Academic Departments and Programs

Latin American Studies

College of Humanities and Social Sciences

PROGRAM COORDINATOR
Sandra M. Pérez-Linggi

PROGRAM OFFICE/WEBSITE
Humanities 420A
657-278-3161
http://hss.fullerton.edu/latinamerican

PROGRAMS OFFERED
Bachelor of Arts in Latin American
   Studies
Minor in Latin American Studies

PARTICIPATING FACULTY
Robey Callahan (Anthropology), James Dietz (Economics), Tricia Gabany-Guerrero (Anthropology), Juan Carlos Gallego (Modern Languages), Ana Garza (Education), Joanne Gass (English), James Hussar (Modern Languages), Juan Ishikawa (Modern Languages), David Kelman (English), Irene Lange (Marketing), Elisa Mandell (Art), Stephen Neufeld (History), Valerie R. O'Regan (Political Science), Patricia Perez (Chicana/o Studies), Denise Stanley (Economics), Robert Voeks (Geography), Carl Wendt (Anthropology), Phillipe Zacair (History)

INTRODUCTION

Latin America is our closest neighbor and a developing region with vast potential. Countries range in size from the Dominican Republic to resource-rich Brazil, which is larger than the continental United States.

By pursuing a broad, yet in-depth course of study, Latin American Studies students are well equipped to enter many fields and occupations as teachers in the United States or Latin America, as business people sensitive to Latin American history and culture, or as journalists, lawyers and doctors where contact with Latin America or Latin Americans in the United States is important.

The Latin American Studies major is designed to provide an in-depth, interdisciplinary understanding of Latin America. Majors develop language proficiency in Spanish and Portuguese, and have a broad range of courses from which to choose in anthropology, art, Chicana/o studies, economics, history, geography, political science, and modern languages and literatures. The major is well-suited for: (1) students who wish to pursue careers that require residence in or knowledge of Latin America (e.g., business, journalism, government); (2) those who plan to teach Spanish and/or social sciences in the secondary schools; and (3) students who wish to pursue graduate work in Latin American studies or other disciplines where a Latin American specialization would be helpful (e.g., political science, economics, history).

LEARNING GOALS AND STUDENT LEARNING OUTCOMES

The following goals and learning outcomes apply to students pursuing a degree in Latin American Studies:

Write effectively
- Write about Latin America's geography, peoples, history, cultures, economies, societies, and institutions from an interdisciplinary perspective
- Demonstrate appropriate use of sentence structure, content, organization, and purpose as is particularly relevant to argumentative writing in English, Spanish, and Portuguese

Research
- Demonstrate the ability to access written and electronic information about Latin America in different disciplines and follow appropriate formats in documenting resources
- Gain the skills necessary to formulate arguments and demonstrate their validity through research-based essay papers and oral presentations following methodologies in the humanities and social sciences

- Acquire and demonstrate foundational knowledge in Anthropology, Art, Chicana/o Studies, Economics, Geography, History, Political Science, Portuguese, or Spanish, as it pertains to Latin America and in accordance with the academic path followed in obtaining the bachelor of arts degree

Identify ideologies presented in various texts

- Read resources from different historical moments, languages, and power structures in order to demonstrate an understanding of biases inherent in a text's contents and how those ideologies have influenced Latin America's economic and political dependence as well as its social institutions and cultural accomplishments

Language Proficiency

- Develop and demonstrate in a variety of situations, and for diverse audiences, oral and written communication skills in English and Spanish or Portuguese

- Demonstrate through writing assignments an understanding of the varying structures of English, Spanish and Portuguese in order to maximize understanding of authentic texts and access a multilingual and multicultural understanding appropriate to the interdisciplinary nature of the major

Latin America in a Global Context

- Identify regional trends in Latin America which have marked its colonial past, economic dependency, political corruption, and social inequality in order to understand its modern needs

- Understand and interpret Latin America's cultural contributions as a diverse, multilingual, ethnically diverse world region with significant influences from Amerindian, European, African and Asian peoples

BACHELOR OF ARTS IN LATIN AMERICAN STUDIES (120 UNITS)

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

Foundation Courses

All majors should develop a language proficiency level equivalent to SPAN 204 and PORT 102. Students with no language background should take:

SPAN 101 Fundamental Spanish - A (5)

SPAN 102 Fundamental Spanish - B (5)

SPAN 203 Intermediate Spanish - A (3)

SPAN 204 Intermediate Spanish - B (3)

PORT 101 Fundamental Portuguese - A (4)
(usually offered in the Fall)

PORT 102 Fundamental Portuguese - B (4)
(usually offered in the Spring)

A student with knowledge of Spanish and/or Portuguese may be able to meet part or all of the foundation course requirements after evaluation by the Department of Modern Languages and Literatures.

Required Fields of Study

Upper-Division Writing Requirement (3 units)

ENGL 301 Advanced Composition (3)

Language (3 units)

SPAN 301 Advanced Grammar and Composition (3)
OR PORT 317 Advanced Conversation and Composition (3)

History and Culture (9 units)

SPAN 316 Introduction to Spanish American Civilization (3)
OR PORT 325 Contemporary Brazilian Civilization (3)

LTAM 300 Topics in Latin America (3)

Three units in upper-division Latin American History (3)

Social Science (6 units) selected from two departments

ANTH 325, 329, 423, 424

ECON 333, 334

GEOG 333

Upper-division Latin American Political Science courses when offered

Elective Fields of Study (12 units)

Select from three or more of the following groupings in consultation with the program coordinator:

Culture

ANTH 325, 329, 423, 424

CHIC 302, 303, 353

CPRL/CHIC 367

GEOG 452*

LTAM/CHIC 350 (offered only as part of CSUF La Paz program.)

PORT 317 OR SPAN 301

PORT 320

PORT 325 OR SPAN 316

SPAN 416

Fine Arts and Literature

ART 460, 462, 480T*

CHIC 304, 330, 333, 336

SPAN 440, 441, 466, 485T

History and Politics

HIST 350, 449A , 451A, 452, 453A, 453B, 451B, 451C

POSC 437

Upper-division Latin American Political Science courses when offered*

Geography and Economics

ECON 333, 334

GEOG 333

Latin American Studies

LTAM 399

MINOR IN LATIN AMERICAN STUDIES

The minor in Latin American studies is designed to complement other majors for which a focus on Latin America can be beneficial (e.g., history, international business, communications, Spanish, economics and political science). Prospective secondary teachers may find this minor particularly attractive. The minor requires proficiency in either Spanish or Portuguese, as defined above for the major; three units of cultural history (LTAM 300, HIST 350 or SPAN 316 or PORT 325); and nine units of approved electives from at least two departments listed below; or from the Latin American Studies "Elective Fields of Study" list.

ANTH 423, 424, 325, 329

ART 460, 462, 480T*

CHIC 302, 303, 304, 330, 333, 336, 340 , 353

ECON 333, 334

GEOG 333

HIST 451A, 452, 453A, 453B, 451B, 451C

Upper-division Latin American Political Science courses when offered*

POSC 437

PORT 310, 317, 320, 325

SPAN 301, 310, 316, 416, 440, 441, 466 , 485T

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*Latin American focus only.

LATIN AMERICAN STUDIES COURSES

Course are designated as LTAM in the class schedule.

300 Topics in Latin America (3)

Prerequisite: completion of General Education (G.E.) Category D.1. Interdisciplinary examination and discussion of the history, geography, peoples, and major issues of Latin America from pre-Colonial times to the present.

350 Mexican Life and Culture (3)

Prerequisite: completion of G.E. Category D.1. Introduction to Mexican culture and civilization. Contemporary Mexican society with focus on social, political, environmental, cultural and historical issues. Requires travel to La Paz, Baja California, Mexico and will only be offered in summer or intersession. Letter grade or credit/no credit. (Same as CHIC 350)

399 Directed Study (1-3)

Prerequisite: approval of program coordinator. Supervised individual or small group study as an elective. May be repeated for credit with different content.

