 364, 371, 400, 454, 455

MGMT 435

MKTG 351

NURS 357

PHIL 314\*, 448

PSYC 302, 303, 361, 362, 415, 474, 475

SOCI 351, 354\*, 360\*, 361\*, 371\*, 433, 443

WMST/GERO 410

Additional elective courses are available in selected departments across campus. Such additional electives are chosen in consultation with the major department adviser and with the approval of the Coordinator of Gerontology Program. Up to nine units of coursework may be applied to both the major and Gerontology minor.

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\* Meets General Education requirement.

### **MAJORS THAT COMPLEMENT THE MINOR IN GERONTOLOGY**

The Gerontology minor is available and appropriate to strengthen and otherwise complement the coursework of students in many majors. Notation of the minor appears on the transcript and the diploma.

### **MASTER OF SCIENCE IN GERONTOLOGY (30 UNITS)**

The Master of Science program combines training in both scientific and applied areas of gerontology. Because various departments across the university participate in the program, students are able to design a study plan that will meet their individual needs. In addition to coursework in research and theory, the program provides preparation for work in a variety of settings. It can also be tailored to meet the needs of the student who wants to prepare for a doctoral program.

#### **Admission to Graduate Standing – Conditionally Classified**

An applicant who meets the following requirements may be considered for conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade point average of at least 3.0 in the last 60 units attempted; submission of the formal application form; submission of two copies of transcripts from all institutions attended; three letters of recommendation; and a letter from the student stating professional objectives. A Gerontology Program Application form must be filed with the Gerontology Program Office.

The baccalaureate must be in gerontology or a related field in conjunction with an undergraduate minor, certificate or emphasis in gerontology or the equivalent. In the absence of the above, the student should ordinarily have the following 12 units of upper-division coursework in gerontology or their equivalent:

BIOL 306 Biology of Aging (3)

KNES 454 Physical Dimensions of Aging (3)

PSYC 362 Psychology of Aging (3)

SOCI 443 Sociology of Aging (3)

The following additional criteria may be taken into consideration: research experience; previous paid or volunteer experience in working with elderly people.

It may be possible for applicants who have minimal deficiencies in prerequisite requirements, as detailed above, but who are otherwise highly qualified, to be admitted in conditionally classified graduate standing, with provisions made for removal of deficiencies prior to granting classified standing. For further information, consult with the Gerontology Academic Program Coordinator.

### **Admissions to Graduate Standing – Classified**

Each student, in consultation with the Program Coordinator, will develop a study plan. This will be outlined on an official university Study Plan Form. Students who have met the requirements for conditionally classified standing will be granted classified standing upon submission of an adviser-approved study plan to the Graduate Studies office.

### **Study Plan**

The Master of Science in Gerontology requires a minimum of 21 units at the 500 level. Check the program website for updates and changes.

#### *Required Core Courses (15 units)*

GERO 500 Applied Gerontology (3)

GERO 501 Research Methods in Gerontology (3)

GERO 503 Aging and Public Policy (3)

GERO 535 Evaluation and Program Planning (3)

GERO 595 Gerontology Internship (3)

#### *Gerontology Electives (6-9 units)*

#### *Multidisciplinary Electives (6-9 units)*

Selected from two or more departments with the program coordinator's approval:

#### *Exit Option (0-3 units)\**

GERO 598 Thesis (3)

OR GERO 597 Project (3)

OR Comprehensive Exam (0 units)

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\*If a project or thesis is not done, an additional three units of a GERO 500-level elective course and a comprehensive examination must be taken.

## **GERONTOLOGY COURSES**

Courses are designated as GERO in the class schedule.

### **133 Introduction to Gerontology (3)**

(Same as HUSR/PSYC/SOCI 133)

### **410 Women, Health and Aging (3)**

(Same as WMST 410)

### **420 Aging and Dementia (3)**

Prerequisites: completion of General Education (G.E.)

Category A; satisfies the upper-division writing requirement; PSYC 201 or SOCI 303 or equivalent; or classified graduate standing.

Physiological, psychological, social, economic aspects of dementia; its impact on the individual, family and society, with an emphasis on Alzheimer's disease. One or more sections offered online.

### **425 Successful Aging and Gerotechnology (3)**

Prerequisites: Completion of G.E. Category A.; SOCI/GERO 133 or classified graduate standing. Gerotechnology is the study of technology and aging. Impact of computer and internet, devices for sensory impairments, telehealth, smart home, automobile and transportation innovation on older adults, caregivers and society.

### **433 Aging and Social Services (3)**

(Same as SOCI 433)

### **443 Sociology of Aging (3)**

(Same as SOCI 443)

### **450 Applied Health Promotion in Aging Populations (3)**

(Same as HESC 450)

### **493B Oral History/Guided Autobiography (3)**

(Same as HIST 493B)

### **500 Applied Gerontology (3)**

Prerequisite: graduate standing and/or admission into a master's program. Graduate-level introduction to professional practice of gerontology. Emphasizes applying biopsychosocial content and theoretical models, research and ethics in practice, career path exploration and networking, and developing leadership skills and resources. One or more sections offered online. (Same as SOCI 500)

### **501 Research Methods in Gerontology (3)**

Prerequisite: admission to M.S. in Gerontology. Research processes and problems in gerontology; more detailed study of applied research, including program evaluation in the field of gerontology.

### **503 Aging and Public Policy (3)**

Prerequisites: GERO 500, SOCI 443, POSC 309 or 315 or classified graduate student status. Origin, development and overview of public policies affecting older persons, families and service providers. Political administrative, advocacy and private sector involvements in employment, retirement, income security, health-care, social services and housing of older persons. May include a service learning component. (Same as POSC/SOCI 503)

### **504T Selected Topics in Gerontology (3)**

Prerequisite: classified status in a master's program. Detailed examination of a selected area of gerontology. Relevant literature and on the preparation, presentation (oral and written) and discussion of research papers. May be repeated once for credit with a different topic. (Same as SOCI 504T)

**506 Economics of Aging (3)**

Prerequisites: admission into the Gerontology M.S. Program or classified BAE status and GERO 501 or ECON 340. Economic consequences of population aging and the economic status of the aged. Income adequacy in old age: dependency, work income, retirement planning, social security, employer-sponsored pensions and financing health care. Economic security today and tomorrow. International comparisons. (Same as ECON 506)

**507 Biopsychosocial Perspectives on Aging (3)**

Prerequisite: classified graduate student status. Biological, psychological and social concepts of aging upon which professional practice in gerontology is based.

**508 Social and Ethical Issues in Aging (3)**

Prerequisite: graduate standing in Gerontology, Sociology or Public Health. Social and ethical issues facing an aging society. Ethical terminology, ethical decision-making and social implications of ethical issues related to such topics as nursing homes, caregiving, suicide and intergenerational equality. (Same as SOCI 508.)

**525 Factors of Human Aging and Technology Design (3)**

Prerequisite: graduate standing. The use of technology with older adults through a review of the demographics, biopsychosocial changes and social stigma associated with equipment aides; existing equipment and design/utilization alternatives.

**526 Administration and Systems Management (3)**

(Same as POSC 526)

**527 Intergenerational Practice: Working with Aging Families (3)**

Prerequisite: classified status in a master's program. The changing demography of American families; overview of processes in and structures of families with older adults; introduction to principles of marital and family therapy; and program and policy development for families in the middle and later years of life.

**535 Program Planning and Evaluation (3)**

(Same as HESC 535)

**545 Nonprofit and Societal Marketing (3)**

(Same as MKTG 545)

**595 Gerontology Internship (3)**

Prerequisites: classified status in the M.S. in Gerontology degree program and consent of instructor and Program Coordinator. Supervised experience in organizations that serve older adults and their families. May be repeated once for credit.

**597 Project (3)**

Prerequisites: classified status in the M.S. in Gerontology Program and consent of instructor and Program Coordinator. Under the direction of a faculty member, a topic that integrates learning in the program with an applied area of student interests will be selected and a major project on the topic will be developed and submitted.

**598 Thesis (3)**

Prerequisites: classified status in the M.S. in Gerontology degree program and consent of instructor and Program Coordinator. Individual research under supervision, reported in a thesis and defended successfully in an oral examination conducted by a faculty thesis committee.

**599 Independent Study in Gerontology (1-3)**

Prerequisites: completion of the M.S. in Gerontology core courses. Individualized study with an instructor whose recognized interests are in the area of the planned study. Conferences with the instructor as necessary; work will culminate in one or more papers. May be repeated once for credit.





# Health Science

College of Health and Human Development

## INTRODUCTION

The mission of Health Science focuses on understanding and promoting health in diverse populations. Health science bridges the gap between scientific discoveries and the application of this knowledge to improve the quality of people's lives. Health science research reflects the range of diverse health problems, settings and populations. The approach considers the multi-level determinants of health and well-being, including individuals, groups, organizations and communities. Health science professionals work at these various levels to implement and evaluate efforts that promote health and prevent illness and disease. An important aspect of this process involves empowering people to change the factors that influence their health and well-being, be it within the individual or in their social environment.

The Health Science program offers a Bachelor of Science degree in Health Science with focus areas in health promotion and disease prevention, occupational and environmental health or global health. The undergraduate minor in Health Science, based on core curricula, provides opportunities for professional and/or personal enhancement.

The Master of Public Health (MPH) degree offers specialized areas of study in health promotion and disease prevention, environmental and occupational health, and gerontological health.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in health science:

### An understanding of theories and research-based health interventions

- Describe major theories associated with health science and public health
- Describe the steps involved in planning, implementing and evaluating research based health interventions

### Information literacy and research skills

- Access and identify evidence based information sources relevant to specific health issues
- Analyze statistical, epidemiological and qualitative data to promote population health

### Professional, ethical and reflective practice with diverse populations

- Apply theories, research findings and best practices to promote health with diverse communities
- Analyze ethical issues that arise in the field of health science and public health

### Communication skills

- Make effective oral presentations taking into account diverse stakeholders
- Write effectively taking purpose and audience into account

## DEPARTMENT CHAIR

C. Jessie Jones

## DEPARTMENT OFFICE/WEBSITE

Kinesiology and Health Science 121  
657-278-3316  
[hdcs.fullerton.edu/hesc](http://hdcs.fullerton.edu/hesc)

## PROGRAMS OFFERED

Bachelor of Science in Health Science  
Minor in Health Science  
Master of Public Health

## FACULTY

John Breskey, Laura Chandler, Anthony Di Stefano, Lilia Espinoza, Jasmeet Gill, C. Jessie Jones, Danny Kim, Maria Koleilat, Michele Mouttapa, Archana McEligot, Jennifer Piazza, Alysia Ransons, Sora Tanjasiri, Dara Vazin, Jie Weiss, Michele Wood, Joshua Yang

## **BACHELOR OF SCIENCE IN HEALTH SCIENCE (120 UNITS)**

The Bachelor of Science degree in Health Science prepares students for careers as health educators, as well as for those who seek quality preparation for advanced study. Through required and elective coursework, students must complete a focus area in health promotion and disease prevention, environmental and occupational health, or global health. The competency-based degree program prepares students for certification as health education specialists and for careers in community health, worksite health promotion, occupational health and safety and/or environmental health.

The degree requires 49 units in the major, all of which must be completed with a "C" (2.0) or better, and must be taken on an Option 1 (letter grade) basis

### **Prerequisite Requirements (16 units)**

#### *Introductory Biology (3)*

BIOL 101, 102, 171, 172, 202 or equivalent

#### *Introductory Chemistry (3)*

CHEM 100, 115, 120A, 200 or equivalent

#### *Science Lab (1)*

BIOL 101L, CHEM 100L or equivalent

#### *Introductory Social Science (3)*

PSYC 101, SOCI 101 or equivalent

#### *Introductory Oral Communications (3)*

HCOM 100, 102 or equivalent

#### *Anatomy and Physiology (3)*

May be combined/integrated anatomy and physiology or separate courses.

### **Core Requirements (25 units)**

HESC 101 Personal Health (3)

HESC 220 Concepts in Health Science (3), prerequisite for all Health Science 400-level courses; take concurrent with HESC 494

HESC 349 Measurement and Statistics in Health Science (3)

HESC 400 Program Design for Kinesiology and Health Promotion (3)

HESC 401 Epidemiology (3)

HESC 440 Determinants of Health Behavior (3)

HESC 475 Health Science Planning, Research and Evaluation (3)

HESC 494 Practicum in Health Science (1)

HESC 495 Internship in Health Science (3)

### **Advising Tracks (21 units)**

In addition to the core requirements that all health science majors must complete, students are required to select one of the three advising tracks to successfully complete the requirements of the degree.

## **Health Promotion and Disease Prevention Advising Track (21 units)**

### *Required (12 units)*

HESC 410 Community Health Education (3)

HESC 450 Applied Health Promotion in Aging Populations (3)

HESC 455 Designing Health Education Curricula (3)

HESC 460 Worksite Health Promotion (3)

### *Health Science Electives (6-9 units)*

HESC 301 Promotion of Optimal Health (3)

HESC 321 Drugs and Society (3)

HESC 325 Consumer Health (3)

HESC 342 Stress Management (3)

HESC 350 Nutrition (3)

HESC 353 Physical Activity and Lifelong Well-being (3)

HESC 358 Contemporary Issues in Children's Health (3)

HESC 405 Worksite Injury Prevention and Rehabilitation (3)

HESC 413 Health Policy (3)

HESC 415 Environmental Health (3)

HESC 420 Chronic Disease Epidemiology

HESC 421 Infectious Diseases Epidemiology

HESC 425 Complementary and Alternative Health Therapies (3)

HESC 461 Occupational Safety and Health (3)

HESC 462 Environmental Toxicology and Health

HESC 463 Air Pollution and Health

### *Elective Courses from other Departments (0-3 units)*

Students choose a maximum of three adviser-approved units from the following:

AFAM 304

AMST 438

ANTH 308, 315, 322, 342, 344

ASAM 340, 342, 346, 348

BIOL 300, 302, 305, 306, 310, 360, 361

CHEM 301A, 301B, 302, 302A, 302B, 303A, 303B, 303C, 311, 313A, 313B, 313C

CHIC 305

GEOG 350

HCOM 345

KNES 348, 351, 432, 454

NURS/HESC 301

PHIL 314

PSYC 312, 341, 350, 351, 362, 391

SOCI 300, 333, 354, 360, 361, 381, 385, 443

SPED 371

WMST 410

### **Global Health Advising Track (21)**

#### *Required (12 units)*

- HESC 411 Promoting Health in Multicultural Populations (3)
- HESC 465 Introduction to International Health (3)
- HESC 480 Transdisciplinary Perspectives on HIV/AIDS (3)
- HESC 481 Health in a Global Society (3)

#### *Health Science Electives (6-9 units)*

- HESC 301 Promotion of Optimal Health (3)
- HESC 321 Drugs and Society (3)
- HESC 325 Consumer Health (3)
- HESC 342 Stress Management (3)
- HESC 350 Nutrition (3)
- HESC 353 Physical Activity and Lifelong Well-being (3)
- HESC 358 Contemporary Issues in Children's Health (3)
- HESC 405 Worksite Injury Prevention and Rehabilitation (3)
- HESC 413 Health Policy (3)
- HESC 415 Environmental Health (3)
- HESC 420 Chronic Disease Epidemiology
- HESC 421 Infectious Diseases Epidemiology
- HESC 425 Complementary and Alternative Health Therapies (3)
- HESC 461 Occupational Safety and Health (3)
- HESC 462 Environmental Toxicology and Health
- HESC 463 Air Pollution and Health

#### *Elective Courses from other Departments (0-3 units)*

Students choose a maximum of three adviser-approved units from the following:

- AFAM 304
- AMST 438
- ANTH 308, 315, 322, 342, 344
- ASAM 340, 342, 346, 348
- BIOL 300, 302, 305, 306, 310, 360, 361
- CHEM 301A, 301B, 302, 302A, 302B, 303A, 303B, 303C, 311, 313A, 313B, 313C
- CHIC 305
- GEOG 350
- HCOM 345
- KNES 348, 351, 432, 454
- NURS/HESC 301
- PHIL 314
- PSYC 312, 341, 350, 351, 362, 391
- SOCI 300, 333, 354, 360, 361, 381, 385, 443
- SPED 371
- WMST 410

### **Environmental and Occupational Health and Safety Advising Track (21 units)**

#### *Required (12 units)*

- HESC 415 Environmental Health (3)
- HESC 416 Global Issues in Environmental Health
- HESC 461 Occupational Health and Safety (3)
- HESC 462 Environmental Toxicology and Health

#### *Health Science Electives (6-9 units)*

- HESC 405 Worksite Injury Prevention and Rehabilitation (3)
- HESC 420 Chronic Disease Epidemiology (3)
- HESC 421 Infectious Disease Epidemiology (3)
- HESC 460 Worksite Health Promotion (3)
- HESC 463 Air Pollution and Health

#### *Elective Courses from other Departments (0-3)*

Students choose maximum three adviser-approved units from the following:

- BIOL 300, 302, 305, 306, 310, 360, 361
- CHEM 301A, 301B, 302, 302A, 302B, 303A, 303B, 303C, 311, 313A, 313B, 313C
- HESC 321, 350, 358, 450
- KNES 348
- POSC 320
- PSYC 350
- SOCI 361

### **English Proficiency Requirement (3 units)**

In order to satisfy the upper-division writing requirement of the university, Health Science majors must pass ENGL 301 or 360 with a "C" (2.0) or better. Please see additional information provided in this catalog on the writing requirement.