Liberal Studies

College of Humanities and Social Sciences

INTRODUCTION

Liberal Studies is an interdisciplinary department that integrates concepts from the humanities and arts, the natural sciences and the social sciences. Some core courses trace the historical development of these areas of knowledge in their intellectual and cultural context. The broad framework of these courses will enable students to see the whole range of human knowledge. Other core courses compare and contrast the methods and underlying assumptions of the humanities and arts, the natural sciences and the social sciences, and explore the ways in which these disciplines communicate. The critical thinking and communication skills these courses develop provide students with the self-confidence that comes from being able to express one's ideas clearly and effectively both orally and in writing. The core courses use a combination of lecture, discussion and seminar to make the student not only a well-rounded, well-educated person, but also a more independent thinker and a more creative human being.

The major in Liberal Studies is designed for students who desire the broadest possible liberal education: (1) as preparation for teaching all subjects in the elementary school classroom; (2) as an alternative approach to careers in business; (3) as preprofessional preparation for entry into professional schools in the health sciences, law, ministry, etc.; (4) as a means of obtaining specific occupational requirements that cannot be met from coursework in a single department; (5) and as a source of personal growth and development.

LEARNING GOALS AND STUDENT LEARNING OUTCOMES

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

Knowledge

- Attain a comprehensive understanding of significant concepts, themes and figures in the three general subject areas covered by the major: the arts and humanities, the social sciences, and the natural sciences

Interdisciplinarity

- Recognize historical and contemporary interdisciplinary connections among the three subject areas and synthesize parallel developments within them
- Develop a comprehensively interdisciplinary perspective toward knowledge

Critical Analysis

- Analyze, evaluate, and apply significant concepts, themes and arguments from the three general subject areas of Liberal Studies

Effective Oral and Written Communication

- Write clearly and correctly
- Analyze and present ideas and subject matter coherently

DEPARTMENT CHAIR

James R. Hofmann

DEPARTMENT OFFICE/WEBSITE

Humanities 214
657-278-2794
http://hss.fullerton.edu/liberal

PROGRAMS OFFERED

Bachelor of Arts in Liberal Studies
Minor in Liberal Studies

FACULTY

Emily Bonney, April Bullock, Ronald Clapper, Mark Fischer, Margaret Garber, Joseph Gonzalez, James Hofmann, Kevin Lambert, Edward Maine, Craig McConnell, Andrea Patterson, Angeles Sancho-Velazquez, Bradley Starr, Saul Tobias

MULTIPLE SUBJECT CREDENTIAL PROGRAM

In addition to completing their B.A. in Liberal Studies, students seeking a Multiple Subject (Elementary) Credential need to enter a state-approved Multiple Subject Credential Program.

The Bachelor's Degree in Liberal Studies may be effectively combined with subject matter studies necessary for the multiple subject teaching credential (K-8). 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.

BACHELOR OF ARTS IN LIBERAL STUDIES (120 UNITS)

The Bachelor of Arts in Liberal Studies requires 51 units in the major, including: 27 units of core courses; and the 24-unit option under the Elementary Education Plan or the Interdisciplinary Thematic Plan. Each course counted for the major must be completed with a grade of "C" (2.0) or higher.

Core Courses (27 units)

LBST 300 Introduction to Liberal Studies (3)

LBST 301 Inquiry and Composition in Liberal Studies (3)*

LBST 302A Historical Dimension of Liberal Studies (3)

LBST 302B Historical Dimension of Liberal Studies (3)

LBST 303 Liberal Studies in the Humanities and Arts (3)

LBST 304 Liberal Studies in the Sciences (3)

LBST 305 Liberal Studies in the Social Sciences (3)

LBST/PHIL 401 Knowledge in the Arts and Sciences (3)

One of the following Senior Seminars:

LBST 485, 486, 487, 488, 489, 490, 491

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*Fulfills the course requirement of the university upper-division baccalaureate writing requirement for Liberal Studies majors.

Sequence of Core Courses

Because the core curriculum is designed as an integrated whole and builds upon the student's general education, there is an order in which these courses need to be taken and there are certain prerequisites for them. Introduction to Liberal Studies (LBST 300) and the Historical Dimension of Liberal Studies come first. The Historical Dimension of LBST 302A, with a grade of at least "C" (2.0), is a prerequisite for The Historical Dimension of LBST 302B.

The Historical Dimension of LBST 302B and LBST 301 Inquiry and Composition in Liberal Studies, are prerequisites for LBST 303, 304 and 305, because Liberal Studies in the Humanities and Arts, Liberal Studies in Science, and Liberal Studies in the Social Sciences pick up the historical developments where LBST 302B leaves off.

Knowledge in the Arts and Sciences and the Senior Seminar come last. LBST 401 or PHIL 401 requires the completion of LBST 304 and either LBST 303 or 305. The Senior Seminar requires senior standing, the completion of 90 units of college work.

Elementary Education Plan (24 units)

The Elementary Education Plan, which is designed for students seeking an elementary or multiple subject teaching credential, provides academic preparation in many of the subject areas taught in the elementary school.

ENGL 303 The Structure of Modern English (3)**

> OR ENGL/LING 206 Language Structure and Language Use (3)

One of the following** – ENGL 211, 212 , 221, 222, CPLT 324, 325*

ENGL 341* OR THTR 311*

MATH 303A,B**

GEOL 410 OR BIOL 453

Cultural Diversity in the Social Sciences *

One of the following:

AFRO 304, 310, 311; AMST 301, 320, 395; ANTH 350, ASAM 300, 340, 342; CHIC 305, 331; GEOG 332; HCOM 320; SOCI 357; WMST 302.

Visual and Performing Arts

One of the following :

ART 380, DANC 471, MUS 433, THTR 402A.

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*These courses will also count toward meeting the upper-division requirement for general education.

**In exceptional cases substitutes may be made with the approval of the department chair.

Interdisciplinary Thematic Plan (24 units)

The Interdisciplinary Thematic Plan (ITP) is designed for students who have broad interests that expand beyond the confines of a single department. For these students, the ability to construct their own area of interdisciplinary study by taking advanced coursework in several disciplines may be more beneficial than restricting their study to one of the various majors offered by the university. The Interdisciplinary Thematic Plan does not duplicate any existing major. It is a well-thought-out, highly individualized group of courses that, even though they come from various departments, have a common subject, focus or interest.

ITP students may center their coursework on an academic interest or may select courses that prepare them for later professional training or for specific careers.

Personalized Coordinated Program (21 units)

ITP students are allowed to select, in consultation with a liberal studies adviser, 21 units of upper-division coursework from various departments for the purpose of pursuing an interdisciplinary problem, theme or issue.

To ensure breadth of knowledge, ITP students are allowed to take: (a) no more than nine units from a single department; and (b) no more than 15 units from a single area of knowledge (humanities and arts, science, social sciences). ITP students should have their study plan approved by a liberal studies adviser prior to taking coursework.

Senior Project (3 units)

To integrate and synthesize knowledge acquired through their Personalized Coordinated Program, ITP students must complete a senior project (such as a thesis or a creative work relevant to the theme of their Personalized Coordinated Program) by enrolling in three units of Independent Study (499) with a professor of their choice. ITP students should schedule an appointment with a LBST adviser immediately after deciding upon the thematic plan in order to organizae a project and enroll in the required units of LBST 499.

MINOR IN LIBERAL STUDIES (15 UNITS)

Students who minor in Liberal Studies are expected to attain a general understanding of significant concepts, themes and figures in the three general subject areas covered by the major: the arts and humanities, the social sciences and the natural sciences.

LBST 302A* The Historical Dimension of Liberal Studies (3)

LBST 302B The Historical Dimension of Liberal Studies (3)

LBST 303 Liberal Studies in the Humanities and Arts (3)

LBST 304 Liberal Studies in the Sciences (3)

LBST 305 Liberal Studies in the Social Sciences (3)

Note: A grade of "C" (2.0) or better is required in each course.

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*Prior completion or concurrent registration in LBST 300, although a requirement for Liberal Studies majors, is not a requirement for Liberal Studies minors.

LIBERAL STUDIES COURSES

Courses are designated as LBST in the class schedule.

100 Introduction to the Humanities (3)

Interdisciplinary introduction to the humanities as a set of related disciplines that apply conceptual, critical, historical and linguistic analyses to advance our understanding of what it means to be human.

101 Introduction to the Social Sciences (3)

Major topics in the social sciences in order to understand their systematic study of human behavior, to realize the connections among particular issues and approaches, and to reflect critically on modern life.