### **MINOR IN HEALTH SCIENCE (21-22 UNITS)**

The Health Science minor offers two advising tracks: Health Promotion and Disease Prevention (21 units); and Environmental and Occupational Health (22 units).

In completing the requirements for the minor, a minimum of 12 units – at least six of which must be upper division – must be distinct and different from the units used to complete the requirements of the major. Any units above the minimum requirement, which can be used to satisfy both the requirements for the minor and for the major, may be double counted. General education courses, however, may be used to meet minor requirements.

Coursework must be taken for a letter grade and completed with a "C" (2.0) or better to be counted toward the minor.

### Core Courses (6 units)

HESC 101 Personal Health (3)  
HESC 401 Epidemiology (3)\*  
OR HESC 440 Determinants of Health Behavior (3)

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\*Students preparing to take the REHS exam should select HESC 401.

### Health Promotion and Disease Prevention Track (15 units)

*Health Science Electives (9-15 units of the following):*

HESC 321 Drugs and Society (3)  
HESC 325 Consumer Health (3)  
HESC/KNES 342 Stress Management (3)  
HESC/KNES 350 Nutrition (3)  
HESC 358 Contemporary Issues in Children's Health (3)  
HESC 405 Worksite Injury Prevention and Rehabilitation (3)  
HESC 410 Community Health Education (3)  
HESC 411 Promoting Health in Multicultural Populations (3)  
HESC 450 Applied Health Promotion in Aging Populations (3)  
HESC 460 Worksite Health Promotion (3)  
HESC 461 Occupational Health and Safety (3)  
KNES/HESC 353 Physical Activity and Lifelong Well-Being (3)

*Elective Courses from other Departments (0-6 units with adviser approval):*

AFAM 304  
AMST 438  
ANTH 308, 315, 322, 342, 344  
ASAM 201, 300, 340, 342, 346  
BIOL 300, 305, 306, 310, 360, 361  
CHEM 303A, 303B, 303C, 311, 313A, 313B,  
CHIC 106, 305, 345  
GEOG 350  
KNES 348, 351, 454  
NURS/HESC 301  
PSYC 312, 341, 351, 362  
SOCI 300, 354, 360, 381, 385, 443  
SPED 371  
WMST 410

### Environmental and Occupational Health Track (16 units)

*Required Courses (12 units)*

HESC 415 Environmental Health (3)  
HESC 461 Occupational Health (3)

HESC 349 Measurement and Statistics in Health Science (3)  
OR Mathematics 120 Introduction to Probability and Statistics (3)  
POSC 320 Introduction to Public Management and Policy (3)

*Elective Courses (4 units)*

BIOL 438 Public Health Microbiology (4)  
CHEM 313A Environmental Pollution and its Solutions:  
Air Pollution (1)  
CHEM 313B Environmental Pollution and its Solutions:  
Water Pollution (1)  
CHEM 313C Environmental Pollution and its Solutions:  
Land Pollution (1)  
CHEM 435 Chemistry of Hazardous Materials (3)  
GEOL 335 General Hydrology (3)

### MASTER OF PUBLIC HEALTH (42 UNITS)

The purpose of the Master of Public Health program is to prepare public health professionals to draw on the knowledge and skills from a variety of disciplines and to define, critically assess, evaluate and resolve public health problems. MPH program graduates will have a common educational grounding that will enable them to work effectively with the broad spectrum of public health issues related to their public health careers.

#### Application Deadlines

The deadline for completing online applications is March 1 for the following fall semester (see [csumentor.edu](http://csumentor.edu)). Mailed applications need to be postmarked by the same deadline. However, the deadline may be changed based upon enrollment projections.

#### Admission to Graduate Standing – Classified

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. Additional requirements for acceptance in the MPH program include:

- Copy of official transcript(s) from all college work sent directly to the MPH Graduate program coordinator
- Two letters of recommendation
- A narrative statement (300-500 words describing how the program relates to professional goals)
- A current résumé
- Completion of six units of statistics and research methods (appropriate courses include statistics, epidemiology, research methods, program design and evaluation, etc.) with a "C" (2.0) or better
- Appropriate education background for career track courses (nine units or equivalent within specialized track. Professionals currently in field can demonstrate proficiency by coursework or by portfolio review or similar supporting evidence).
- GPA of 3.0 in the last 60 units completed



- Paid or volunteer experience in public health, health education or related health area
- Communication skills utilizing a second language encouraged

### **Admission to Graduate Standing – Conditionally Classified**

It may also be possible for applicants who have minimal deficiencies in prerequisite requirements, as detailed above, but are otherwise highly qualified, to be admitted in conditionally classified graduate standing; with provisions made for removal of deficiencies prior to the granting of classified standing. For further information, consult with the MPH Program Coordinator.

## **GRADUATE STUDY PLAN**

Thirty of the 42 units required for the degree are core competency classes, including a six-unit internship and 12-16 units of electives, 75 percent of which must be 500-level courses. Students work with a faculty adviser to select these electives to support career areas in health promotion, environmental and occupational health, gerontological health, or in a special studies track such as health anthropology or health counseling or other special academic/career needs.

### **Core Course Requirements (30 units)**

HESC 500 Issues in Public Health (3)  
 HESC 501 Advanced Methods in Epidemiology (3)  
 HESC 508 Statistical Methods in Health Science (3)  
 HESC 510 Research Methods in Health Science (3)  
 HESC 515 Advanced Environmental Health (3)  
 HESC 524 Public Health Administration (3)  
 HESC 540 Advanced Study in Health Promotion and Disease Prevention (3)  
 HESC 550 Graduate Internship (6)  
 HESC 597/598 Project/Thesis (3) or Comprehensive Examination (0)\*

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\*Students who select the Comprehensive Examination will be required to complete an additional adviser-approved 500-level course (3 units).

### **Electives (12-15 units)**

Electives must be approved by an adviser.

## **HEALTH SCIENCE COURSES**

Courses are designated as HESC in the class schedule.

### **101 Personal Health (3)**

Basic concepts relating to health and well-being from a holistic perspective. Mental, emotional, physical and socio-environmental dimensions of health, sexuality and relationships; nutrition and physical fitness; use and abuse of drugs; health care services and current health problems.

### **102 Prevention and First Aid (2)**

The hazards in environment. Care and prevention of accidents. Standard first aid certification by the American Red Cross granted upon successful completion of requirements.

### **133 Introduction to Gerontology (3)**

(Same as GERO/SOCI 133)

### **203 CPR, Automated External Defibrillator and Standard First Aid (1)**

Provides knowledge and skills necessary to respond to injuries and sudden illnesses in the community. Successful completion provides American Red Cross certifications in infant, child and adult Cardiopulmonary Resuscitation (CPR), Automated External Defibrillator (AED) and Standard First Aid. Credit/No Credit only.

### **220 Concepts in Health Science (3)**

Prerequisite: one course from General Education (G.E.) Category B.2 or B.5. Corequisite: HESC 494. Theoretical and practical issues of Health Science as a profession. Topics include history, status, resources, roles in various settings, legal and ethical issues in health education.

### **301 Promotion of Optimal Health (3)**

Prerequisites: one course from G.E. Category B.2 and junior or senior standing. Advanced health concepts and practices. Common health problems, causative factors and methods for prevention. Preventive and promotive health concepts and practices; integrating physiological, psychosocial, spiritual, cultural and environmental factors that inhibit or facilitate optimal health. Elective for nursing majors. Offered online only.

### **303 Professional Rescuer CPR, Automated External Defibrillator and First Aid (3)**

Prerequisites: KNES 210 and junior or senior standing. Designed for students considering working in medical and health-related fields who must obtain Professional Rescuer (CPR), Automated External Defibrillator (AED) and First Aid certifications. Back injury prevention, stress management and cardiovascular function.

### **321 Drugs and Society (3)**

Prerequisites: completion of lower-division general education science requirement and junior or senior status. Habit-forming substances such as alcohol, tobacco, narcotics, hallucinogens, and related drugs, stimulants and depressants. Social, historical and legal aspects of the drug problem are considered.

### **325 Consumer Health (3)**

Prerequisites: HESC 101 and junior or senior standing. Analysis and evaluation of health information, products and services; medical quackery, fraudulent health practices and laws and agencies protecting the consumer will be explored. One or more sections offered online.

### **342 Stress Management (3)**

Prerequisites: one course from G.E. Category E; minimum sophomore standing. Nature of stress and physiological and psychological effects of prolonged stress responses. Short- and long-term somatic and behavioral techniques (exercise, relaxation, meditation, nutrition, time management and goal setting) for management of stress. Health Science majors may not count this course for General Education. Kinesiology majors may count this course either for the major or for General Education. (Same as KNES 342)

### **349 Measurement and Statistics in Health Science (3)**

Prerequisites: completion of G.E. Categories B.4 and D.1. Measurement theory and statistics used to evaluate health and human performance, focusing on analyzing and interpreting data in different environments. Lecture, discussion, cooperative learning and field observation. Active participation and experiential learning. One or more sections offered online.

### **350 Nutrition (3)**

Prerequisites: CHEM 111 or equivalent course and junior or senior standing. Concepts of nutrition as they relate to nutritional needs, practices and problems throughout the life cycle. Nutritional counseling and education of individuals/groups toward health promotion and disease prevention. Open to non-nursing majors. One or more sections offered online. (Same as NURS 350)

### **353 Physical Activity and Lifelong Well-Being (3)**

(Same as KNES 353)

### **358 Contemporary Issues in Children's Health (3)**

Prerequisite: junior or senior standing. Overview of common causes of interrelationships between and prevention of morbidity and mortality among children and youth; Preventive and promotive health concepts and practices; connections between health and learning.

### **400 Program Design in Kinesiology and Health Promotion (3)**

Prerequisite: KNES 202 or HESC 220. Provides skills necessary for developing, implementing and evaluating human movement and/or health promotion programs for specific target populations. One or more sections offered online.

### **401 Epidemiology (3)**

Prerequisites: HESC 220 and HESC 349 or KNES 349 or SOCI 303. Application of epidemiologic procedures to the understanding of the occurrence and control of infectious and chronic diseases, mental illness, environmental health hazards, accidents and geriatric problems. One or more sections offered online.

### **405 Worksite Injury Prevention and Rehabilitation (3)**

Prerequisite: KNES 210 or HESC 220. How work style, equipment and environment contribute to worksite musculoskeletal injuries. Strategies that can minimize human error, injuries, discomfort and dissatisfaction through injury prevention and rehabilitation of the worker. (Same as KNES 405).

### **410 Community Health Education (3)**

Prerequisites: HESC 220 and junior or senior standing. Multiple settings for community health education practice and professional roles and skills that are required for health educators. Identification of community health education concepts with application to various segments of the nation's health. One or more sections offered online.

### **411 Promoting Health in Multicultural Populations (3)**

Prerequisite: HESC 220. Impact of cultural variables on health/illness. Current and potential strategies to improve health care delivery to ethnic groups. Identification of cultural competence skills that are essential for health educators.

### **413 Health Policy (3)**

Prerequisite: HESC 220. Health policy actors and processes in the United States. Roles of Congress, the President, bureaucracy and interests groups in health policy and the policy process; introduction to policy analysis.

### **415 Environmental Health (3)**

Prerequisite: HESC 220. Overview of environmental concerns as they relate to human health. How environmental factors are involved in the transmission and prevention of diseases and health hazards resulting from exposures.

### **416 Global Issues in Environmental Health (3)**

Prerequisites: HESC 220 and completion of G.E. Category B.2. Environmental factors such as air pollution, population dynamics, urbanization and energy production that influence human and ecological health on the global scale. Methods of control to prevent diseases from environmental agents.

### **420 Chronic Disease Epidemiology (3)**

Prerequisites: HESC 220, 401. Discussion of areas in chronic disease epidemiology, the leading causes of death and disability and the risk factors related to causes and the prevention of disease. May be repeated once for credit.

### **421 Infectious Disease Epidemiology (3)**

Prerequisites: HESC 220, 401. Applies epidemiological concepts to the study and control of infectious disease in human populations. Epidemiologic profile, including agents, modes of transmission, occurrence, clinical characteristics and prevention methods of specific infectious disease.

### **425 Complementary and Alternative Health Therapies (3)**

Prerequisites: HESC 220, junior or senior standing. Theoretical and experiential framework for understanding alternative healing modalities recognized by the National Center for Complementary and Alternative Medicine.

### **430 Health Psychophysiology I (3)**

Prerequisites: BIOL/KNES 210, PSYC 101 and two 300-level psychology courses. History, theory, research, physiology and applications of biofeedback and other self-regulatory techniques. By completing HESC 430 and 431, the student will meet the requirements to sit for the Biofeedback Certification Institute of America exam.

### **431 Health Psychophysiology II (3)**

Prerequisites: HESC 430 and junior standing. Didactic training and lab experience in the treatment of psycho physiological disorders incorporating biofeedback therapy. Work completed will meet the practical and mentoring (supervision) requirements for Biofeedback Certification Institute of America certification in general biofeedback.

### **440 Determinants of Health Behavior (3)**

Prerequisite: HESC 220 or KNES 202. Contemporary research on the health effect of human behavior. Introduction to theoretical foundations and practical applications of behavior in the context of health: physical, psychological, cultural and social health. Current issues and theories of health behavior. One or sections offered online.

### **450 Applied Health Promotion in Aging Populations (3)**

Prerequisite: HESC 220 or graduate standing. Promotion/risk reduction program content, development, implementation and evaluation. Topics include weight control, stress management, substance abuse, physical fitness and accident prevention. One or more sections offered online.

### **455 Designing Health Education Curricula (3)**

Prerequisite: HESC 220 or graduate standing. Theory and skills necessary to develop curriculum based on analysis of individual, community and societal needs and interests. One or more sections offered online.

### **460 Worksite Health Promotion (3)**

Prerequisite: HESC 220 or KNES 202. Philosophy, rationale and guidelines for developing health promotion programs in the corporate setting. Unique considerations in assessing needs, planning and implementing programs, evaluating effectiveness and coordinating activities in the workplace are discussed. (Same as KNES 460)

### **461 Occupational Health and Safety (3)**

Prerequisite: HESC 220 or KNES 202. Occupational health principles, including anticipation, recognition, evaluation and control of occupational hazards are presented to heighten awareness of workplace hazards on human health. Occupational health laws, regulations and methods of compliance.

### **462 Environmental Toxicology and Health (3)**

Prerequisites: HESC 220 and completion of G.E. Category B.1. Fundamental toxicological concepts, including absorption, distribution, storage, biotransformation and elimination of toxicants, target organ toxicity and risk assessment. Toxicological effects of environmental agents such as pesticides, industrial chemicals, household chemicals and food contaminants.

### **463 Air Pollution and Health (3)**

Prerequisites: HESC 220 and completion of G.E. Category B.2. Health effects of air pollutants on local, regional and global scales. Health effects of urban smog, particulate matter, indoor, outdoor and occupational exposures. Health implications from global warming, ozone-depletion and acid rain.

### **465 Introduction to International Health (3)**

Prerequisite: HESC 220. Issues in international health, emphasizing core disease conditions. Leading causes of death and disability within an international context, as well as programmatic and policy responses to improve international health.

### **475 Health Science Planning, Research and Evaluation (3)**

Prerequisites: HESC 220, 349, 401. Identification and application of concepts related to Health Science planning, research and evaluation. Analysis of planning and research designs applicable to health professionals, as well as tools for measurement of health status at individual, community, national levels.

### **480 Transdisciplinary Perspective on HIV/AIDS (3)**

Prerequisites: HESC 220, 401. Multi-level complexity of the HIV/AIDS pandemic from the perspective of several disciplines within an overarching public health context. Analysis at the levels of individuals and physical, social-structural and cultural environments.

### **481 Health in a Global Society (3)**

Prerequisite: HESC 220. Health effects of globalization. Health concerns arising from political, economic and social interconnectedness and the need to find common solutions to ensure human health worldwide.

### **494 Health Science Practicum (1)**

Corequisite: HESC 220. A requirement for Health Science majors offering an opportunity to plan, implement and evaluate special community-based projects under faculty supervision. May be repeated for six units maximum. Credit/No Credit only.

### **495 Internship in Health Science (3)**

Prerequisites: HESC 220, all 400-level classes except 475, senior standing. Supervised observation and field experience in community health settings as conducted by government, voluntary, professional or industrial/corporate organizations. May be repeated one time.

### **499 Independent Study (1-3)**

Prerequisites: complete minimum of 15 upper-division HESC courses and junior or senior standing. Topics based on a study plan prepared in cooperation with a faculty supervisor. Culminates in a paper, project, comprehensive examination or performance. Application forms must be completed and approved prior to enrollment. Maximum of three units in any one semester; may be repeated once.

**500 Issues in Public Health (3)**

Prerequisite: admission to MPH program. Historical perspectives, definitions and discussion of current public health issues. Prepares public health professionals to draw on knowledge and skills from a variety of disciplines to define, critically assess, evaluate and resolve public health problems.

**501 Advanced Methods in Epidemiology (3)**

Prerequisite: admission to MPH program. Advanced application of epidemiologic procedures to the understanding of the occurrence and control of diseases and other health problems. Emphasizes study design, data quality, statistical analysis and causal inference.

**508 Statistical Methods in Health Science (3)**

Prerequisite: graduate standing. Statistical theory, data collection procedures, techniques for analysis and interpretation of data.

**510 Research Methods in Health Science (3)**

Prerequisites: graduate standing, HESC 508. Fundamental tools of research. Types of research, process of scientific inquiry and critical analysis of research. Topic selection and development of a research.

**515 Advanced Environmental Health (3)**

Prerequisite: admission to MPH program. Ecological impacts of human activities and the need to control factors that are harmful to human health. A framework is provided for investigation/management of health hazards. Principles of environmental health emphasizes the relationships between population, natural resources, disease, toxicology and pollution.

**520 Advanced Topics in Community Health (3)**

Prerequisite: admission to MPH program. Theories, principles, planning and intervention strategies and evaluation approaches relevant to current community health promotion programs in the United States.

**524 Public Health Administration (3)**

Prerequisite: admission to MPH program. Principles, practices and skills essential to successful public health administration. U.S. health care system and factors that shape it. Public health services and administration, patterns of diseases, managed care, ethics and quality of care.

**525 Alternative and Complementary Medicine (3)**

Prerequisite: graduate standing. Role of alternative medicine in health behavior, disease, treatment, coping and healing. Its history, philosophy, concepts, development and how each of its disciplines fits in the larger scheme of Western medicine.

**535 Program Planning and Evaluation (3)**

Prerequisite: graduate standing in MPH or gerontology. Provides comprehensive theories and methods for planning and evaluating health promotion programs. Techniques for collecting and analyzing quantitative and qualitative data. Skills for measuring effectiveness of health promotion programs. (Same as GERO 535)

**540 Advanced Study in Health Promotion and Disease Prevention (3)**

Prerequisite: HESC 440 or equivalent. Psychological, social, ecological, economic and political theories relevant to the mission and process of health promotion. Application of behavioral change techniques and health education methodology to health promotion targeting individuals and whole communities.

**545 Instructional Methodologies for Health Education (3)**

Prerequisite: admission to MPH program. Develops ability to select and implement learner-centered instructional strategies designed to facilitate health behavior change for individuals in group settings. Instructional strategies appropriate for sensitive health-related content, the relationship of instructional strategies to behavioral outcomes and adult learning theories.

**550 Graduate Internship (3-6)**

Prerequisites: graduate status, consent of faculty sponsor, field supervisor, field coordinator and chair. On-the-job training experiences supervised by a fully trained practitioner. Minimum of 120 hours per semester plus conferences with faculty sponsor. Application forms must be completed and approved prior to enrollment. Upon completion of the internship, a written evaluation must be submitted. Not open to students on, or subject to, academic probation.

**558 Advanced Study of School Health Education (3)**

Prerequisite: enrollment in fifth-year program. Advanced course designed to facilitate delivery of comprehensive school health education. Strategies for personal, classroom and school safety. Application of state/federal laws pertaining to health and safety will be evaluated. One or more sections offered online.

**597 Project (3)**

Prerequisites: graduate classified status, successful completion of an oral presentation of the project and signature of all committee members on or before the census date of the semester in which the student elects to enroll. Directed independent inquiry. Not open to students on, or subject to, academic probation.

**598 Thesis (3)**

Prerequisites: graduate classified status, successful completion of an oral presentation of the thesis and signatures of all committee members on or before the census date of the semester in which the student elects to enroll. Student will select and have approved a research proposal, conduct the research and prepare a formal analysis and report. May be repeated. Not open to students on, or subject to, academic probation.

**599 Graduate Independent Research (1-3)**

Prerequisites: graduate status and consent of the faculty adviser and chair. Student research in a specific area of public health. Application forms must be completed and approved prior to enrollment. Upon completion of the research, a written report must be submitted. Not open to students on, or subject to, academic probation. Maximum of three units in any one semester; may be repeated once.





# History

College of Humanities and Social Sciences

## INTRODUCTION

Historians engage in systematic study of the human past in order to discover meaning for people in the present. The student of history may draw upon the subject matter and methods of many academic disciplines. Thus, social history employs the methods of the social sciences, including quantitative analysis, in examining social movements and issues in the past; psycho-history utilizes the approaches of psychology in the study of the behavior of historically significant individuals and groups; and the development of the various areas of human intellectual and cultural activity, for instance, the arts and sciences, are studied to inform us of how and why people have thought as they did.

Lower-division survey courses are designed to convey the broad sweep of past human events and introduce the student to the study of causation and historical source materials. Aspects of the philosophy and methodology of history and the mechanics of writing historical essays are addressed in HIST 300A and 300B. The study, in greater depth, of specialized historical topics comprises the bulk of the upper-division offerings of the department. History majors are required to take HIST 490T, a senior seminar on a special topic in which they are expected to write an original historical essay based chiefly upon the analysis of historical materials that date from the time of the events studied.

The history major is useful for students who: (1) seek a broad liberal arts education with the option to choose more specialized study by geographical region, epoch and focus of inquiry (cultural, social, etc.); (2) plan a career in government service, including positions in United States Government agencies and international organizations overseas; (3) in business where writing, research and people skills are important; (4) pursue a career in private, nonprofit organizations that may involve research and service organizations, i.e., archives, museums and libraries; (5) desire to study law; (6) intend to prepare for primary or secondary school teaching; or (7) intend to work for advanced degrees in history in preparation for college teaching. The department is committed to the university's missions and goals where learning is preeminent.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

### Bachelor of Arts in History

The following goals and student learning outcomes apply to students pursuing the B.A. in History:

#### *Knowledge*

- Demonstrate knowledge of historical facts, themes and ideas
- Summarize accurately and concisely other historians' arguments

#### *Effective Written and Oral Communication*

- Demonstrate the ability to effectively communicate historical knowledge and reasoning both orally and in writing
- Demonstrate the ability to comprehend, evaluate, analyze, and synthesize information from a variety of primary and secondary sources, including written sources, images, film and oral histories

## DEPARTMENT CHAIR

Jochen Burgtorf

## DEPARTMENT OFFICE/WEBSITE

Humanities 815F

657-278-3474

[hss.fullerton.edu/history](http://hss.fullerton.edu/history)

## PROGRAMS OFFERED

Bachelor of Arts in History

Minor in History

Master of Arts in History

## FACULTY

Gordon Bakken, Gayle Brunelle, Jochen Burgtorf, Kate Burlingham, Benjamin Cawthra, Kristine Dennehy, Nancy Fitch, Natalie Fousekis, Cora Granata, William W. Haddad, Volker Janssen, Steven Jobbitt, Jonathan Markley, Robert McLain, Maged S.A. Mikhail, Stephen Neufeld, Mougo Nyaggah, Stephen O'Connor, Raymond Rast, Jasamin Rostam-Kolayi, Lynn Sargeant, Jessica R. Stern, Laichen Sun, Lisa Tran, Allison Varzally, Philippe Zaccar

### *Analysis, Evaluation, and Synthesis*

- Differentiate between and properly identify the topic, purpose and thesis in a work of historical writing
- Differentiate between evidence and interpretation in a work of historical writing
- Differentiate within the context of a piece of historical writing between primary and secondary sources
- Critically analyze how those sources are used by historians to support their arguments
- Describe and evaluate the methodological approach employed in a piece of historical writing as well as its theoretical underpinnings
- Evaluate the overall effectiveness of a piece of historical writing

### **Master of Arts in History**

The following goals and student learning outcomes apply to students pursuing the M.A. in History:

#### *Knowledge*

- Demonstrate knowledge of historical facts, themes and ideas
- Summarize accurately and concisely other historians' arguments
- Understand the particular methodological and theoretical approaches of historical, as well as interdisciplinary scholarship

#### *Effective Written and Oral Communication*

- Demonstrate the ability to effectively communicate historical knowledge and reasoning both orally and in writing
- Demonstrate the ability to comprehend, evaluate, analyze and synthesize information from a variety of primary and secondary sources, including written sources, images, film and oral histories
- Demonstrate the ability to articulate respective critical observations
- Demonstrate the ability to adhere to professional conventions of historical writing, including rigorous documentation

### *Analysis, Evaluation, and Synthesis*

- Differentiate between and properly identify the topic, purpose and thesis in a work of historical writing
- Differentiate between evidence and interpretation in a work of historical writing
- Differentiate within the context of a piece of historical writing between primary and secondary sources
- Critically analyze how those sources are used by historians to support their arguments
- Describe and evaluate the methodological approach employed in a piece of historical writing, as well as its theoretical underpinnings
- Evaluate the overall effectiveness of a piece of historical writing
- Contextualize historical writing both diachronically and synchronically

### **Pre-Professional Information**

Students intending careers in government service or business should seek counsel from an adviser. Those planning to pursue graduate study in history should consult a faculty member of their choice. Those who expect to attend law school should plan their course of study with Professor Bakken.

### **BACHELOR OF ARTS IN HISTORY (120 UNITS)**

The Bachelor of Arts in History requires 45 units in the major. A "C" (2.0) or better is required in all history courses applied towards degree.

#### **Introductory Survey Courses (12 units)**

##### *World Civilization (6 units)*

HIST 110A World Civilizations to the 16th Century (3)

AND HIST 110B World Civilizations Since the 16th Century (3)

##### *U.S. History (6 units)*

HIST 170A United States to 1877 (3) AND HIST 170B

United States Since 1877 (3)

OR HIST 180 Survey of American History (3) AND 170A or 170B

OR HIST 190 Survey of American History with Emphasis on Ethnic Minorities AND 170A or 170B

#### **Intermediate Requirements (24 units)**

HIST 300A Historical Thinking (3)

HIST 300B Historical Writing (3)

##### *At least 6 units in three of the following four fields:*

- World/Comparative History
- United States History
- European History
- Non-Western History

#### **Advanced Requirements (9 units)**

Two upper-division history electives (6)

HIST 490T Senior Research Seminar (3)

### **MINOR IN HISTORY (24 UNITS)**

The minor in history, undertaken in consultation with a history adviser, should include a concentration in a general field.

- Lower-division coursework - six or nine units (including general education)
- Upper-division coursework - 15 or 18 units (including HIST 300A)

To complete 24 units, students have the option of taking the last three units either in the introductory requirements or the upper-division coursework.

## MASTER OF ARTS IN HISTORY (30 UNITS)

The Master of Arts degree in history is designed to provide a course of study for those whose interests are in teaching, business, government service and the professions, as well as for personal enrichment. It offers all the basic requirements for those who intend to pursue a doctoral degree upon the completion of their study at California State University, Fullerton.

### Prerequisites

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants must have a grade-point average of at least 3.0 in the last 60 semester units and a 3.0 grade-point average in upper-division history courses. Only those who have at least a 3.5 GPA in upper-division history courses may request an exemption. After fulfilling the university requirements, the applicant's records are sent to the History Department's graduate coordinator for additional evaluation. Students with deficiencies will be considered for admission only after they have completed courses approved by the coordinator.

### STUDY PLAN

Each student drafts his or her study plan with the graduate coordinator and an adviser in the area of specialization during the first semester of study. A study plan must be filed after nine units of coursework are completed. Three plans are offered for completion of the master's program.