300 Introduction to Liberal Studies (3)

Prerequisite: completion of General Education (G.E.) Category A. The natural world as theme, introductory exploration of values and modes of inquiry and expression in the arts and humanities, natural and social sciences.

301 Inquiry and Composition in Liberal Studies (3)

Prerequisite: completion of G.E. Category A. Selected thematic interconnections between the arts and humanities, sciences and social sciences through reading, discussion and composition. Satisfies the upper-division writing course requirement for majors in Liberal Studies.

302A Historical Dimension of Liberal Studies (3)

Prerequisites: prior or concurrent completion of LBST 300 and completion of G.E. Category A. Origins and development of modes of thought and forms of expression in the three core areas of liberal studies, i.e., the natural sciences, social sciences, and arts and humanities.

302B Historical Dimension of Liberal Studies (3)

Prerequisite: completion of LBST 302A with a grade of "C" (2.0) or better. Origins and development of modes of thought and forms of expression in the three core areas of liberal studies, i.e., the natural sciences, social sciences, and arts and humanities.

303 Liberal Studies in the Humanities and Arts (3)

Prerequisites: MUS 101 or equivalent, LBST 301, 302B, and completion of G.E. Category C.2. Interdisciplinary approach to the humanities and arts that examines their purposes, structures and major developments in this century.

304 Liberal Studies in the Sciences (3)

Prerequisites: LBST 301, 302B and completion of G.E. Categories B.4. and B.2. Interdisciplinary introduction to the character and aims of 20th-century science, current theories and knowledge, and the role of science and technology in contemporary society.

305 Liberal Studies in the Social Sciences (3)

Prerequisites: LBST 301, 302B and completion of G.E. Category D.1. Interdisciplinary introduction to modern social science in which major thinkers, ideas, movements and problems will be approached historically, comparatively and analytically.

310 The California Experience (3)

Prerequisite: completion of G.E. Category D.1. Seven themes in California studies. Explores the California experience through readings, films and music, and three writing assignments that ask them to research one topic each in the arts/humanities, social sciences and natural sciences in California. (Same as HIST 310)

325 Science on the Silver Screen (3)

Prerequisite: completion of G.E. Categories B.4. and B.2. Representations of science in film. Issues include images of scientists, the nature of science and science as problem solving. Readings and film will emphasize the variety of interactions between science and its depiction on the silver screen.

331 History of Science: Copernicus to the Present (3)
(Same as HIST 331)

333 Evolution and Creation (3)
(Same as PHIL 333)

401 Knowledge in the Arts and Sciences (3)

Prerequisites: LBST 304 and either LBST 303 or 305. Philosophical analysis and comparison of how the natural sciences, the social sciences, and the arts and humanities apply epistemological or aesthetic criteria to assess scientific and artistic activities. Discussion of the evolution of these criteria in their social and ideological context. (Same as PHIL 401)

485 Senior Seminar in Cultural Diversity (3)

Prerequisites: senior standing, LBST 301 and 305, and completion of G.E. cultural diversity category. Intensive interdisciplinary study of the historical and cultural experiences of racial and ethnic groups in America. Emphasizes student-led discussions.

486 Senior Seminar in Humanities and Arts (3)

Prerequisites: senior standing and LBST 301 and 303. Intensive interdisciplinary study of selected topics in the humanities and arts. Integrates and builds upon previous classes in Liberal Studies and emphasizes student-led discussions.

487 Senior Seminar in Evolution and Creation (3)

Prerequisites: senior standing, LBST 301, 302B. Interdisciplinary examination of the relationship between evolutionary biology and the theology of divine creation. Traces the development of both perspectives from the pre-Darwinian period to the modern era. Emphasizes critical reading of texts and student-led discussions.

488 Senior Seminar in Environmental Studies (3)

Prerequisites: senior standing, LBST 301 and LBST 304 or 305. Interdisciplinary seminar involving the examination and analysis of environmental problems from the perspectives of the natural sciences and the social sciences. Students participate in class discussions and write papers on environmental topics.

489 Senior Seminar in Gender Issues (3)

Prerequisites: senior standing and LBST 301 and 305. Intensive interdisciplinary study of gender issues in the modern period. Emphasizes student-led discussions.

490 Senior Seminar in Great Books (3)

Prerequisites: senior standing, LBST 301, 302B. Intensive study of important books from early civilization to the present. Develops critical reading of texts, clear expression of ideas and integration of knowledge. Emphasizes student-led discussions.

491 Senior Seminar in Literature and Sciences (3)

Prerequisites: senior standing, LBST 301, 302B. Interdisciplinary examination of the relationships between literary and scientific communities, and of literature as a forum for the critique, appraisal, and assessment of science in culture.

499 Independent Study (1-3)

Prerequisites: consent of instructor and approval by Liberal Studies department chair. Individually supervised studies and/or projects. May be repeated once for credit.

Linguistics

INTRODUCTION

Linguistics is the study of language. It resists simple classification into one of the traditional categories of academic disciplines. As one of the humanities, linguistics is concerned with the historical development of a particular language or language family. As a social science, linguistics may be related to anthropology in describing language as part of culture; it may even be considered a natural science, related to the physical science of acoustics and the biological sciences of anatomy and physiology. As an applied science, linguistics has found many applications in fields as far apart as language pedagogy, speech therapy and computer programming. Finally, linguistics may be considered a formal science in its own right, related to mathematics and logic.

The interdisciplinary aspects of linguistic study are reflected in the organization of the program, which offers a core of general linguistics courses and draws upon linguistically related courses in other departments.

Graduates use the major in linguistics for a liberal arts base in language-related fields. With advanced work, they enter teaching, language research, translation and linguistic field work, as well as such professional fields as law or teaching English as a second language.

The Bachelor of Arts is for students with an exceptional interest in and aptitude for the study of language. The essential relationships between language and thought and language and culture, the structure of modern languages, including English, the historical study of language, and formal techniques and methodologies are the theoretical foundations of linguistic analysis.

The M.A. in Linguistics builds upon a foundation of undergraduate study in linguistics and allied areas, such as foreign languages, English language, anthropology, human communication and related areas in psychology and philosophy. The program emphasizes strong preparation in general linguistics and offers the opportunity to specialize in one of several areas.

LEARNING GOALS AND STUDENT LEARNING OUTCOMES

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

Knowledge of language organization, usage, history and learning

- Understand how language is structured, particularly to what extent languages share a universal structural base and to what extent they differ from one another

- Understand how language is used, and the factors accounting for variation in language use

- Understand how language is learned by children in first language acquisition and by adults in second language acquisition

- Understand how language changes over time and the principles of historical linguistics

PROGRAM COORDINATOR
Franz Mueller

PROGRAM OFFICE/WEBSITE
University Hall 323
657-278-3163
http://hss.fullerton.edu/linguistics

PROGRAMS OFFERED
Bachelor of Arts in Linguistics
Minor in Linguistics
Master of Arts in Linguistics

FACULTY
Juan Carlos Gallego (Modern Languages), Angela Della Volpe (English), Janet Eyring (Modern Languages), Reyes Fidalgo (Modern Languages), Eric Lief (Modern Languages) Franz Mueller (English), Natalie Operstein (English) James Santucci (Comparative Religion), Patricia Schneider-Zioga (English), Kazuha Watanabe (Modern Languages)

Think critically

- Demonstrate the ability to analyze problems, both linguistic and otherwise, and to find and critically evaluate alternative solutions

Write effectively

- Demonstrate the ability to present ideas in effectively written form

Research

- Demonstrate the ability to find in textbooks and research materials, the kinds of information relevant to a given problem or issue, linguistic 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 linguistics subdisciplines

- Have a working knowledge of the subdisciplines of linguistics dealing with the organization of language, i.e., phonetics, phonology, morphology, syntax and semantics
- Have a working knowledge of the subdisciplines of linguistics dealing with language use, change and acquisition, especially sociolinguistics, historical linguistics and psycholinguistics

BACHELOR OF ARTS IN LINGUISTICS (120 UNITS)

The Bachelor of Arts in Linguistics includes courses for the major, General Education, all-university requirements and free electives. A grade of "C" (2.0) or better is required in all courses applied to the major.

Language Requirement

Linguistics majors are required to take two progressive semesters of any two languages or four progressive semesters of any one language.