#### Plan I

Student develops one specific field of interest and writes a thesis or project (with an oral examination taken before the final draft).

##### *Required History Courses (9 units)*

HIST 501 Theory and History (3)

HIST 521T Directed Readings Seminar in Fields of European History (3)

OR HIST 551T Directed Readings Seminar in World and Comparative History (3)

OR HIST 571T Directed Readings Seminar in Fields of American History (3)

HIST 522 Seminar in European History (3)

OR HIST 552T Seminar in World and Comparative History (3)

OR HIST 572 Seminar in American History (3)

##### *Electives (15 units)*

May be taken in 400-level or graduate courses related to the study plan, at least one of which must be taken in history and one of which must be a 500-level course.

##### *Culminating Experience (6 units)*

HIST 598 Thesis (6)

OR HIST 597 History Project (6)

#### Plan II

Student develops specializations and takes comprehensive examinations in two of the following fields: 1) American; 2) European; 3) Latin American, Asian, African or Middle Eastern; or 4) World History.

##### *Required History Courses (9 units)*

HIST 501 Theory and History (3)

HIST 521T Directed Readings Seminar in Fields of European History (3)

OR HIST 551T Directed Readings Seminar in World and Comparative History (3)

OR HIST 571T Directed Readings Seminar in Fields of American History (3)

HIST 522 Seminar in European History (3)

OR HIST 552T Seminar in World and Comparative History (3)

OR HIST 572 Seminar in American History (3)

##### *Electives (21 units)*

Nine additional units of 500-level coursework must be taken. The remaining 12 units may be taken in 400-level or graduate courses related to the study plan, at least one of which must be taken in history.

##### *Culminating Experience*

Required and elective courses should prepare students for comprehensive exams in two fields.

#### Plan III

Student develops an emphasis in public history and writes a thesis or project (with an oral examination taken before the final draft).

##### *Required History Courses (9 units)*

HIST 501 Theory and History (3)

HIST 506 Seminar in Public History (3)

HIST 521T Directed Readings Seminar in Fields of European History (3)

OR HIST 551T Directed Readings Seminar in World and Comparative History (3)

OR HIST 571T Directed Readings Seminar in Fields of American History (3)

##### *Electives (15 units)*

Electives must include nine units in adviser-approved content courses, three of which must be in history, and six units from the following applied courses:

HIST 492B Introduction to Public History (3)

HIST 492A Community History (3)

HIST 493A Oral History (3)

HIST 494 History and Editing (3)

### *Culminating Experience (6 units)*

HIST 596 Graduate Internship in History (3) AND HIST 597 History Project (3)  
OR HIST 597 History Project (6)  
OR HIST 598 Thesis (6)

In addition to the 30 units of coursework required of all students, before advancing to candidacy a cultural skills requirement must be met. In consultation with the student's graduate adviser, this may be fulfilled in a variety of ways: 1) an examination on reading ability in a foreign language or a minimum of two courses of appropriate foreign language coursework over and above the required 30 units; 2) completion of six units of comparative studies in other departments appropriate to the student's program over and above the required 30 units; 3) an examination of courses taken in statistics; or 4) students in Plan I and Plan II may also fulfill the cultural skills requirement by taking six units of specialized coursework in public history (HIST 492A, 493A, 494) over and above the required 30 units.

For further information call the Department of History.

## **HISTORY COURSES**

Courses are designated as HIST in the class schedule.

### **110A World Civilizations to the 16th Century (3)**

Development of Western and non-Western civilizations from their origins to the 16th century.

### **110B World Civilizations Since the 16th Century (3)**

Development of Western and non-Western civilizations from the 16th century to the present.

### **170A United States to 1877 (3)**

Political, social, economic and cultural development of the United States to 1877. Old World background, rise of the new nation, sectional problems, the Civil War and Reconstruction.

### **170B United States Since 1877 (3)**

U.S. history from the late 19th century to the present. Economic transformation, political reform movements, social, cultural and intellectual changes and the role of the United States in world affairs.

### **180 Survey of American History (3)**

American history from prehistoric times (before 1492) to the present according to chronological time periods. Basic themes that pervade the entire sweep of the nation's history. Satisfies state requirement in U.S. History. Not available for credit to students who have completed HIST 190.

### **190 Survey of American History with Emphasis on Ethnic Minorities (3)**

A survey of American history from prehistoric times (before 1492) to the present with special emphasis on the role of race and ethnicity. (Same as AFAM/AMST/CHIC 190). Credit will not be given for both HIST 180 and 190.

### **201 The History of Asian Pacific Americans (3)**

Prerequisite: completion of General Education (G.E.) Category D.1. Origins and evolution of Asian American communities and cultures, with an emphasis upon the Southern California region, through selected books, oral histories, films, outside speakers and excursions. (Same as AMST 201)

### **230 The Ascent of Man (3)**

Science and technology in the development of human culture, especially the development of science in western culture since the 17th century. Scientific concepts, their emergence and the social impact of science.

### **300A Historical Thinking (3)**

Nature of history, history of historical thought, and history's relationship to the humanities and social sciences. Seminar required of all history majors. History majors must earn at least a "C" (2.0) in this course.

### **300B Historical Writing (3)**

Research, writing and library usage (including computer-assisted bibliographic searches) as related to history. Meets the classroom portion of the upper-division writing requirement for history majors. Seminar required of all history majors. History majors must earn at least a "C" (2.0) in this course.

### **310 The California Experience (3)**

(Same as LBST 310)

### **311 World War II (3)**

History of World War II: Films, documentaries, lectures and discussion.

### **315 A European Tour (3)**

(Same as EUST 315)

### **320 Modern European History 1789 - Present (3)**

Prerequisite: HIST 110B or completion of G.E. Category D.1. Major political, social, economic and cultural developments in Modern Europe. Topics include the French Revolution, industrial revolution, liberalism, socialism, nationalism, imperialism, urbanization, modernity, the World Wars, Russian Revolution, inter-war period and post-1945 period.

### **331 History of Science: Copernicus to the Present (3)**

Prerequisite: completion of G.E. Category B.2. Science from the 16th century to the present, especially the scientific revolutions of the 17th and 20th centuries and the interaction between science, technology and culture. (Same as LBST 331)

### **332 Concepts and Approaches in Women's History (3)**

Prerequisites: HIST 110B and either HIST 170B or 180. Overview of problems, concepts, methodologies and debates that have characterized women's history in recent decades. (Same as WMST 332)



**350 History of Latin American Civilization (3)**

Prerequisites: completion of G.E. Categories C.3 and D.1. Social, economic, political and cultural evolution of Latin America from the European conquest to the present.

**355 History of African Civilization (3)**

Social, political, economic and cultural evolution of African civilizations from early times to the present. Credit will not be given for both HIST 355 and AFAM 346.

**360 Modern Asia: Nationalism and Revolutionary Change (3)**

Prerequisites: HIST 110B and completion of G.E. Category D.1. Modular analysis of nationalism, revolution and modernization as drawn from the experiences of the countries of China, Japan, India and Southeast Asia.

**377 Women's Image in American Film (3)**

Prerequisite: completion of G.E. Category C.1. Images, symbols, visual metaphors and myths as they relate to the image of women. Change in film images will be contrasted with the changing status of women in America. Not available for graduate degree credit.

**382 World War II Japanese American Evacuation (3)**

Prerequisites: completion of G.E. Category D.1 and HIST 170B, 180 or 190. World War II eviction and detention of people of Japanese ancestry in the United States, pivoting on the significance of this experience in the areas of civil and human rights, cross-cultural relations and international affairs. Not available for graduate degree credit. (Same as AMST 382)

**386A American Social History 1750-1860 (3)**

Prerequisite: completion of G.E. Category D.3. Social history of the United States to the Civil War; reform movements, temperance, moral purity, women's rights, anti-slavery, spiritualism and their importance to the formation of a modern society.

**386B American Social History 1865-1930 (3)**

Prerequisite: completion of G.E. Category D.3. Social history of the United States from the Civil War; reform, social organization and values. Women's movement, censorship, divorce, the child and the limits of reform movements in an organizational society.

**394 The American Civil War (3)**

Prerequisite: HIST 170A or 180. History of the American Civil War. Both contemporary and current analyses of the war will be amplified by the use of films and slides.

**395 A History of the First World War (3)**

Prerequisite: HIST 110B. History of the Great War stressing the military, social, economic and political aspects of the war. Films, documentaries and special lectures.

**400A Concepts in World History, Ancient to Early Modern (3)**

Prerequisite: HIST 110A. Designed primarily for students intending to teach world history. Ways in which world history can be conceptualized. Explores such themes as nomadism, syncretism, cross-cultural trade and European diffusionism.

**410 The Rise of the Atlantic World (3)**

Prerequisite: HIST 110A. Main themes of the history of the Atlantic Basin, 1450-1700, including the discovery and conquest of the New World, Africans' contributions to the creation of the Atlantic world and the origins of the "plantation complex."

**411A The Ethnic Empire from Imperial Russia to Post-Soviet Eurasia (3)**

Prerequisites: HIST 110A OR 110B. Introduction to a major world region, Eurasia. Cooperation and competition between ethnic, religious and linguistic groups. Islam in Central Asia, oil and politics in the Caspian Basin, and persistent conflicts in the Caucasus.

**411B Genocide and Ethnic Cleansing (3)**

Prerequisite: HIST 110B. History of genocide and ethnic cleansing in a global context. Weekly readings and seminar discussions highlight questions of racial violence, victimhood, modernization, nation building, gender, class and the politics of memory and denial.

**412A History of the Christian Church to the Reformation (1517) (3)**

Prerequisite: HIST 110A or equivalent. Christian Church from its origins in the apostolic preaching through the late Middle Ages and the beginning (1517) of the Reformation in both the East and West. (Same as CPRL 412A)

**412B History of the Christian Church from the Reformation to the Present (3)**

Prerequisite: HIST 110B or equivalent. Western church as an institution from the Reformation (1517) to the present. Orthodoxy, Catholicism and Protestantism in historical perspective. (Same as CPRL 412B)

**412C History of the Jews (3)**

Prerequisite: completion of G.E. Category C.4. Jewish people from the biblical period to the present. Literature of each period, as well as the relationships that exist between the Jewish communities and the societies in which they exist. (Same as CPRL 405)

**415A Classical Greece (3)**

Prerequisite: HIST 110A or equivalent. Civilization of ancient Greece. Rise and flourishing of the classical city-states; literary and philosophic contributions to modern civilization.

**417A Roman Republic (3)**

Prerequisite: HIST 110A or equivalent. Roman social and political institutions under the republic.

**417B Roman Empire (3)**

Prerequisite: HIST 110A or equivalent. Roman imperial institutions and culture with attention to the rise of Christianity. (Same as CPRL 417B)

**420 The Byzantine Empire (3)**

Prerequisite: HIST 110A or equivalent. East Roman Empire from Constantine to the Ottoman conquest of 1453. Institutional aspects of Byzantine society: church, state, the economy, law and culture.

**423A Medieval History, 300-1350 (3)**

Prerequisite: HIST 110A or equivalent. Medieval civilizations – East European, West European and Islamic – from the decline of the Roman Empire to the beginning of the Hundred Year's War, with emphasis on cultural, intellectual and social history.

**423C Ancient and Medieval Britain (3)**

Prerequisite: HIST 110A. Britain from 5 B.C. to 1485. Constitutional, institutional and cultural aspects of Roman, Celtic, Anglo-Saxon, Norman and Plantagenet Britain.

**424T Gender and Sexuality in History (3)**

Prerequisites: HIST 110A and 110B, 170A and 170B, or equivalents. Variable topics in gender and sexuality in history. Historical forces that shaped masculinity and/or femininity.

**425A The Renaissance (3)**

Prerequisite: completion of G.E. Category D.2. Europe in the 14th and 15th centuries: development of humanism and capitalism in Italy and their impact on European culture; rise of Renaissance monarchies; the Renaissance papacy; Christian humanism; and Renaissance science and mysticism.

**425B The Reformation (3)**

Prerequisite: completion of G.E. Category D.2. Europe in the 16th and 17th centuries: impact of the Protestant and Catholic Reformations on European culture; the religious wars; the price revolution and; crises of the nobility; rise of absolutism; and the early modern family. (Same as CPRL 425B)

**425C Society and Culture in Early Modern Europe (3)**

Prerequisites: HIST 110A,B. Main themes and problems of the social and cultural history of Europe from 1450 to 1700, such as social status and class, gender, ethnicity and violence.

**425D Magic, Mysticism and Witchcraft in Early Modern Europe (3)**

Prerequisites: HIST 110A,B. Magical thinking in Europe from its medieval roots through the 17th century. The currents of magical thinking in elite and popular culture and its manifestations in Renaissance science and philosophy, and in the witch craze.

**428A The Rise and Decline of Liberal Europe in the 19th Century (3)**

Prerequisites: HIST 110A,B. Impact of industrialization, liberal political reform and new forms of consumption and production on the daily lives of men and women who lived in 19th-century Europe. Socialist, nationalist and feminist responses to social change.

**429A Europe 1890-1945 (3)**

Prerequisite: HIST 110B. Survey of the cultural, political and economic history of Europe, 1890-1945.

**429B Europe Since 1945 (3)**

Prerequisite: HIST 110B. Survey of the cultural, political and economic history of Europe since 1945.

**430A Enlightenment and Revolution (3)**

Prerequisites: HIST 110A,B. Impact of slavery in the French Caribbean, rise of nation states, emergence of Enlightenment thought, feminism and popular politics during the 18th century and French Revolution.

**430B Zola's Paris (3)**

Prerequisite: HIST 110B. Parisian history from 1830-1900, organized around the work of Emile Zola. Interdisciplinary analysis of the city, especially Haussmann's "urban renewal," the rise of consumerism and spectacles, and political affairs.

**432 From Bismarck to Hitler: Modern Germany, 1870-1945 (3)**

Prerequisite: HIST 110B. Social and political history of Germany from 1871 through World War II, and current historiographical debates in modern German history.

**433A Tudor-Stuart England (3)**

Prerequisite: HIST 110A or 110B. England from the accession of Henry VII to the Glorious Revolution. Political, institutional, ecclesiastical and cultural aspects of the period of the Tudors and Stuarts.

**433B History of Modern England and Great Britain (3)**

Prerequisite: HIST 110B. Modern British history (Glorious Revolution to present). Achievement of constitutional monarchy, transition from agrarian to industrial society, establishment of political democracy and the rise and fall of socialism.

**434A Russia to 1801 (3)**

Prerequisite: completion of G.E. Category D.2. Establishment of the Russian state at Kiev through the reign of Catherine the Great. Political, cultural and social history of medieval, early modern and imperial Russia.

**434B Modern Russia and the Soviet Regime (3)**

Prerequisite: completion of G.E. Category D.2. Political, cultural and social history of Late Imperial Russia and the Soviet Union. The 1905 and 1917 revolutions, their roots in 19th-century political and social changes, and the consolidation of power under the Bolshevik party. Continuity and change of Russian institutions and politics in Tsarist, Soviet and post-Soviet Russia.

**435A The Holocaust (3)**

Prerequisite: HIST 110B or any modern European upper-division course. Traces the history and examines the origins, implementation and results of the European-wide programs of persecution and genocide carried out by Nazi Germany and their collaborators against the Jews during the period 1933-1945. (Same as CPRL 435A)

**435B Fascism, 1918-1945 (3)**

Prerequisite: HIST 110B. Global phenomenon of fascism from its origins at the end of the 19th century to its “defeat” at the end of World War II, examining major and minor movements from a social, cultural and political point of view.

**436A Cities in European Civilization, 1000-1915 (3)**

Prerequisite: HIST 110A or 110B. Urban history of Western Europe from the revival of urban life in the High Middle Ages through WWI, with a focus on urban social and cultural evolution.

**437B Gender and Sexuality in Modern European History (3)**

Prerequisite: HIST 110B. Nature of masculinity and femininity as they determined and were determined by specific historical forces, the importance of the irrational and unconscious in history, and gender as a primary determinant of patterns of work and life in Europe.

**437C Gender in Russia and USSR: Men, Women and the Family (3)**

Prerequisite: HIST 110A or 110B. History of gender in Russian society. Analytical discussions of experiences of men and women. Familial relationships and the experiences of children in Russia and the Soviet Union.

**449A Race, Ethnicity and Gender in Latin America: A History (3)**

Prerequisite: HIST 110B. Issues of race, ethnicity and gender in Latin America from the 15th century to the present. Emphasizes Latin America's two largest countries: Brazil and Mexico.

**449B Cuban History Through Film (3)**

Prerequisite: HIST 110B. History of Cuba through film. The camera as a window into Cuban society. Major themes, such as slavery, gender, Cuban-U.S. relations and the socialist revolution.

**451A Colonial Period of Latin America (3)**

Prerequisite: HIST 110A or equivalent. Latin America from its pre-Columbian origins to the era of the Wars of Independence. Emphasizes ethnic, social and cultural factors that characterized the colonial period.

**451B 19th-Century Latin America: Era of Nation Building (3)**

Prerequisite: HIST 110B or equivalent. Latin America during the 19th century (1810-1910) with emphasis on cultural and socio-political factors that were important in the creation of Latin American nations. Special focus on development of the Rio de la Plata, the Andean nations and Mexico.

**451C Latin America Since 1945 (3)**

Prerequisites: completion of HIST 110A,B. Political, economic, cultural and social patterns in key Latin American nations from 1945 to the present.

**452 20th-Century Brazil (3)**

Prerequisite: HIST 110B. Social, economic, cultural and political history of Brazil, with particular emphasis on the period since World War II.

**453A History of Mexico pre-Columbian (pre 1521) through 1821 (3)**

Prerequisite: HIST 110A or HIST 110B or equivalent. History of Mexico from prior to the Spanish conquest of 1521 through the wars for Independence ending in 1821.

**453B History of Mexico from Independence (1821) to Modern Day (3)**

Prerequisite: HIST 110A or HIST 110B or equivalent. Pivotal moments in modern Mexican history, including post-colonial nation building, Mexican-American War, Mexican Revolution of 1910, Chiapas Rebellion of the mid-1990s and 2000 elections.

**458A West Africa and the African Diaspora (3)**

Prerequisite: HIST 110B or equivalent. West African relationships with the African diaspora in the Americas. Issues of the origins of political conflict, economic exploitation, racism, gender, revolts, emancipation, Pan-Africanism and rights of African descendants since the 15th century. (Same as AFAM 458A)

**458B Southern Africa in the 20th Century (3)**

Prerequisite: HIST 110B or equivalent. Twentieth-century developments in the Union (Republic) of South Africa, Central Africa (the Rhodesias and Nyasaland) and the Portuguese colonies; the political, economic and social ramifications of race relations. (Same as AFAM 458B)

**458C African History Since 1935 (3)**

Prerequisite: HIST 110B or equivalent. Issues of European imperialism, settler cultures, racism and African consciousness, ethnic conflict, gender, nationalist and guerrilla liberation movements, Pan-Africanism, international relations and society development policies in Africa since 1935. (Same as AFAM 458C)

**460A The Chinese Diaspora (3)**

Prerequisite: HIST 110B. History of Chinese migration from the 16th century to the present; focuses on the domestic and international situations that shaped the conditions for Chinese emigration in different parts of the world.

**460B Law and Order in China (3)**

Prerequisites: HIST 110A, B. Meaning, nature and role of law, from imperial to contemporary times by examining the philosophical underpinnings and practical implications of legal traditions that have shaped the history of law in China.

**461 History of China (3)**

Prerequisite: HIST 110A or equivalent. Chinese history from ancient times to the middle of the 17th century; society, thought, economy and political institutions.

**462B History of China (3)**

Prerequisite: HIST 110B or equivalent. Chinese history from the middle of the 17th century to the 1950s. China's internal developments and foreign intrusion, the rise of modern Chinese nationalism and intellectual developments in the Republican period, and the attempts at modernization and the triumph of communism.

**462C China Since 1949 (3)**

Prerequisite: HIST 110B or equivalent. History of China from 1949 to the present. Communist Party, political institutions, ideology, economic modernization and foreign relations of China.

**463A History of Japan (3)**

Prerequisite: completion of G. E. Category D.2. Social, political and economic history of Japan until 1868, stressing the Tokugawa era.

**463B History of Japan (3)**

Prerequisite: HIST 110B or equivalent. Rise of the modern Japanese state, Japanese imperialism and the postwar era.

**463C Themes in Korean History (3)**

Prerequisites: HIST 110A, B. Chronological overview of Korean history, with an emphasis on the modern period. Thematic approach covers topics such as a state building, Confucianism, nationalism, the colonial period, the Korean War and reunification of the peninsula.

**464A History of Southeast Asia to 1800 (3)**

Prerequisite: HIST 110B or equivalent. Development of Southeast Asian civilizations from the earliest times to 1800, including the classical and early modern era.

**464B History of Southeast Asia, 1800-present (3)**

Prerequisite: HIST 110B or equivalent. Development of Southeast Asian history from 1800 to the present, including the colonial, post-colonial and contemporary period.

**464C Early Vietnam (3)**

Prerequisite: HIST 110A. History of Vietnam from the earliest times to c. 1850. Seeks to identify the main issues in Vietnam's early history and trace the origins of the Vietnamese civilization and its implications on the formation of Vietnamese national identity and nationalism.

**464D Modern Vietnam (3)**

Prerequisite: HIST 110B. History of Vietnam since 1802. Special emphasis placed on the French colonial experience, the Vietnamese struggle against the French from 1946 to 1954, and the American involvement in Vietnam.

**465A History of India (3)**

Prerequisite: completion of G. E. Category D.2. History of India from ancient times through the arrival of Islam, to the decline of the Mughul Empire in 18th century. Political developments, social and religious institutions: Hinduism, Buddhism, Jainism, class, caste, early impact of Europeans. Not available for graduate degree credit. (Same as CPRL 465A)

**465B History of India (3)**

Prerequisite: HIST 110B or equivalent. India from early activities of British in 18th century through Indian Independence in 1948. Political, economic, religious developments: crystallization of British supremacy in South Asia through the Indian Mutiny of 1857; India's struggle for independence; emergence of Gandhi and Nehru. (Same as CPRL 465B)

**466A Islamic Civilization: Arab Era (3)**

Prerequisite: HIST 110A or equivalent. Arab predominance in the Middle East from the rise of Islam to the Mongol invasions of the 13th century. (Same as CPRL 466A).

**466B Islamic Civilization: Imperial Age (3)**

Prerequisite: completion of G. E. Category D.2. Mongol invasions of the Middle East and their effects. Ottoman Turkish, Safavid Persian and Moghul Empires to 1800. (Same as CPRL 466B).

**467A The Middle East in the 19th Century (3)**

Prerequisite: HIST 110B or equivalent. Western penetration of the Middle East and the reaction to it, modernization, the growth of nationalist movements and revolutionary disturbances ending with World War I.

**467B Contemporary Middle East History (3)**

Prerequisite: HIST 110B or equivalent. Social, political and economic changes in the Middle East since World War I. The period after World War II and recent independence movements.



**468A Women and Gender in Middle East History (3)**

Prerequisites: HIST 110A, 110B. History of women and gender relations in Middle Eastern society and culture from the period of late antiquity to present.

**468B Eastern Mediterranean 500-900 CE (3)**

Prerequisite: HIST 100A. Most important historical events, social transformations and historiographic issues that pertain to the demise of the Late Roman Empire and rise of caliphal rule in the Eastern Mediterranean.

**471A American Colonial Civilization (3)**

Prerequisite: HIST 170A or 180. Creation and development of societies in English North America from 1492-1754; the emergence of economic, social and political patterns and structures in a maturing Anglo-American culture.

**471B The United States from Colony to Nation (3)**

Prerequisite: HIST 170A or 180. Social, economic, political and intellectual developments in late 18th-century America, the coming of the American Revolution, origins of American nationalism, social structure of the new nation and formation and ratification of the Constitution.

**473A Jeffersonian Themes in American Society, 1800-1861 (3)**

Prerequisite: completion of G. E. Category D.3. Jeffersonian values and their impact upon the social, political and cultural life of the nation.

**473B Democracy on Trial, 1845-1877 (3)**

Prerequisite: completion of G. E. Category D.3. America's "great national crisis" and the impact of slavery, civil war and national reconstruction upon the democratic process of the republic.

**473C United States, 1876-1920 (3)**

Prerequisites: HIST 170B or 180 or equivalent. Industrialization, urbanization and immigration. Reconstruction, the New South and the West. Populist and Progressive reform movements. World War I and the Red Scare.

**475A United States, 1920-1960 (3)**

Prerequisite: HIST 170B or 180, or equivalent. Major trends and conflicting values in domestic policies, national security policies, the economy, society and culture. Analyses of civil rights, civil liberties, parties and politics. Examination of key historiographic controversies.

**475B U.S. in the 1950s (3)**

Prerequisites: HIST 170A,B; or 180 and 170A or 170B; or 190 and 170A or 170B; or 180 or 190. American society, politics and culture during the Cold War era. From World War II's end, Cold War at home and abroad, and America's involvement in Vietnam War.

**475C United States Since 1960 (3)**

Prerequisite: HIST 170B or 180, or equivalent. U.S. History from 1960 to present, interrelating foreign and domestic policy, economic, social and cultural trends, a study of U.S. history as it is being formed.

**477A Race Mixing in U.S.A. History (3)**

Prerequisites: HIST 170A, 170B, 180 or 190. History of racial mixing in the United States. Experiences of interracial families and especially their mixed race progeny. Complicates understanding of racial categories and hierarchies over time.

**477B Native American History (3)**

Prerequisite: HIST 170A, 170B, 180 or 190. Role of Native Americans in American history. Focusing on religion, education, literature, commerce and museums to understand the interactions between Native Americans and Americans of other races and ethnicities within the context of wider historical trends.

**479A The Urbanization of American Life (3)**

Prerequisite: completion of G. E. Category D.3. Urban life in America; the colonial town, the western town and the industrial city.

**479B U.S. Economic History to 1900 (3)**

Prerequisites: Completion of G.E. Category D.3 and HIST 170B or 180. Economic origins of the American colonies, economic causes of the Revolution, the market revolution of the early 1800s, diverging regional developments in North and South, and industrialization and incorporation of America before 1900.

**479C U.S. Economic History in the 20th Century (3)**

Prerequisites: Completion of G.E. Category D.3 and HIST 170B or 180. The development of a mass production and consumer society, economic crisis of the 1930s, postwar prosperity, emergence of a postindustrial global economy, history of the financial market and social tensions of economic growth.

**480A Development of American Law (3)**

Prerequisite: HIST 170A or 170B. American law; contracts, property, commercial law, criminal law, corporations, torts, civil procedure and the legal profession.

**480B American Legal and Constitutional History (3)**

Prerequisite: completion of G. E. Category D.3. Legal and constitutional issues affecting the development of the U.S. Constitution, American law and government. Developments from English and colonial legal origins to constitutional problems of the post-World War II era.

**480C American Military History (3)**

Prerequisite: HIST 180 or equivalent. America's military experience focusing upon the democratic, industrial, managerial, mechanical, scientific and social revolutions that have molded military institutions and national policies.

**480D United States Foreign Relations (3)**

Prerequisite: HIST 170B or 180, or equivalent. Relations from 1900 to the present. United States as a world power in the 20th century; the search for world order and the diplomacy of the atomic age.

**481A Westward Movement in the United States (3)**

Prerequisite: completion of G. E. Category D.3. Expansion of the United States population and sovereignty from the eastern seaboard to the Pacific, colonial times to 1900; regional development during the frontier period.

**481B History of California (3)**

Prerequisite: completion of G.E. Category D.3. Political, economic and social history of California from the aboriginal inhabitants to the present; the development of contemporary institutions and the historical background of current issues.

**481C The History of Orange County (3)**

Prerequisite: HIST 170B or 180, or equivalent. History of Orange County. Stresses the process of urbanization.

**486 United States Cultural History (3)**

Prerequisite: completion of G. E. Category D.3. Cultural values, ideas and beliefs of American communities as expressed through a variety of media, including historical, literary, visual, material and aural sources.

**490T Senior Research Seminar (3)**

Prerequisites: HIST 300A, B. Directed research seminar with class discussions applied to specific topics and areas as schedule and staff allow. Original research and writing. Required of all history majors. History majors must earn at least a "C" (2.0) in this course. (Multiple enrollment permitted in different sections of the same course.)

**491T Proseminar in Special Topics in History (3)**

Prerequisites: HIST 110A, B for European and non-West courses; HIST 170A, B; or HIST 170A or 170B and 180; or HIST 170A or 170B and 190 for U.S. History. Intensive study of selected phases or periods of history.

**492A Community History (3)**

Prerequisite: completion of G. E. Category D.3. Historical development of communities in general, including the Orange County area. Techniques of gathering and processing local historical data, including oral interviews and other archival materials.

**492B Introduction to Public History (3)**

Prerequisite: HIST 180 or equivalent. Applications of history to activities outside of teaching and academic research. Archival work, historic preservation, exhibit interpretation and historical research and writing in business, government and individual consulting.

**492C Practicum in Public History (3)**

Prerequisite: completion of G.E. Category D.2 or D.3. Hands-on experience in public history. Working as a project team, students will contribute to a public history project in collaboration with a museum, historic site, agency or organization in Southern California. Field work may be required.

**493A Oral History (3)**

Prerequisite: completion of G. E. Category D.3. Utilization of tape recorded interviews to document significant events in 20th-century history. Training in interviewing techniques, specific background research and equipment use, after which students conduct a number of tape-recorded interviews.

**493B Oral History/Guided Autobiography (3)**

Prerequisite: completion of G.E. Category D.3, core competencies or equivalents. Theories and methods of oral history and guided autobiography, and training to become professional practitioners at community and senior centers, educational institutions, historical agencies and other settings. (Same as GERO 493B)

**494 History and Editing (3)**

Prerequisite: HIST 300B. Techniques of editing, book and photo layout and indexing. Focuses on oral history documents, but includes other historical and technical editing. May be repeated once for credit.

**498 History Internship (3)**

The internship program offers work experience related to the history academic program or to areas of public and private employment where any liberal arts major is appropriate.