Core Requirements (15 units)

LING 351 Introduction to Linguistic Phonetics and Phonology (3)

LING 406 Descriptive Linguistics (3)

LING 408 Syntax (3)

LING 412 Sociolinguistics (3)

LING 430 Historical Linguistics (3)

Electives (18 units)

Two courses must be from upper-division linguistics courses other than those listed as required above; and four may be selected from other upper-division linguistics courses, or from the courses listed below:

CAS 312 Human Growth and Development (3)

ENGL 303 The Structure of Modern English (3)

Modern Languages, any upper-division course (3)

PHIL 368 First Course in Symbolic Logic (3)

PSYC 415 Cognitive Processes (3)

Students must consult with an adviser in linguistics before establishing their individual programs of study. Other courses in the university may be taken as electives with the permission of the adviser.

MINOR IN LINGUISTICS

The minor in linguistics provides a solid introduction to the scientific study of language for students in a related major field. Students are required to take: LING 106, LING 351 and LING 406. In addition, 12 units in elective courses, selected with the approval of the undergraduate adviser, are required. It is thus possible to tailor the minor to individual needs in rounding out a course of study in the student's major area of specialization. A grade of "C" (2.0) or better is required in all courses applied to the minor.

MASTER OF ARTS IN LINGUISTICS (30 UNITS)

Admission to Graduate Standing – Conditionally Classified

Requirements include a bachelor's degree from an accredited institution and a minimum grade-point average of 2.5 in the last 60 semester units attempted.

Graduate Standing – Classified

Classified graduate standing requires a bachelor's degree in Linguistics or a related field from an accredited institution with at least 3.0 GPA in the major courses provided that a minimum of 24 units of upper-division coursework is included.

If the student holds a bachelor's degree in a major other than linguistics, 24 units of upper-division coursework in linguistics with a minimum of 3.0 GPA must have been completed, including:

LING 351 Introduction to Linguistic Phonetics and Phonology (3)

LING 406 Descriptive Linguistics (3)

LING 408 Syntax (3)

LING 412 Sociolinguistics (3)

LING 430 Historical Linguistics (3)

A student who has not completed one or more of the preceding four courses may enroll in the required course(s) concurrently with graduate coursework in the program.

If the student lacks the prerequisite number of linguistics courses, they must be made up with at least a 3.0 GPA in such make-up coursework. In the event that the student's GPA in prerequisite Linguistics courses is less than 3.0, six to nine units of probationary, adviser-approved coursework may be assigned. If the GPA in these probationary courses is 3.0 or better, the student may be classified. Some courses taken to make up qualitative deficiencies may be credited toward the M.A. if completed with a grade of "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.

Knowledge of one foreign language is required (equivalent of Modern Languages 317 course). Students without coursework in a foreign language may demonstrate proficiency by a score of average

or better on the MLA-ETS Proficiency Examination for Advanced Students. Work toward fulfillment of this requirement may be taken concurrently with graduate work in linguistics.

Modifications of certain prerequisite requirements may be permitted in exceptional circumstances.

A study plan must be developed and approved for admission to classified graduate standing.

STUDY PLAN

Descriptive and Historical Linguistics (15 units)

LING 501 Research Methods and Bibliography (3)

LING 505 Phonological Analysis (3)

LING 507 Grammatical Analysis (3)

LING 508 Theories of Syntax (3)

LING 530 Graduate Seminar: Historical Linguistics (3)

Specialized Electives (9 units)

Coursework selected from any one of the following five areas of specialization, including other courses in the university with the approval of the adviser:

Applied Linguistics

ENGL 303

FREN 466, 599

GRMN 466, 599

LING 305, 307, 416, 599

SPAN 466, 467, 468, 599

TESL 509, 510, 515, 527, 532, 560

Anthropological Linguistics

ANTH 599

LING 416, 599

TESL 500

Analysis of Specific Language Structures

ENGL 599

FREN 466, 500, 530, 599

GRMN 466, 500, 530, 599

JAPN 466, 468

LING 599

SPAN 466, 500, 530, 599

Communication and Semantics

ANTH 599

HCOM 599

LING 416, 417, 442, 599

Disorders of Communication

HCOM 461, 472, 475, 599

LING 307, 369, 417, 599

Linguistics or a Related Field Elective (3 units)

Project (3 units)

A minimum of 15 units in 500-level courses is required. Satisfactory completion of a written comprehensive examination is required at the conclusion of the program. The examination may be repeated only once. A reading list for the examination and specifications for the project are available in the program office.

For further information, consult the graduate adviser.

LINGUISTICS COURSES

Courses are designated as LING in the class schedule.

106 Language and Linguistics (3)

Nature of language, its origin and development; language in culture, the structure of language and its systems of writing and transcription, and its application to other areas of humanistic and scientific knowledge.

108 Linguistics and Minority Dialects (3)

Sounds, meanings and vocabulary of African-American, Chicano and other English dialects and their historical origin. (Same as CHIC 108 and AFRO 108)

206 Introduction to Language Structure and Language Use (3)

(Same as ENGL 206)

301 Sanskrit (3)

Introduction to the Devanagari script, as well as the phonology, morphology and syntax of the Sanskrit language. A reading knowledge of Sanskrit will be the main goal of the course. (Same as CPRL 301)

305 The English Language in America (3)

(Same as ENGL 305)

307 Speech/Language Development (3)

(Same as HCOM 307)

351 Introduction to Linguistic Phonetics and Phonology (3)

Nature and structure of sound systems in language. Thorough investigation of the International Phonetic Alphabet as applied to many different languages, including English. Language Acquisition (L1) and Language Learning (L2); analytic methods and techniques.

360 Nonverbal Communication (3)

Prerequisite: LING 106 or HCOM 100. Physical actions, gestures and changes in the physiognomy that occur together with language and paralanguage in human communication; substitutions for language and modifications of it in varying cultures. (Same as HCOM 360)

369 Language, Sex Roles, and the Brain (3)

How gender socialization is reflected in the structure and use of language and whether gender differences in language are biologically based or a consequence of sex roles.

406 Descriptive Linguistics (3)

Sounds (phonology), forms and meanings (morphology), and syntax of languages. Examples and problem-solving in various languages. (Same as ANTH 406)

408 Syntax (3)

Prerequisite: one of the following: LING 106, 406 or Engl 303. Sentence structure in human language. Practice in syntactic analysis in a variety of languages.

412 Sociolinguistics (3)

Prerequisite: LING 406 or equivalent. Social dialects in relation to the surrounding communities. Social stratification, acculturation, language maintenance, standardization, language planning and language change.

416 Anthropological Linguistics (3)

(Same as ANTH 416)

417 Psycholinguistics (3)

(Same as PSYC 417)

430 Historical Linguistics (3)

Prerequisite: LING 406 or its equivalent. Comparative method in diachronic linguistic methodology and theory, graphemics, glottochronology, language families, dialect geography and internal reconstruction. Fulfills the course requirement of the university upper-division baccalaureate writing requirement for linguistics majors. Offered online only.

442 Changing Words: History, Semantics, and Translation (3)

Prerequisite: LING 351 or 430. Etymology, related problems of lexicography and translation. Recent developments in theory of semantic change as related to cultural shifts. Emphasizes words, collocations, idioms. (Same as ENGL 442)

492 Linguistic Fieldwork (3)

Prerequisite: LING 351 or 406. Methodology and practice of linguistic analysis and language description as practiced in the field. Data collection and processing of a non-Indo-European linguistic structure using native informants. May be repeated for credit.

499 Independent Study (1-3)

Supervised projects with consent of program coordinator. Topic varies with the student. May be repeated for credit.

501 Research Methods and Bibliography (3)

Prerequisites: graduate standing and LING 406 or equivalent. Principal books, periodicals and collections in general linguistics, specific languages and related fields; techniques of preparing research papers and field reports in linguistics. Must be taken prior to LING 597.

505 Phonological Analysis (3)

Prerequisites: LING 351 and 406. Phonological systems that occur in languages; emphasizes terminology used to describe changes in the system and processes affecting it; problem solving of selected language data.

507 Grammatical Analysis (3)

Prerequisite: LING 406. Word formation in a variety of languages with emphasis on the terminology used to describe morphological representation on various levels; problem solving of selected language data. (Same as ANTH 507)

508 Theories of Syntax (3)

Prerequisite: LING 408 or equivalent. Contemporary theories of grammar, such as transformational-generative, with emphasis on theoretical problems in the analysis of language structure.

530 Graduate Seminar: Historical Linguistics (3)

Prerequisite: LING 430 or its equivalent. History of language, including principles and techniques for the historical study and classification of individual languages and language families, writing systems, lexicostatistical methods and linguistic geography.

597 Project (3)

Prerequisite: LING 501. Preparation and completion of an approved project.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing and consent of program coordinator. May be repeated for credit.

Management

INTRODUCTION

Managers are needed in a wide variety of different types of organizations – business and non-business, large and small, foreign and domestic. In all of these organizations, managers need technical, human and conceptual skills to help achieve organizational goals.

Management courses are designed to teach the fundamental principles underlying organizations, to emphasize education that will improve students' thought processes, provide familiarity with the analytical tools of management and develop in the student, an ability to use the techniques involved in analyzing and evaluating managerial problems and making sound decisions.

Students may pursue a wide variety of academic and career interests through four different management emphases. These emphases include: (1) general management; (2) human resources management; (3) operations management; and (4) legal studies. The entrepreneurship and entertainment and tourism concentrations are also housed in the management department.

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

MANAGEMENT DEPARTMENT CHAIR

Ellen Dumond

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PROGRAMS OFFERED

Bachelor of Arts in Business
Administration
Concentrations:
Entertainment and Tourism
Entrepreneurship
Management
Master of Business Administration
Concentrations:
Entrepreneurship
Management

FACULTY

Farouk Abdelwahed, Thomas Apke, John Barbuto, Gerard Beenen, Peng Chan, Paul Choi, Ellen Dumond, Harold Fraser, Adelina Gnantlet, Laurie Grisenhagen, Gamini Gunawardane, Thomas Johnson, Dmitry Khanin, Casey Kleindienst, Brian Kleiner, Elliot Kushell, David Leibsohn, Gus Manoochehri, Thomas Mayes, Lori Muse, David Obstfeld, Richard Parry, Shaun Pichler, Goli Sadri, Thomas Schwarz, Charles Smith, Hamid Tavakolian, Atul Teckchandani

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 Degrees, Concentrations in Entrepreneurship, Entertainment and Tourism, and Management."

MASTER OF BUSINESS ADMINISTRATION

See "Business Administration, MBA"

MANAGEMENT COURSES

Courses are designated as MGMT in the class schedule.

246 Business and Its Legal Environment (3)

Laws and regulations affecting the business environment and managerial decisions, including the legal system and methods of dispute resolution. Topics include torts, crimes, contracts, product liability, business organization, employment, antitrust, environmental protection; incorporates ethical considerations and international perspectives. Uses case studies.

335 Family Business Dynamics (3)

Prerequisite: completion of lower-division business core. Unique issues faced by family-owned and operated businesses. Textbooks, lecture and outside real-world projects explore the business, personal and interpersonal issues associated with family-owned businesses.

339 Principles of Management and Operations (3)

Corequisites: BUAD 301 and ISDS 361A. Integrates selected general management concepts with operations management concepts and techniques. Emphasizes the development of competencies required for effective planning, designing, operating, controlling and improving processes that produce and deliver quality goods and services.

340 Organizational Behavior (3)

Prerequisite: General Education in Social Sciences; corequisites: BUAD 301 and ISDS 361A. Social and cultural environments of business. Business ethics. Communication, leadership, motivation, perception, personality development, group dynamics and group growth. Human behavior and organizational design and management practice in American and world wide business.

343 Human Resource Management (3)

Prerequisites: BUAD 301 and MGMT 340 or equivalent. Human resource management functions in organizations. Topics include selection, recruiting, training, compensation and performance appraisal.

346 International Law for Business (3)

Prerequisite: MGMT 246 or equivalent. International legal environment in which firms operate. Case studies in the areas of treaties and laws, EU, NAFTA, international contracts, regulation of imports, exports and competition, government policies, enforcement of property rights and issues involving ethical responsibilities.

348 Commercial Law (3)

Prerequisite: MGMT 246 or equivalent. Philosophy, institutions and role of law and ethical considerations in commercial transactions. Case studies in sales, storage and shipment of goods, commercial paper, debtor and creditor rights and remedies, bankruptcy, secured transactions and suretyship.

349 Law for Small Business (3)

Prerequisites: BUAD 301 and MGMT 246. Philosophy, institutions and role of law and their practical applications in the areas of interest to the small-business person. Product liability, consumer rights, workers' compensation and other topics.

350 International Business and Management (3)

Prerequisite: MGMT 339 or 340. Fundamental course in international business and international management. Overview of international business, and emphasizes a managerial approach that involves examining the various roles of managers in an international setting.

365 Entertainment Business (3)

Prerequisites: MGMT 246 and BUAD 301. Examines the management facets of businesses designed to divert and amuse consumers during their leisure time, collectively known as the entertainment industry. Business and economic aspects of the industry and its enterprises. Various professions within entertainment.

421 Operations and Systems Design (3)

Prerequisite: MGMT 339. Key management methodologies for designing high-performing service and manufacturing organizations. Achieving competitiveness and profitability through excellent management of service and product design, process analysis and reengineering, capacity and facility planning, work systems and technology management.

422 Operations Planning and Control (3)

Prerequisite: MGMT 339. Concepts and techniques to plan output, schedule product and employees, manage inventory and coordinate activities to better meet customer demand. Discusses use of ERP systems. Uses cases, research projects and/or computer software.

423 Purchasing and Supply Management (3)

Prerequisite: MGMT 339. Operational and strategic role of purchasing/supply management in organizations. Develops skills and knowledge in supplier selection/evaluation, negotiation, cost/price analysis, contract management, global sourcing, commodity analysis, value analysis. Exercises, cases, guest speakers.

425 Quality Management and Improvement (3)

Prerequisite: MGMT 339. Measurement and improvement of productivity and quality in organizations. Problem-solving and process management tools. Case analyses and research projects address issues of people and technology. How to improve your organization: manufacturing or service, department or company.

426 Global Operations (3)

Prerequisite: MGMT 339. Managerial issues related to the "international division of labor" and the resulting operational challenges in the generation and exchange of goods and services across international borders. Issues discussed include outsourcing, benchmarking, facilities and partnerships.

427 Management of Technology and Innovation (3)

Prerequisite: MGMT 339. Strategic and operational management of technology and innovation decisions, activities, interfaces, policies and programs in contemporary organizations. Discusses issues such as technology development/deployment, innovation dynamics and strategic/economic payoffs.

430 Integrated Supply Chain Management (3)

Prerequisites: MGMT 339 (or equivalent) and MKTG 351. Studies managing materials, capital and information flows throughout multiple organizations in a supply chain from acquisition of materials to delivery of finished goods and services to the final customers. Presentation and case studies on various issues in supply chain management.

432 Staffing (3)

Prerequisite: MGMT 343 or equivalent. Theories and techniques related to employee staffing. Topics include planning, legal issues, job analysis, measurement, internal and external recruitment and selection, and decision-making.

433 Current Issues in Human Resource Management (3)

Prerequisite: MGMT 343. Contemporary concepts and procedures in compensation and staffing. Current topics and controversial issues of critical importance to human resource management.

434 Compensation (3)

Prerequisite: MGMT 343 or equivalent. Development of equitable compensation and benefit programs in order to retain a productive workforce. Topics include job analysis and evaluation, pay structures, salary survey, individual compensation, incentive systems and benefits.

435 Management of Service Organizations (3)

Prerequisite: MGMT 339. Presents a highly focused set of concepts required for the successful management of service organizations. Subjects include service concepts, service delivery processes, strategic positioning, service personnel and technologies, global/regulatory issues, work and quality systems, and performance metrics.

436 Training and Development (3)

Prerequisite: MGMT 343. Theoretical and practical issues involved in designing and implementing training and development programs in work organizations. Topics include planning and assessment, design and delivery of training initiates to meet organizational needs and evaluation of training effectiveness.

440 Emerging Issues in Management (3)

Prerequisites: MGMT 339 and 340. For upper-division and graduate students. Business and management in America. Interrelationships of technological, economic, political and social forces with the business enterprises and their ethical obligations to owners, employees, consumers and society at large. Open to nonbusiness majors.