**499 Independent Study (1-3)**

Open to advanced students in history with consent of department chair. May be repeated for credit.

**501 Theory and History (3)**

Prerequisite: HIST 300A or equivalent. Seminar introducing philosophical issues in history as a humanistic social science, to epistemological considerations of the relationship of history to other disciplines and to new subdisciplines in history. Required for the M.A.

**506 Seminar in Public History (3)**

Prerequisite: consent of instructor. Seminar in sources, themes, writing and formats used by historians working outside the classroom. Content will vary with instructor and will emphasize application of historical methods to various sectors of community history. Alternative to HIST 572/522 requirement for M.A. Required for M.A. students pursuing the Public History Emphasis.

**521T Directed Readings Seminar in Fields of European History (3)**

Prerequisite: a 3-unit upper-division course in the sub-field of the offering or its equivalent. Critical examination of the literature that has been important in different fields of European history. May be repeated for credit when covering a different subfield.

**522 Seminar in European History (5)**

Prerequisite: HIST 501 or equivalent. Seminar in which students will utilize primary sources in writing research papers in European History. May be repeated once for credit when covering a different sub-field.

**551T Directed Readings Seminar in World and Comparative History (3)**

Prerequisite: a 3-unit upper-division course in world history. Variable topics reading seminar designed to offer a comprehensive background in the literature of world and comparative history. May be repeated for credit when covering a different subfield. Topics: "Cross-Cultural interaction in the Medieval World, (ca. 500-1500), "The Age of Discovery," "The Ancient World."

**552T Seminar in World and Comparative History (3)**

Variable topics research seminar designed to explore world and comparative history through a primary source based research paper. May be repeated for credit when covering a different subfield. Topics: "Cross-Cultural Interactions in the Medieval World, (ca. 500-1500)," "The Age of Discovery," "The Ancient World."

**571T Directed Readings Seminar in Fields of American History (3)**

Prerequisite: a 3-unit upper-division course in the sub-field of the offering. Critical examination of literature that has been important or influential in specific fields of American history. May be repeated for credit when covering a different sub-field.

**572 Seminar in American History (3)**

Prerequisite: HIST 501 or equivalent. Seminar in which students will utilize primary sources in writing research papers in American History. May be repeated once for credit when covering a different sub-field.

**596 Graduate Internship in History (3)**

Prerequisite: classified graduate status. Professional-level internship in historical work. Usually precedes HIST 597, Project and constitutes research phase of main graduate exercise, as well as preparation for post-graduate career. May be repeated for credit.

**597 History Project (3 or 6)**

Editing a significant body of primary source materials, including a critical and interpretive introduction, as well as appropriate reference and explanatory notes. Foreign sources will normally be translated into English.

**598 Thesis (3 or 6)**

Prerequisite: consent of instructor. May be repeated for credit.

**599 Independent Graduate Research (1-3)**

Open to graduate students in history with consent of department chair. May be repeated for credit.



# Human Communication Studies

College of Communications

## DEPARTMENT CHAIR

John Reinard

## DEPARTMENT OFFICE/WEBSITE

College Park 420-1

657-278-3517

[communications.fullerton.edu/departments/hcomm/](http://communications.fullerton.edu/departments/hcomm/)

## PROGRAMS OFFERED

Bachelor of Arts in Communicative Disorders

Master of Arts in Communicative Disorders

Credential in Speech-Language Pathology Services  
Credential in Language, Speech and Hearing

Bachelor of Arts in Communication Studies

Emphases:

Argumentation and Persuasion,  
Intercultural Communication,  
Interpersonal Communication,  
Organizational Communication,  
Communication Studies

Minor in Communication Studies

Master of Arts in Communication Studies

## FACULTY

Jon Bruschke, K. Jeanine Congalton, Michael Davis, Tenzin Dorjee, Robert Gass, Nise Bloomfield Frye, Javette Hayes, Minjung Kim, Kurt Kitselman, Edith Li, Patty Malone, Summer Martin, Irene Matz, Toni Nielson, Donald Peters, John Reinard, Gary Ruud, Terry Saenz, Hye-Kyeong Seung, Jason Teven, Erika Thomas, Stella Ting-Toomey, Kenneth Tom, Ying-Chiao Tsao, Toya Wyatt.

## INTRODUCTION

The mission of the department is to provide students with an understanding of communication processes in a culturally diverse society. An in-depth understanding of communication processes brings a number of benefits, including the ability to analyze communication barriers and the competency to facilitate effective communication between individuals, within organizations, between organizations and their customers or constituencies, and across cultures. Our vision is to train good men and women speaking well to solve communication problems by studying the ways in which messages link participants during transactions. Understanding communication processes in depth can, with specialized education and training, also be used to diagnose and treat disorders of communication.

## LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes have been established for students pursuing a degree in Communication Studies:

### Knowledge/Processes

- Identify the basic elements of an argument, such as claim, grounds and warrant, to apply the basis of “test evidence” to the proof or support offered by and advocate, and identify common fallacies in reasoning
- Demonstrate knowledge of basic postulates, theories and models of human communication
- Demonstrate knowledge of the basic stock issues associated with propositions of value and propositions of policy and to advance an argumentative case, refute an opponent’s case, and extend his or her own arguments

### Skills

- Adapt a persuasive message to the audience’s frame of reference, arrange the points into a hierarchy of coordinate and subordinate points, and display appropriate message-enhancing nonverbal behaviors
- Distinguish between independent and dependent variables in an experimental investigation and to identify the basic threats to validity in controlled laboratory investigations
- Demonstrate knowledge of communication research objectives and methods, utilize library resources to access appropriate scholarly information, and to develop and reference persuasive scholarly arguments in writing

### Attitudes

- Identify and analyze core cultural value dimensions that shape communication behaviors



For the goals and learning outcomes for students pursuing a degree in Communicative Disorders, see [communications.fullerton.edu/humancomm/learning\\_goals.htm](http://communications.fullerton.edu/humancomm/learning_goals.htm).

## **BACHELOR OF ARTS IN COMMUNICATIVE DISORDERS (120 UNITS)**

The Bachelor of Arts in Communicative Disorders requires 42 units in the major; 39 of which are required and three are elective.

### **Sophomore Level (6 units)**

HCOM 241 Introduction to Phonetics (3)

HCOM 242 Introduction to Communicative Disorders (3)

### **Junior Level (15 units)**

HCOM 300 Introduction to Research in Speech Communication (3)

HCOM 307 Speech and Language Development (3)

HCOM 344 Anatomy and Physiology of Speech and Hearing (3)

HCOM 350 Speech and Hearing Science (3)

HCOM 352 Child Language and Phonological Disorders (3)

### **Senior Level (18 units)**

HCOM 461 Audiology and Audiometry (3)

HCOM 465 Aural Rehabilitation (3)

HCOM 472 Voice and Craniofacial Disorders (3)

HCOM 474 Neurology and Neurogenic Communicative Disorders (3)

HCOM 475 Fluency Disorders (3)

HCOM 476 Clinical Methods and Procedures (3)

### **Electives (3 units)**

HCOM 302 Introduction to Sign Language (3)

HCOM 308 Quantitative Research Methods (3)

HCOM 312 Intermediate Sign Language (3)

HCOM 345 Communication and Aging (3)

HCOM 404 Communicative Disorders of the Bilingual/Multicultural Child (3)

## **BACHELOR OF ARTS IN COMMUNICATION STUDIES (120 UNITS)**

The Bachelor of Arts in Communication Studies requires 42 units in the major, including 18 units of core requirements, 12 units of breadth experiences and 12 units within one of five emphases.

### **Core Requirements (18 units)**

HCOM 102 Public Speaking (3)

HCOM 200 Human Communication (3)

HCOM 235 Essentials of Argumentation (3)

OR HCOM 236 Essentials of Debate (3)

HCOM 300 Introduction to Research in Speech Communications (3)

HCOM 308 Quantitative Research Methods (3)

HCOM 420 Communication Theory (3)

### *Breadth Experiences (12 units)*

HCOM 313 Interpersonal Communication Theory (3)

OR HCOM 318 Family Communication (3)

OR HCOM 413 Communication in Interpersonal Relationships (3)

OR HCOM 437 Internship – Speech Communication (3)\*

HCOM 324 Communicating in Groups and Teams (3)

OR HCOM 326 Organizational Communication Dynamics (3)

OR HCOM 433 Training and Development (3)

OR HCOM 437 Internship – Speech Communication (3)\*

HCOM 330 Rhetoric of Popular Culture (3)

OR HCOM 332 Processes of Social Influence (3)

OR HCOM 335 Advanced Argumentation (3)

OR HCOM 437 Internship – Speech Communication (3)\*

HCOM 320 Intercultural Communication (3)

OR HCOM 422 Applications of Intercultural Communication (3)

OR HCOM 456 Intercultural Conflict: Theory and Practice (3)

OR HCOM 437 Internship – Speech Communication (3)\*

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\*HCOM 437 must be taken with permission of internship instructor and must be in the specific Breadth Experience category to which it is applied. May be taken only once for credit.

### **Emphasis in Argumentation and Persuasion (12 units)**

HCOM 138/338 Intercollegiate Forensics (3)

HCOM 236 Essentials of Debate (3)

HCOM 330 Rhetoric of Popular Culture (3)

HCOM 332 Processes of Social Influence (3)

HCOM 334 Persuasive Speaking (3)

HCOM 335 Advanced Argumentation (3)

HCOM 337 Communication in the Legal Arena (3)

HCOM 342 America Speaks (3)

HCOM 426 Directing Forensics (3)

HCOM 432 Contemporary Rhetoric (3)

### **Emphasis in Intercultural Communication (12 units)**

HCOM 220 Interpersonal Conflict Management (3)

HCOM 320 Intercultural Communication (3)

HCOM 331 Sex and Gender in Human Communication (3)

HCOM 360 Nonverbal Communication (3)

HCOM 422 Applications of Intercultural Communication (3)

HCOM 435 Communication in Community Building and Civic Engagement (3)

HCOM 456 Intercultural Conflict: Theory and Practice (3)

HCOM 479 Mediation: Principles and Practice (3)

**Emphasis in Interpersonal Communication (12 units)**

HCOM 220 Interpersonal Conflict Management (3)

HCOM 313 Interpersonal Communication Theory (3)

HCOM 318 Family Communication (3)

HCOM 324 Communicating in Teams and Groups (3)

HCOM 331 Sex and Gender in Human Communication (3)

HCOM 360 Nonverbal Communication (3)

HCOM 413 Communication in Interpersonal Relationships (3)

HCOM 440 The Dark Side of Interpersonal Communication (3)

**Emphasis in Organizational Communication (12 units)**

HCOM 220 Interpersonal Conflict Management (3)

HCOM 324 Communicating in Teams and Groups (3)

HCOM 325 Interviewing: Principles and Practices (3)

HCOM 326 Organizational Communication Dynamics (3)

HCOM 333 Communication in Business and the Professions (3)

HCOM 433 Training and Development (3)

HCOM 437 Internship: Speech Communication (3)

HCOM 445 Leadership: Toxic and Intoxicating (3)

HCOM 479 Mediation: Principles and Practice (3)

**Emphasis in Communication Studies (12 units)**

An emphasis in Communication Studies provides students with the opportunity to focus on two of the emphases. The selection of courses must be adviser-approved and from at least two of the emphases.

**MINOR IN COMMUNICATION STUDIES (18 UNITS)**

An understanding of the challenges of effective communication and how communication can be facilitated is of great value in almost any career. Some careers, such as those in human services, require an understanding of communication between individuals. Other careers, such as those in business, nonprofit organizations or government, require an understanding of communication within and between organizations and between organizations and their customers or other constituencies. For example, business majors may benefit from knowledge and skills in organizational and multicultural communication, particularly in our multicultural society. The Minor in Communication Studies is structured to meet the individual student's aptitudes, interests and career goals.

**MASTER OF ARTS IN COMMUNICATIVE DISORDERS (30 UNITS)**

The Master of Arts in Communicative Disorders (speech-language pathology and audiology), accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association since 1969, is designed to: (1) provide students with graduate, professional level studies covering the broad field of communicative disorders; (2) provide students with opportunities to observe, learn and serve communicatively impaired clients within a wide range of clinical facilities, both on- and off-campus; and (3) train students to assess, diagnose and formulate therapy plans and to function as therapists for selected types and populations of the communicatively impaired.

**MASTER OF ARTS IN COMMUNICATION STUDIES (30 UNITS)**

The Master of Arts in Communication Studies is designed to give students broad exposure to theory and research and, at the same time, allow them to specialize in one area (i.e., argumentation and persuasion, interpersonal communication, intercultural communication, organization communication, or rhetorical studies). The objectives of the degree include improving the student's academic and professional competence, preparing the student for advanced graduate work toward the doctoral degree, developing the student's research capabilities, increasing student's knowledge in the area of specialization, and for the student planning a teaching career, providing the opportunity to develop teaching skills. The student is expected to demonstrate a high degree of intellectual competence and scholarly discipline, to evaluate critically and to demonstrate mastery of the field of specialization.

**Admission to Graduate Standing – Conditionally Classified**

Students must meet the CSU requirements for admission to a master's degree program. Please consult the Graduate Admissions section in this catalog for complete information. In addition, applicants for the Communicative Disorders Program must have a baccalaureate in communicative disorders or the equivalent. The equivalent consists of a prescribed list of courses that total 36 semester units and form an appropriate background for graduate studies. Applicants for Communication Studies are required to have a baccalaureate in communication studies or an allied field or complete nine units of approved background studies in communication studies.

In addition, the following factors will be taken into consideration by the Graduate Committee in determining who shall be admitted to the program:

- Grade-point average
- Letters of recommendation (preferably on department forms)
- Professional objectives as presented in a student letter of intent

## Graduate Standing – Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be granted classified graduate standing upon the development of an approved study plan:

- Enrollment in HCOM 501 is a pre-classification requirement for the M.A. Degree in Communicative Disorders
- Enrollment in HCOM 500 is required within the first nine units of graduate work included on the study plan
- Completion of the study plan with 30 units of studies approved by an adviser and the Department Graduate Committee

## GRADUATE STUDY PLAN

Requirements for the M.A. Degree in Communicative Disorders consist of a minimum of 30 units of study approved by the Department Graduate Committee. These are:

- Courses totaling 15 units: HCOM 500, taken in the first nine units of GSP coursework, plus HCOM 542, 543, 576 and 577
- Five 500-level academic courses in communicative disorders totaling 15 units, which may include either HCOM 597 or 599
- Comprehensive exams are taken in 10 areas throughout the course of graduate study when prerequisite coursework has been completed

Requirements for the M.A. Degree in Communication Studies consist of a minimum of 30 units of 400- and 500-level courses approved by the Department Graduate Committee. These are:

- Courses totaling 15 units: HCOM 500, taken in the first nine units of GSP coursework, plus HCOM 536 and three additional 500-level seminars
- Completion of 30 units of coursework and passing a comprehensive examination, or completion of 27 units of coursework and writing a project (HCOM 597) for three units, or completion of 24 units of coursework and writing a thesis (HCOM 598) for six units

For further information, consult the Department of Human Communication Studies.