441 Labor-Management Relations (3)

Prerequisite: MGMT 340. Impact of labor-management relations upon labor, management and the public. Proper grievance procedure, collective bargaining and settlement of disputes.

442 Managerial Leadership (3)

Prerequisite: MGMT 340. Theory and practice surrounding leadership using lectures, case studies and leader interviews. Trait, skills, styles, situational approaches to leadership; leader-member exchange, transformational leadership, team, women, culture ethics and leadership.

443 Team Leadership Skills (3)

Prerequisites: MGMT 340 or equivalent. Managerial skills in group dynamics as they relate to team performance. Cultural diversity, including value differences and perception. Leadership: problem solving, idea generation, communications and conflict management. Organization change and designs that enhance team effectiveness.

444 Project Management (3)

Prerequisite: MGMT 339. Principles and techniques of effective project management. Managerial, organizational and behavioral concepts, as well as effective tools, techniques and software for planning, communications, coordination and control of the project.

445 Employment Law (3)

Prerequisite: MGMT 246. Corequisite: MGMT 343. Legal and ethical issues of the employment relationships and environment. Case studies in the areas of agency, independent contractors, responsibilities of managing offers, the hiring process, discrimination, wages, hours and benefits, termination, OSHA, workers compensation and other regulations affecting employment. International implications of employment.

446 Entertainment Business Law (3)

Prerequisite: MGMT 246. Legal/business issues of the entertainment industry. Topics include copyright, trademark, publicity and privacy rights, artistic credit, defamation, entertainment contracts, creator control, moral rights, entertainment guilds, business and legal representation of artists, performing rights societies and government regulation.

447 Internet Legal Issues (3)

Prerequisites: MGMT 246; junior, senior or graduate standing in Business Admin. Legal and ethical issues relating to the Internet and information technology. Case studies in the areas of intellectual property, e-commerce, online contracting, taxation, securities, privacy, obscenity, defamation, information security, network crimes and global issues.

449 Seminar in Strategic Management (3)

Prerequisites: BUAD 301; all other Mihaylo College of Business and Economics (MCBE) core courses. Integrative cases from top management viewpoint. Administrative processes, ethical-legal-economic implications of business decisions, international applications; organization theory and policy formulation. Individual and team efforts.

455 Cross-Cultural Management (3)

Prerequisite: MGMT 339 or 340. Develop a more comprehensive understanding of the ways in which culture affects management decisions. Not available for graduate degree credit.

461 Entrepreneurial Management (3)

Prerequisites: ACCT 201B and MGMT 339 for MCBE students. ACCT 201A and BUAD 301 for non-MCBE students. How to plan organize and control new ventures. Setting up business level strategy and corresponding systems to improve venture performance. Casework, research and fieldwork with selected local businesses. Not applicable for graduate degree credit.

464 Entrepreneurial Leadership (3)

Prerequisite: MGMT 340 for MCBE students. Leadership roles, organizational development and human resource management of new ventures. Setting up systems to improve venture performances that comply with related laws and regulations. Casework, research and fieldwork with selected local businesses. Not applicable for graduate degree credit.

465A New Venture Creation and Funding (3)

Prerequisites: MGMT 339, 340. Corequisite: ACCT 463, MGMT 461, 464 or MKTG 462. How to develop product and service concepts for new ventures, test the concepts, set business strategy, design operating systems and develop financial forecasts, while complying with related laws and regulations. Venture teams will prepare business plans and make funding presentations.

465B New Venture Launch (3)

Prerequisite: MGMT 465A. Venture teams will launch new ventures. New ventures may be start up businesses or new profit centers within existing businesses. Final report and oral presentation on venture results.

470 Entertainment Operations (3)

Prerequisites: MGMT 339, 365. Apply management theory in the area of entertainment that uses physical media for its delivery, including film, ancillary markets, broadcast television and music. Examines organizations and business operations in these fast paced, high profile industries.

471 Tourism Management (3)

Prerequisites: MGMT 339, 340, 365. Learn to manage in the fast paced segments of live entertainment, e.g., amusement/theme parks, concerts/plays/shows, gaming/wagering and special event management (conferences, conventions, etc.); Organizations, jobs and business operations in these complex, high profile industries.

480 Global Strategic Management (3)

Prerequisites: BUAD 301, completion of all other International Business core courses. Conceptualization, formulation and implementation of successful global business strategies. Other topics include managing cultural differences, strategic alliances and strategies for the Pacific Rim and Europe.

495 Internship (1-3)

Prerequisites: six units of upper-division management courses including MGMT 339; concentration in management or international business; consent of 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 credit up to a total of six units. Credit/No Credit only.

499 Independent Study (1-3)

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

515 Management of Information in the Corporate Environment (3)

Prerequisite: classified MCBE status. Review and application of management information systems in business. System planning, system design and analysis, use of files, decision support systems, expert systems and implementation of management information systems.

516 Operations Management (3)

Prerequisites: classified MCBE status, ISDS 513 (may be taken concurrently), Role of the operations management function in the modern manufacturing and service organization and its interaction with the other functions. Formulation of operations strategy consistent with organizational strategy, operations planning, organization, directing and control activities. Long term and short term decision areas in operations management and decision-making tools and techniques. Global, environmental and ethical issues.

518 Legal and Ethical Environment of Business (3)

Prerequisite: classified MCBE status. The legal system and case studies in areas of contracts, torts, products liability, employment, business organizations and trade regulation, with consideration of ethical theories and implications as they apply to business practices.

520 International Legal Environment of Business (3)

Prerequisite: classified MCBE status. International legal environment in which firms operate. Case studies in the areas of treaties and laws. World Trade Organization, EU, NAFTA, international contracts, dispute resolutions, regulation of imports, export and competition, government policies, enforcement of property rights and issues involving ethical responsibilities.

524 Seminar in Organizational Behavior and Administration (3)

Prerequisites: classified MCBE status, Management 516 and 518 or equivalent. Human behavior in organizations, studies in organizational theories and administrative action.

525 Seminar in Team Leadership Skills (3)

Prerequisite: MGMT 524 or equivalent (with instructor's consent). Graduate seminar and workshop to develop hands-on leadership skills to manage high-performance work teams. Topics include methods for self-awareness, making oral presentations, interviewing, stress management, supportive communication, problem solving, influencing and motivating others, managing conflict, empowering, delegating and team building.

535 Production/Operations Management (3)

Prerequisites: MGMT 516 and ISDS 514. In-depth study of selected POM topics. Operations function role and its importance, identification of the problem areas and reviewing of the related concepts and techniques, including computer applications. Emphasizing the current POM topics of interest to top management.

539 Supply Chain Management (3)

Prerequisite: MGMT 516 or equivalent. Introduces the mechanics and impact of E-business and then focuses on the development of the E-supply chain, a key component of E-business. Strategic design of E-business and the supply chain, methods of integration throughout the supply chain and the means by which to develop differentiation of competitive advantage through the supply chain. Uses articles and cases from both services and manufacturing.

540 New Venture Leadership and Management (3)

Prerequisite: Management 516. Coverage of leadership roles, organizational development and human resource management, planning and control issues for new ventures. Setting up operations, and engaging human resources, to better serve customers and improve venture performance. Casework, research and fieldwork with selected local businesses.

542 Labor and Employment Relations Seminar (3)

Prerequisites: classified MCBE status, MGMT 516 and 518. Exploration and review of traditional labor relations, as well as the developing issues in employment relations involving non-union employees, with a special focus on the various ways of resolving both labor and employment disputes. Collective bargaining, bargaining by objectives, dispute resolution methods in both interest and rights disputes: arbitration, mediation and fact-finding of both traditional labor disputes involving salaried and professional employees.

543 Seminar in Human Resource Management (3)

Prerequisites: classified MCBE status, Management 516 and 518. Cases, problems and significant personnel administration literature in personnel administration and human relations.

547 Comparative Management (3)

Management practices and processes in five geographical areas; market-structures and management characteristics different from those in the United States. Constraints that vary between countries because of cultural, legal, economic and/or political differences.

573 Commercialization of Technology (3)

Prerequisite: graduate standing. Management and commercialization of technology-based innovations. Issues related to new product development, formulating strategies, acquiring resources, setting up and managing operations, and creating technology-focused businesses. Assignments and project focus on learning how to manage and commercialize technology.