## SPEECH-LANGUAGE PATHOLOGY SERVICES CREDENTIAL IN LANGUAGE, SPEECH AND HEARING

Speech pathologists who wish to practice in the public school setting are required to obtain an M.A. degree in Communicative Disorders and the Speech-Language Pathology Services Credential in Language, Speech and Hearing (SLPSC), which they may declare as an objective when they apply for admission to the graduate program. The credential may also be declared as an objective at a later time as long as the student has maintained continuous enrollment in the graduate program. After the student leaves the graduate program, re-admission is required in order to fulfill requirements for the credential. It is, therefore, strongly recommended that students complete the credential while working on the M.A. Degree unless they are absolutely certain that they will not later wish to work in the public schools.

To obtain the SLPSC, students must earn the M.A. degree in Communicative Disorders. In addition, they must meet requirements that are somewhat more specific than those for the M.A. degree alone. These requirements are listed below.

The required courses and clinical practice for the SLPSC must be completed with a grade-point average of 2.5 and at least a “C” (2.0) must be earned for each course and practicum. In the case of credit/no credit grades for certain clinical practicum courses, the student must earn a credit. Students are required to complete clinical clock hours according to the requirements of the American Speech-Language-Hearing Association. Some of the clinical clock hours must be in audiology and aural rehabilitation. In addition, 100 of the 350 supervised clock hours must be completed at a school site or its equivalent. The hours must be supervised in all cases by persons holding the ASHA Certificate of Clinical Competence in Speech-Language Pathology and the appropriate state license. The supervisor of the public school practicum must also hold the Clinical Rehabilitative Services Credential on the SLPSC. If equivalences have been granted for a clinical practicum that was completed at another university, appropriate documentation of clinical clock hours completed at the other institution must be provided to the Communicative Disorders Program so that it can be placed in the student’s clinical practicum file.

Finally, the student must demonstrate proficiency in reading and writing through passing the University Examination in Writing Proficiency (EWP) and through obtaining a “C” (2.0) or better in HCOM 300.

Alternatively, the student may demonstrate reading and writing proficiency by obtaining a “C” (2.0) or better in HCOM 500. Students must also pass the CBEST Exam prior to entering the credential program. The Credential Coordinator should be contacted by the students early in their program to review requirements and give further information on the requirements for the credential.

## Academic and Clinical Practicum Requirements

*Undergraduate courses from related areas:*

PSYC 361 Developmental Psychology (3)

SPED 371 Exceptional Individual (3)

## M.A. Degree and Graduate-Level Courses in Communicative Disorders

Academic courses in the major. The following courses are required for the SLPSC, but some of them may also be used for the partial fulfillment of requirements for the M.A. Degree. Additional graduate study plan coursework is also required for the M.A. degree.

HCOM 404 Communicative Disorders of the Bilingual/  
Multicultural Child (3)

HCOM 490 Seminar: Speech and Hearing Services in the Schools (2)

HCOM 571 Seminar in Fluency Disorders (3)

HCOM 573 Seminar in Voice Disorders (3)

HCOM 574 Seminar in Phonological Disorders (3)

HCOM 576 Seminar in Augmentative and Alternative Communication (3)

### **Clinical Practicum Requirements**

HCOM 458 Clinical Practicum: Speech and Language Disorders in Children (3)

HCOM 468 Audiology Practicum (1)

HCOM 485 Aural Rehabilitation Practicum (1)

HCOM 489A Public School Practicum in Communicative Disorders (4)

HCOM 558A Clinical Practicum: Speech and Language Disorders in Adults (3)

HCOM 558C Clinical Practicum: Communicative Disorders and Differences in Individuals from Diverse Backgrounds (3)

HCOM 558D Clinical Practicum: Augmentative Communication and Instrumental Management of Communicative Disorders (2)

HCOM 559A Advanced Clinical Practicum: Communicative Disorders (3)

## **CERTIFICATION, LICENSURE AND CREDENTIALS IN COMMUNICATIVE DISORDERS**

### **Certification**

The Communicative Disorders program is fully accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association (ASHA). Graduate study in this program leads to certification in speech-language pathology with ASHA (CCC-SLP).

The CCC-SLP is awarded by the American Speech-Language-Hearing Association to persons who: (a) complete the M.A. Degree in speech-language pathology; (b) complete the required clinical practicum by taking prescribed combinations of clinical practicum courses; (c) achieve all required knowledge-based and skill-based competencies; (d) pass the National Examination in Speech-Language Pathology; (e) successfully complete a Clinical Fellowship Year; and (f) submit the appropriate application materials to the American Speech-Language-Hearing Association. All students should be familiar with the requirements for the CCC-SLP. All students should obtain a copy of the latest ASHA Membership and Certification Handbook during the last year of their graduate studies, and they should read all materials carefully. Their advisers are not responsible for informing students of ASHA requirements that are to be met after graduation. Copies of the Handbook are available from the Graduate Assistant in the CSUF Speech and Hearing Clinic or directly from ASHA at the following address and telephone number:

American Speech-Language-Hearing Association  
Membership and Certification Section  
2200 Research Blvd.  
Rockville, Maryland 20850  
Telephone 800-498-2071

### **Licensure**

The speech-language pathology license is required to work as a speech-language pathologist in all settings in California except for the public school and in certain exempt federal employment settings. The license is awarded by the Speech-Language Pathology and Audiology Board (SLPAB) of the Medical Board of California to those who (a) complete the M.A. Degree in speech-language pathology, (b) complete the required clinical practicum by taking prescribed practicum courses, (c) pass the National Examination in Speech-Language Pathology, (d) successfully complete a Required Professional Experience (RPE) and (e) submit the appropriate application materials to SLPAB.

Although students will have met or exceeded the academic and clinical practicum requirements for licensure in California by the time they complete their M.A. degree and the last of the clinical practicum courses that are required for the Certificate of Clinical Competence in Speech-Language Pathology (ASHA), they should still become familiar with the specific requirements for licensure during their last year of graduate studies. A copy of the "Student Manual for Licensure in Speech Pathology and Audiology" may be obtained from the Graduate Assistant in the CSUF Speech and Hearing Clinic or directly from SLPAB at the following address and telephone number:

Speech-Language-Pathology and Audiology Board  
2005 Evergreen Street, Suite 2100  
Sacramento, CA 95815  
Telephone 916-263-2666

## **HUMAN COMMUNICATION STUDIES COURSES**

Courses are designated as HCOM in the class schedule.

### **100 Introduction to Human Communication (3)**

Theory and practice of interpersonal communication. Practice in the development of skills for improving the quality of communication is required.

### **102 Public Speaking (3)**

Theory and presentation of public speeches, including an analysis of determinants of comprehension and attitude formation; selection and organization of speech materials, development of delivery skills and evaluation of message effectiveness. Student presentations required. Participation in research projects.

### **138 Forensics (3)**

Prerequisite: consent of instructor. Investigation and practice in the background, format procedures and evaluation criteria of the various forensic events. Students must participate in at least two intercollegiate speech tournaments. May be repeated for credit. (More than 6 hours of class work for each unit of credit)

### **200 Human Communication (3)**

Theories and competencies in interpersonal, small group, public, organizational and intercultural communication. Variations in communication processes across contexts are investigated.



### **220 Interpersonal Conflict Management (3)**

Nature, causes and structure of interpersonal conflict; communication strategies exhibited in conflict and intervention principles for conflict management. Conflict management theory is applied to conflicts within marriages, small groups, organizations and intercultural relationships.

### **235 Essentials of Argumentation (3)**

Methods of critical inquiry and advocacy. Identify fallacies in reasoning, testing evidence and evidence sources; advance a reasoned position; and defend and refute arguments. Analysis and evaluation of oral and written arguments.

### **236 Essentials of Debate (3)**

Theory and practice in activity of debate, emphasizing skill in analysis and reasoning, researching and organizing evidence, evaluating stock issues relating to policy and value propositions and engaging in regulation.

### **241 Introduction to Phonetics (3)**

Analysis and description of speech at the segmental and suprasegmental levels. Practice using the International Phonetic Alphabet for broad and narrow transcription. Overview of speech production.

### **242 Introduction to Communicative Disorders (3)**

Broad overview of disorders of communication, including classification and prevalence. Educational and training requirements for speech-language pathology and audiology, professional settings and opportunities, ethical considerations, clinical observations.

### **300 Introduction to Research in Speech Communication (3)**

Prerequisites: HCOM 100 or 200, open only to Communication Studies majors. Understanding and using professional literature in communication studies and using it to generate a formal research paper. A minimum grade of "C" fulfills the course requirement of the university upper-division baccalaureate writing requirement for communication studies and communicative disorders majors.

### **301 Liberal Studies in Communication Processes (3)**

Interdisciplinary study and its relationships to communication theory. How communication occurs in various disciplines. Theories about the nature of language and how this influences the pursuit of learning. No credit for Communication Studies majors.

### **302 Introduction to Sign Language (3)**

Prerequisites: HCOM 100 or 102; ENGL 101. Overview of the deaf experience and the options for communication in the deaf community. Use of American Sign Language and finger spelling at the introductory level.

### **303 Biology of Human Communication (3)**

Prerequisite: BIOL 101 or PSYC 101. Biology and evolution of speech and language. Speech production, evolution and development; speech perception; language, hemispheric specialization, clinical studies; current methods in neurolinguistics; and plasticity and aging.

### **307 Speech and Language Development (3)**

Prerequisite: completion of General Education Category I.A. or LING 106 or equivalent. Normal acquisition of phonology, morphology, semantics, syntax and pragmatics in children. Biological, cognitive and social bases of language acquisition. Meets the requirements for specialized preparation to serve as a teacher of exceptional children. (Same as LING 307)

### **308 Quantitative Research Methods (3)**

Prerequisite: HCOM 100 or 200. Current perspectives in empirical research methodology in the discipline of communication studies. Experimental designs, common statistical tests and the use of the computer as a research tool.

### **312 Intermediate Sign Language (3)**

Prerequisite: HCOM 302. Theory, practice and grammatical features of American Sign Language at the intermediate level. Students gain an understanding of the deaf cultural perspective.

### **313 Interpersonal Communication Theory (3)**

Prerequisites: HCOM 100, 200. Behavioral and humanistic approaches to theories of interpersonal communication. Functions of communication that influence interpersonal relationships, including communicator characteristics, information exchange, situational demands and interpersonal evaluations.

### **318 Family Communication (3)**

Prerequisite: HCOM 200. Research and theory in family communication. Role of communication in courtship, family satisfaction, family conflict and family dysfunction, with emphasis on marital, parent-child sibling and intergenerational family relationships.

### **320 Intercultural Communication (3)**

Prerequisite: HCOM 100. Communication problems that result when members of different cultures communicate. How interpersonal communication can overcome differences in cultures' perceptions of communication's functionality, value orientations, nonverbal behavior, language, epistemologies and rhetorics.

### **322 Study Abroad Seminar (1)**

Corequisite: enrollment in the CSU International Programs or California State University, Fullerton Exchange Programs. Orientation to living in another culture for students studying abroad. Intercultural adaptation process (e.g., culture shock) and understanding host nationals' behavior.

### **324 Communicating in Teams and Groups (3)**

Prerequisites: HCOM 100, 200. Application of communication theories and behavioral research findings as they relate to small groups and teams. Communication facilitation among individuals in task realization, including interpersonal needs, leadership, norms, roles, verbal and nonverbal messages and group systems and procedures.

**325 Interviewing: Principles and Practices (3)**

Prerequisite: HCOM 100. Principles and practices of interviewing processes. Consideration of appraisal, counseling, employment, exit, journalistic, persuasive and survey types of interviews. Case analyses, simulations and community fieldwork required.

**326 Organizational Communication Dynamics (3)**

Prerequisites: HCOM 100, 200. Interrelationships between management and communication theories. Microsystems and macro-systems within an organization are emphasized in terms of intra-personal, interpersonal, small group and organizational communication theories.

**330 Rhetoric of Popular Culture (3)**

Corequisite: HCOM 200. Rhetorical theories as they apply to contemporary communication events. Various perspectives of rhetorical theory are utilized to further understanding of communication in today's society.

**331 Sex and Gender in Human Communication (3)**

Prerequisite: HCOM 100 or 200. Rhetorical dimensions of sex and gender American communication contexts. Explanation and evaluation of the creation and maintenance of masculinity and femininity in American culture from a rhetorical perspective.

**332 Processes of Social Influence (3)**

Prerequisite: HCOM 100 or 200. Major theories of communication concerned with influence and persuasion in society. Communication effectiveness through strategic application of theory to effecting change and evaluating appeals for change by others.

**333 Communication in Business and the Professions (3)**

Prerequisite: HCOM 100 or 200. Human behavior, structural demands and communication within organizations. Application of theory and behavioral research as a framework for generating managerial communication competencies such as inter-viewing, briefings, conference leadership and intergroup coordination.

**334 Persuasive Speaking (3)**

Prerequisite: HCOM 102 or equivalent. Strategies and tactics appropriate to leading social policy persuasive campaigns. Analysis of receiver variables, progressive use of persuasive materials, question and answer techniques and the development of personal influence. Student presentations required.

**335 Advanced Argumentation (3)**

Prerequisite: HCOM 236 or equivalent. Argument as applied to advocacy; logic and evidence as related to analysis of significant issues.

**337 Communication in the Legal Arena (3)**

Prerequisite: an upper-division writing requirement course. Influence of communication behaviors on civil and criminal judicial processes. Review and evaluation of research into communication variables and legal practices, from interviewing to closing arguments. Courtroom observation required.

**338 Intercollegiate Forensics (3)**

Prerequisite: consent of instructor. Directed activity in debate and other forensic events. Participation in intercollegiate speech competition is required for credit. May be repeated for credit. (More than 6 hours of class work for each unit of credit.)

**340 Asian American Communication (3)**

(Same as ASAM 340)

**342 America Speaks (3)**

Prerequisites: HCOM 100, 102 or POSC 100; HIST 110A or 110B. America's story told through the speeches that moved her. In addition to critical evaluation of significant messages, emphasis is placed on what it would have been like to be part of the American audience exposed to famous speeches and speakers.

**344 The Anatomy and Physiology of Speech and Hearing (3)**

Anatomy and physiology of the speech and hearing mechanism. Processes of respiration, phonation, articulation-resonance and hearing are included.

**345 Communication and Aging (3)**

Prerequisite: HCOM 100. Communicative changes found in older adults including normal and pathologic changes in the physiological and behavioral aspects. Topics include diagnosis, rehabilitative strategies, social implications and health care systems.

**350 Speech and Hearing Science (3)**

Prerequisites: HCOM 241, 344. Physiology and acoustics of speech production, including voice, resonance and individual speech segments. Instrumentation for the acoustic and perceptual analysis of speech.

**352 Child Language and Phonological Disorders (3)**

Prerequisites: HCOM 241 or LING 351; HCOM 242 and 307. Language and phonological disorders in children. Speech/language profiles of special populations and contemporary approaches to assessment and intervention. Includes practice in the analysis of child speech/language samples.

**360 Nonverbal Communication (3)**

(Same as LING 360)

**404 Communicative Disorders of the Bilingual/Multicultural Child (3)**

Prerequisites: HCOM 241, 242, 307, 352. Comparative analysis of different versus delayed or deviant speech/language development of children from various cultural, ethnic and linguistic backgrounds. Principles of clinical management of children from culturally diverse populations.

**413 Communication in Interpersonal Relationships (3)**

Prerequisite: HCOM 313. Communication in the interpersonal relationship development setting with particular emphasis on current theoretical and methodological issues.

**420 Communication Theory (3)**

Prerequisites: HCOM 200, 300, 308 or graduate standing. Various theories and perspectives on human communication. Understanding basic forms of theories and developing theoretical perspectives on human communication.

**422 Applications of Intercultural Communication (3)**

Prerequisite: HCOM 320. Nature and effects of intercultural communication within multicultural/multinational organizations. Intercultural leadership, negotiation, decision-making and communication competence. Analyze and practice a number of intercultural training approaches.

**426 Directing Forensics (3)**

Prerequisites: HCOM 138, 338. Philosophies of forensics education, including coaching, judging and tournament administration. Strategies of implementation of these philosophies. May be repeated for credit.

**430 Classical Rhetoric (3)**

Prerequisites: six units of upper-division coursework in Human Communication Studies, including HCOM 300. Significance of rhetoric and oratory in Greek and Roman intellectual life from the fourth century B.C. to 300 A.D. Contributors include Protagoras, Isocrates, Plato, Aristotle, Cicero, Quintilian and Augustine.

**432 Contemporary Rhetoric (3)**

Prerequisites: six units of upper-division major courses. Theories of how cultures and individuals manage meaning in public communication, including speeches, campaigns, print and electronic media. Applies classical, modern and contemporary critical frameworks of analysis.

**433 Training and Development (3)**

Prerequisites: HCOM 324 or HCOM 326, and HCOM 308. Communication in a training and development environment with particular emphasis on learning principles, instructional design, implementation and evaluation of training and needs assessment.

**435 Communication in Community Building and Civic Engagement (3)**

Prerequisites: HCOM 100 and junior standing. Human dialogue and “talk” in the development of a democratic society. Barriers to community dialogue/building and civic engagement. Relevant communication procedures, methods and theories will be examined and applied.

**437 Internship: Speech Communication (3)**

Prerequisites: two of the following – HCOM 301, 324, 326, 333, 420 or consent of instructor. On-site involvement with communication frameworks as they function in ongoing organizational settings. Working in an organization and seminar activities. Application for internship must be submitted prior to enrollment.

**438 Principles of Rhetorical Criticism (3)**

Prerequisites: six units of upper-division communication theory and process courses to include HCOM 300. Explanation and evaluation of rhetorical experience. Historical modes of criticism, issues in rhetorical criticism, criticism in various contexts and experiences in criticism.

**440 The Dark Side of Interpersonal Communication (3)**

Prerequisite: HCOM 200 or 313; or graduate standing. Social scientific literature regarding the “dark side” of communication, which includes aspects of communication that are poorly understood, understudied and/or classified as destructive, dysfunctional, evil, immoral, malicious, criminal or abusive.

**445 Leadership: Toxic and Intoxicating (3)**

Prerequisite: completion of upper-division writing requirement in a major. Leadership from a communication theory perspective. Leadership dynamics to help gain insight into leadership and the influences.

**456 Intercultural Conflict: Theory and Practice (3)**

Prerequisite: HCOM 320. Relationship between intercultural conflict theory and practice. Key cultural patterns that impact conflict. Theoretical and applied perspectives on intercultural conflict across contexts.

**458 Clinical Practicum: Speech and Language Disorders in Children (3)**

Prerequisites: HCOM 352, 476; concurrent enrollment in 574 or 577; admission to the graduate program in communicative disorders; approved Clinical Practicum Plan. Supervised experience in the assessment and treatment of children with speech and language disorders. Weekly individual and group conferences. Approximately 25-40 clinical clock hours. May be repeated for credit.

**461 Audiology and Audiometry (3)**

Prerequisites: HCOM 242, 344. Characteristics of hearing disorders, including etiologies and risk factors. Methods and procedures used in assessing the auditory system including current topics of interest. Partially fulfills the requirements for state audiometrist certificate.

**465 Aural Rehabilitation (3)**

Prerequisite: HCOM 461. Effects of hearing loss on speech and language. Treatment of hearing disorders, including amplification and aural rehabilitation. Role of the audiologist and speech-language pathologist in the management of hearing disorders.

**468 Audiology Practicum (1)**

Prerequisites: HCOM 461 and approved Clinical Practicum Plan. Audio-metric evaluations, including pure-tone air conduction screening, screening tympanometry and report writing. Provides 10-15 clinical clock hours in audiology.

**472 Voice and Craniofacial Disorders (3)**

Prerequisites: HCOM 241, 242, 344. Disorders of voice; disorders of articulation and resonance caused by orofacial pathology. Anatomical and physiological bases, assessment, diagnosis, management and interdisciplinary aspects.

**474 Neurology and Neurogenic Communicative Disorders (3)**

Prerequisites: HCOM 241, 242, 307, 344. Anatomy and physiology of the nervous system as they relate to speech, language, hearing and swallowing. Clinical characteristics of neurogenic language disorders, apraxia of speech and dysarthria. Contemporary approaches to assessment and treatment. Lecture, demonstration and clinical observations.

**475 Fluency Disorders (3)**

Prerequisites: HCOM 241, 242, 307, 344. Theories of development and remission of stuttering, constitutional and environmental risk factors. Clinical characteristics of stuttering. Contemporary approaches to assessment and treatment. Lecture, demonstration, clinical observations and exercises.

**476 Clinical Methods and Procedures (3)**

Prerequisites: HCOM 241, 242, 307, 344, 352; and 472, 474 or 475. General principles and procedures for assessment and treatment of individuals with communicative disorders. Lecture, demonstration, clinical observations and supervised clinical experience.

**479 Mediation: Principles and Practice (3)**

Prerequisite: HCOM 200. Principles and practices of mediation as dispute intervention. In addition to lectures and class exercises, students become participants in mediated dispute role-play scenarios. Knowledge gained should serve students throughout their personal and professional lives.

**485 Aural Rehabilitation Practicum (1)**

Prerequisites: HCOM 461, 465, and 458 or 558A; and approved Clinical Practicum Plan. Supervised rehabilitation of hearing-impaired children and adults in on- and off-campus facilities. Provides 10-15 clinical clock hours in aural rehabilitation. Sign language background recommended. Credit/No Credit only.

**489A Public School Practicum in Communicative Disorders (4)**

Prerequisites: HCOM 458, 543, 558A, 571, 573, 574, 577. Corequisite: HCOM 490; admission to the graduate program in communicative disorders; approved Clinical Practicum Plan; and passing score on CBEST; application approved prior to semester of practicum. Meets the directed teaching requirements for the Speech-Language Pathology Services Credential. Approximately 100-150 clinical clock hours.

**490 Seminar: Speech and Hearing Service in Schools (2)**

Prerequisites: concurrent enrollment in HCOM 489A and admission to the graduate program in communicative disorders. Problems and challenges unique to the student clinician in the organization and management of the speech and hearing program in the school. Clinician's role; planning, scheduling, case finding, treatment program reporting and other responsibilities.

**492T Proseminar in Speech Communication (3)**

Prerequisites: appropriate theoretical coursework and consent of instructor. Current research topics in the concentration areas of persuasion and argumentation, interpersonal communication, intercultural communication and organizational communication will be presented. May be repeated for credit for a different topic.

**496 Student-to-Student Tutorials (1-3)**

Consult "Student-to-Student Tutorials" in this Catalog for a more complete course description.

**499 Independent Study (1-3)**

Open to junior or senior students in Communication Studies only with signed consent form from department chair.

**500 Research in Speech Communication (3)**

Prerequisites: HCOM 300, 308 or equivalent; admission to M.A. program. Research design and methods used in historical, descriptive and experimental research in communication studies.

**501 Seminar in Speech-Language Pathology (1)**

Prerequisite: admission to the M.A. program in communicative disorders. Introduction to requirements for M.A. degree in communicative disorders, including requirements for demonstrating knowledge-based and skill-based competencies. Students start a portfolio for documentation of competencies and demonstrate a number of competencies within this course. Credit/No Credit only. May be repeated three times for credit.

**509 Qualitative Research Methods (3)**

Prerequisite: HCOM 300. Perspectives in qualitative research methodology in communication studies (ethnography, naturalistic inquiry, case study, phenomenological research, textual/content analysis, archival analysis). Interpretive design; application of standards; data analysis; reporting conclusions.

**510 Seminar in Interpersonal and Relational Communication (3)**

Prerequisites: HCOM 324, 313, 420. Theoretical and empirical examination of interpersonal and relational communication. Generation of theoretical frameworks and/or heuristic models of concepts and process under investigation.

**520 Seminar in Group Communication (3)**

Prerequisite: HCOM 324. Small group communication theory. Small group variables, methods and outcomes and group process as a learning tool.



**522 Seminar in Intercultural Communication (3)**

Prerequisite: HCOM 320. Theory and methodology in intercultural communication research. Specific variables examined include attribution, values, communication competence and acculturation/adaptation. Practice in completing original research in intercultural communication.

**525 Seminar in Organizational Communication (3)**

Prerequisites: HCOM 324, 326, 420. Theoretical postulates concerning managerial and organizational communication. Research findings and case studies relating to communication determinants and organizational effectiveness. Communicative relationships among individuals, the work unit and the organization.

**535 Seminar in Argumentation and Persuasion (3)**

Prerequisites: HCOM 332, 334 or 335. Leading theories and empirical research on argumentation and persuasion. Strategies of effective advocacy and compliance-gaining. Laboratory research and applied settings. Ethical issues related to argumentation and persuasion.

**536 Seminar in Communication and Rhetorical Theory (3)**

Prerequisite: admission to the graduate program in communication studies. Analysis of rhetorical and communication theories. Comparisons and contrasts of the epistemological bases of empirical and humanistic inquiry.

**542 Neurologic and Clinical Aspects of Speech, Language and Cognition (3)**

Prerequisite: admission to the graduate program in communicative disorders. Neuroanatomy as it relates to speech, language and cognition; neuropsychological bases of consciousness, attention, sensation, perception, higher mental functions, language and motor speech; emphasis on assessment, diagnosis, prognosis and management of neurogenic communicative disorders.

**543 Seminar in Dysphagia (3)**

Prerequisites: HCOM 542; admission to the graduate program in communicative disorders. Theory and clinical aspects of dysphagia. Physiology of normal swallowing, etiologies of dysphagia, clinical and instrumental assessment, diagnosis and management.

**544 Seminar in Neurogenic Speech, Language and Cognitive Disorders (3)**

Prerequisites: HCOM 542; admission to the graduate program in communicative disorders. Theory and clinical aspects of neurogenic speech, language and cognitive disorders. Standardized and informal assessment, differential diagnosis, prognosis and management, including evaluation of the validity of clinical practice guidelines through the analysis of published research.

**554 Seminar in Multicultural Issues in Communicative Disorders (3)**

Prerequisites: HCOM 404 and admission to the graduate program in communicative disorders. Critical review of current theory and research on the clinical management of clients from culturally/linguistically diverse populations. Opportunities for practical applications of research through case study review and laboratory activities.

**558A Clinical Practicum: Speech and Language Disorders in Adults (3)**

Prerequisites: HCOM 472, 474, 475, 476, 476; admission to the graduate program in communicative disorders; approved Clinical Practicum Plan. Corequisite: HCOM 542. Supervised experience in assessing and treating adults with speech and language disorders. Weekly individual and group conferences. Approximately 25-40 clinical clock hours. May be repeated for credit.

**558C Clinical Practicum: Communicative Disorders and Differences in Individuals from Diverse Backgrounds (3)**

Prerequisites: HCOM 404; 458, 558A; admission to the graduate program in communicative disorders; approved Clinical Practicum Plan. Supervised experience in assessment and treatment of clients from culturally/linguistically diverse populations. Between 10 and 20 clinical clock hours, depending on units. May be repeated for credit.

**559A Advanced Clinical Practicum: Communicative Disorders (3)**

Prerequisites: HCOM 458, 543, 558A, 571, 573, 574, 576, 577; admission to the graduate program in communicative disorders; approved Clinical Practicum Plan. Advanced clinical practice under supervision with children and/or adults. Off-campus program in hospitals, clinics and other rehabilitation facilities. Approximately 150 clinical clock hours.

**559B Advanced Clinical Practicum: Communicative Disorders (1-3)**

Prerequisites: HCOM 458, 543, 558A, 571, 573, 574, 576, 577; admission to the graduate program in communicative disorders; approved Clinical Practicum Plan. Advanced clinical practice, under supervision with children and/or adults. Off-campus program in hospitals, clinics and other rehabilitation facilities. Approximately 50 clinical clock hours per unit. May be repeated for credit.

**564 Autism Spectrum Disorders in Speech-Language Pathology (3)**

Prerequisites: HCOM 577 and admission to the graduate program in communicative disorders. Communication disorders in children with autism spectrum disorders (current theories, diagnostic process, co-occurring conditions, the role of speech-language pathologists in multi-disciplinary approaches to assessment and intervention planning, critical review of relevant research).

**571 Seminar in Fluency Disorders (3)**

Prerequisites: HCOM 308, 475 or equivalent. Reading assignments, seminars, lectures and case reviews to enable students to develop a framework for understanding the etiology and maintenance of stuttering and to develop their own approaches to assessment and treatment.

**573 Seminar in Voice Disorders (3)**

Prerequisites: HCOM 472 and admission to the graduate program in communicative disorders. Review classification of voice disorders (perceptually); examine instrumental assessment of such disorders (acoustically); and emphasize a comprehensive physiological, perceptual and acoustic work-up of individual cases.

**574 Seminar in Phonological Disorders (3)**

Prerequisites: HCOM 352 and admission to the graduate program in communicative disorders. Developing critical thinking and analytical skills related to current issues in linguistic theories on the assessment and treatment of phonological disorders in children.

**576 Seminar in Augmentative and Alternative Communication (3)**

Prerequisite: admission to the graduate program in communicative disorders. Historical service delivery approaches; symbol sets and systems; assessment and management strategies for persons with severe physical and speech impairments; advocacy approaches for the disabled.

**577 Seminar in Child Language Disorders (3)**

Prerequisites: HCOM 352 and admission to the graduate program in communicative disorders. Principles of language assessment and intervention based on psycho-linguistic theory and current research on language disordered children. Development of critical thinking and analytical skills related to the assessment and treatment of language disorders in children.

**595 Pedagogy in Communication Studies (3)**

Prerequisite: admission to the graduate program in Communication Studies or instructor consent. Pedagogical research, theory and practice in communication studies. Practice in use and evaluation of instructional strategies. Topics covered are relevant to teach associations for HCOM 100 and HCOM 102.

**597 Directed Graduate Research (3)**

Prerequisite: HCOM 500. Individual research study, under the supervision of the chair of the student's advisory committee.

**598A Thesis (2)**

Prerequisite: HCOM 500. The selection, investigation and written presentation of a selected problem in the field of communication studies.

**598B Thesis (2)**

Prerequisite: HCOM 500. The selection, investigation and written presentation of a selected problem in the field of communication studies.

**598C Thesis (2)**

Prerequisite: HCOM 500. The selection, investigation and written presentation of a selected problem in the field of communication studies.

**599 Independent Graduate Research (1-3)**

Open to graduate students only with signed consent form from department chair. May be repeated for credit.