582 Organizational Development and Change (3)

(Same as POSC 582)

599 Independent Graduate Research (1-3)

Prerequisites: classified MCBE status, consent of instructor, consent of the department chair and associate dean. May be repeated for credit. Not open to students on academic probation.

Marketing

DEPARTMENT CHAIR

Irene Lange

DEPARTMENT OFFICE/WEBSITE

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PROGRAMS OFFERED

Bachelor of Arts in Business
   Administration
   Concentration in Marketing
Master of Business Administration
   Concentration in Marketing

FACULTY

Christopher Anicich, Catherine Atwong, Ray Benedicktus, S. Allen Broyles, Susan Cadwallader, Steven Chen, Howard Forman, Neil Granitz, Katrin Harich, Chiranjeev Kohli, Christopher Kondo, Matthew Lancellotti, Irene Lange, Aubrey LeBard, Sunil Thomas

INTRODUCTION

Marketing is a basic business function covering a wide range of activities. It includes studying markets, planning products, pricing them, promoting them, selling them and then delivering these products to customers. People in wholesaling, retailing, advertising agencies, research firms and transportation companies are all working in the marketing area. Any firm that is reviewing its product policies needs marketers to identify the market, choose the products, find where they can be sold and decide on a price for them.

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, Marketing Concentration."

MASTER OF BUSINESS ADMINISTRATION DEGREE

See "Business Administration, Marketing Concentration."

MARKETING COURSES

Courses are designated as MKTG in the class schedule.

351 Principles of Marketing (3)

Prerequisite: ECON 202; corequisites: BUAD 301, ISDS 361A. Application of current theories and concepts in effectively marketing goods and services to define target customers from a domestic and global perspective. Includes market research, identifying target customers, developing product offers, branding, pricing, marketing communications and distribution channels. Marketing is critically examined from the perspective of the consumer, economy, technology, legal/political issues and ethical/social responsibility.

353 Marketing Information Technology (3)

Prerequisites: BUAD 301, ISDS 361A, MKTG 351. Information sources, databases and tools applied by marketers to transform data into useful formats for the strategic decision-making process. Includes segmentation, target marketing and positioning, media selection, market share, break-even analysis, pricing, sales forecasting and profit scenario analysis. Extensive use of Excel spreadsheets, the Internet and other technology resources. One or more sections offered online.

370 Consumer Behavior (3)

Prerequisite: BUAD 301; corequisite: MKTG 351. Consumer buying patterns, motivation and search behavior. The consumer decision-making process. Inter-disciplinary concepts from economics, sociology, psychology, cultural anthropology and mass communications. Case analyses and research projects.

379 Marketing Research Methods (3)

Prerequisites: BUAD 301, MKTG 351 and ISDS 361A. Marketing research process. Problem formulation, identifying data sources, data collection, analysis techniques, preparing research reports and application of these concepts to marketing research projects.

401 Professional Selling (3)

Prerequisite: MKTG 351. Steps of the sales cycle as an interpersonal influence process. Selling skills and techniques based on communication and buyer behavior concepts. Written sales projects and oral presentations are expected.

405 Advertising and Promotions Strategy (3)

Prerequisite: MKTG 351. How to develop and implement advertising, sales promotion, public relations, direct marketing, sponsorship marketing and personal selling strategies that convey a single voice to a firm's customers' attention with effective and efficient communications program; how to develop and use analytical and creative skills that successfully communicate a firm's messages in both domestic and international markets.

415 Managing the Sales Force (3)

Prerequisite: MKTG 351. Sales manager's role in organizing and deploying a field sales force, developing effective sales training programs, designing complete motivation and compensation plans, asserting strong leadership and evaluating sales people's performance. Relies heavily on case studies and group discussion.

425 Retail and Marketing Channel Strategies (3)

Prerequisite: MKTG 351. Evolution of retailing into a global, high technology industry; developing integrated marketing and financial strategies. Strategically positioning the retail offer to establish and maintain relationship with target customers. Evolving market conditions, buying behavior, retail venues, channel relationships, information, communication and decision support systems and merchandise management.

430 Sports Marketing (3)

Prerequisite: MKTG 351. Develops understanding of Sports Marketing, its role in business and society. Develops understanding of different functional areas. Develops ability to apply theories and knowledge to solve problems faced by Sports Marketers.

443 Marketing Analytics Decision-Making in the Information Age (3)

Prerequisites: ISDS 361A, MKTG 351. Applying analysis and modeling techniques to a broad range of marketing decision-making domains.

445 International Marketing (3)

Prerequisites: MKTG 351. Theories of international trade and role of marketing decisions across national boundaries and markets. Concepts and principles of marketing strategies in organizations from recognition of environmental differences, market assessments, entry alternatives, positions of global interdependence, marketing problems and critical implications. Integrative cases, individual and team efforts emphasized.

455 Strategic Internet Marketing (3)

Prerequisite: MKTG 351. Marketing of goods, services and ideas on the Internet. Integrating e-commerce into a total marketing strategy for businesses ranging from entrepreneurial to multinational corporations. History and emergence of e-commerce, utility of the Internet as a tool to increase effectiveness, efficacy and competitiveness. Designing effective Web pages.

462 Marketing for Entrepreneurs (3)

Prerequisites: ACCT 201B and MKTG 351. Coverage of market analysis for new products and services, competitive analysis, alternatives for entering markets, associated costs and launch feasibility. Casework, research and fieldwork with selected local businesses.

465 Managing Services Marketing (3)

Prerequisite: MKTG 351. Unique marketing needs and challenges faced by service firms in an increasingly challenging global environment. Specific strategies for marketing services in a variety of industries including entertainment, tourism, hospitality, health care and financial services. Also includes strategies used by manufacturing firms using service as a competitive strategy.

475 Export/Import Marketing Strategies (3)

Prerequisite: MKTG 351. Export and import strategies, including international logistics. In-depth knowledge of the export and import process for both large companies and small international businesses. Logistics planning and choosing the best incoterms, the export process and the evaluation of alternative export strategies. Understanding import process including outsourcing and other government regulatory requirements and documentation.

489 Developing Marketing Strategies (3)

Prerequisites: MKTG 351, 353, 370, 379 and senior standing. Development of marketing strategies involving products as well as services. Relies heavily on the case analysis and group interaction. Students will finalize and present portfolio of projects and internships completed over the duration of marketing program.

495 Internship (3)

Prerequisites: six units of upper-division marketing courses, including MKTG 351, concentration in marketing or in international business, consent of department chair, at least junior standing, 2.5 GPA and one semester in residence at Cal State Fullerton. 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: senior standing and approval by 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.

519 Marketing Management (3)

Prerequisites: classified graduate standing and classified MCBE status. Key marketing concepts and their applications to marketing research, segmentation, selecting target markets, product development, pricing, promotion and distribution. Develops senior-level executive decision-making skills from global, ethical and socially responsible perspectives. Requires understanding and application in a major project.

535 Marketing New Ventures (3)

Prerequisite: MKTG 519. Coverage of market analysis for new products and service, competitive analysis, alternatives for entering markets, associated costs and launch feasibility. Casework, research and fieldwork with selected local businesses.

545 Nonprofit and Societal Marketing (3)

Prerequisite: MKTG 519. Applying marketing techniques to social change and nonprofit organizational contexts. Applying marketing resources and tools to address the challenges inherent in such organizations. (Same as GERO 545)

565 Strategic Market Intelligence (3)

Prerequisites: MKTG 519, ISDS 361A or ISDS 513. Qualitative and quantitative methods for collecting and analyzing information about customers and competitors. Applying these techniques and how marketing information can be leveraged to make better strategic decisions.

596T Contemporary Topics in Marketing (3)

Prerequisites: MKTG 519 and classified graduate standing. Framework for customer-focused management; how to increase quality and calculate customer lifetime value and profitability. May be repeated three times for credit.

599 Independent Graduate Research (1-3)

Prerequisites: classified graduate standing, consent of instructor and approval by the Department Chair and Associate Dean. May be repeated for credit. Not open to students on academic probation.
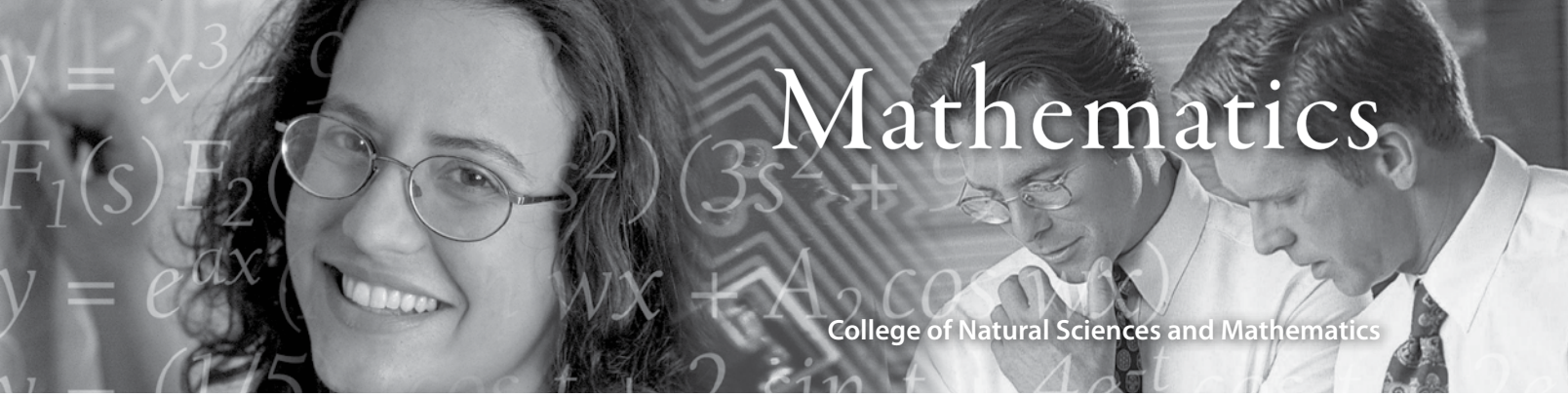
Mathematics

INTRODUCTION

The Department of Mathematics offers a standard undergraduate major program in mathematics with concentrations in pure mathematics, applied mathematics, probability and statistics and teaching mathematics. Courses are provided to satisfy the needs of:

- Students planning graduate study in mathematics or related disciplines

- Students planning to use mathematics in a career in business, industry or government

- Students planning to teach at the elementary or secondary level

- Students majoring in a discipline using mathematics as an analytic or descriptive tool

LEARNING GOALS AND STUDENT LEARNING OUTCOMES

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

Broad Concepts

- All majors should achieve mastery of basic mathematical ideas and techniques ranging across the following fields – Single and multivariate calculus, Algebra, Analysis, Probability/statistics, Differential equations and Mathematical modeling

- All majors should achieve an understanding of the nature of proof

Specific Skills

- Demonstrate the ability to think analytically and critically and to formulate problems, solve them, and interpret their solutions

- Demonstrate the ability to use technological tools: e.g., algebraic and visualization software, statistical packages, a high-level programming language

- Demonstrate the ability to apply knowledge from one branch of mathematics to another and from mathematics to other disciplines

- Demonstrate the ability to communicate mathematics both orally and in writing

Mastery of information competence skills

- Determine the nature and extent of information needed

- Access information through both print and electronic data systems

- Analyze and evaluate the credibility and completeness of information sources

- Select, integrate, and synthesize information retrieved to accomplish a purpose

- Acknowledge copyrighted material and intellectual property

- Communicate the product effectively to others

DEPARTMENT CHAIR

Vacant

DEPARTMENT OFFICE/WEBSITE

McCarthy Hall 154
657-278-3631
http://math.fullerton.edu

PROGRAMS OFFERED

Bachelor of Arts in Mathematics
   Pure Mathematics Concentration
   Applied Mathematics Concentration
   Probability and Statistics Concentration
   Teaching Mathematics Concentration
Minor in Mathematics
Minor in Mathematics for Teacher
   Education
Master of Arts in Mathematics
   Teaching Option
   Applied Mathematics Option
   Special Topics Program
Subject Matter Preparation Program
   for the Single Subject Credential

FACULTY

Alfonso Agnew, Gulhan Alpargu, Scott Annin, George Arthur, Sam Behseta, Martin Bonsangue, Alain Bourget, Todd CadwalladerOlsker, Cherlyn Converse, Paul De Land, Harriet Edwards, Nicole Engelke, Gerald Gannon, William Gearhart, Stephen Goode, Zair Ibragimov, Mortaza Jamshidian, Margaret Kidd, Patrick Kimani, Vuryl Klassen, Stephen Lancaster, Charles H. Lee, Kathy Lewis, HeeJeong Lim, Armando Martinez-Cruz, Tyler McMillen, A. Loc Nguyen, David Pagni, John Pierce, Angel Pineda, Maijian Qian, Nashat Saweris, Harris Shultz, Ernie Solheid, Bogdan Suceava, Hassan Yousefi

BACHELOR OF ARTS IN MATHEMATICS (120 UNITS)

The Bachelor of Arts in Mathematics requires 61-65 units in the major, plus 51 units of General Education and 4-6 units of electives. Each course required for the major must be completed with a grade of "C" (2.0) or better, and may not be taken on a credit/no credit basis

Core Requirements (25 units)

MATH 150A,B Calculus (8)

MATH 250A Multivariate Calculus (4)

MATH 250B Introduction to Linear Algebra and Differential Equations (4)

MATH 280 Strategies of Proof (3)

MATH 307 Linear Algebra (3)

MATH 350 Advanced Calculus I (3)

Additional Requirements (21-23 units)

Complete one of the following concentrations listed below.

Pure Mathematics Concentration (21 units)

MATH 302 Modern Algebra (3)

MATH 414 Topology (3)

MATH 450 Advanced Calculus II (3)

Plus four of the following – MATH 407, 412 , 425, 430 , 471

Applied Mathematics Concentration (21 units)

Select one of the following tracks listed below.

Modeling and Computational Applied Mathematics Track

MATH 306 Vector and Tensor Analysis (3)

MATH 310 Ordinary Differential Equations (3)

MATH 335 Mathematical Probability (3)

MATH 340 Numerical Analysis (3)

MATH 370 Mathematical Model Building (3)

Plus two of the following – MATH 406, 440, 470

Classical Applied Mathematics Track

MATH 306 Vector and Tensor Analysis (3)

MATH 310 Ordinary Differential Equations (3)

MATH 406 Introduction to Partial Differential Equations (3)

MATH 425 Differential Geometry (3)

Plus two of the following – MATH 412, 414, 450

Probability and Statistics Concentration (23 units)

MATH 335 Mathematical Probability (3)

MATH 338 Statistics Applied to Natural Sciences (4)

MATH 435 Mathematical Statistics (3)

MATH 436 Advanced Applied Statistics (4)

MATH 438 Introduction to Stochastic Processes (3)

MATH 439 Intermediate Data Analysis (3)

Plus one of the following – MATH 340, 370, 390

Teaching Mathematics Concentration (21-22 units)

MATH 302 Modern Algebra (3)

MATH 335 Mathematical Probability (3)

MATH 370 Mathematical Model Building (3)
OR MATH 338 Statistics Applied to Natural Sciences (4)
OR MATH 375 Discrete Dynamical Systems and Chaos (3)

MATH 401 Algebra and Probability for the Secondary Teacher (3)

MATH 402 Logic and Geometry for the Secondary Teacher (3)

Plus two of the following – MATH 407, 414, 417, 430, 471

Cognates (9-11 units)

Each student is required to complete one of the following cognates:

Actuarial Cognate (9 units)

FIN 320 Business Finance (3) and one of the following options:

Two of the following:

FIN 332 Theory of Corporate Finance (3)

FIN 340 Introduction to Investments (3)

FIN 360 Principles of Insurance (3)
OR ISDS 361B Quantitative Business Analysis: Statistics and Management Science (3) and
ISDS 440 Integrative Decision Tools for Business Operations (3)

Computer Science Cognate (10 units)

CPSC 131 Data Structures Concepts (3)

Any one of the CPSC 223 courses (3)

CPSC 240 Computer Organization and Assembly Language (3)
OR CPSC 332 File Structures and Database Systems (3)

CPSC 253U Workshop in UNIX (1)

Economics Cognate (9 units)

ECON 201 Principles of Microeconomics (3)

ECON 202 Principles of Macroeconomics (3)

One of the following:

ECON 310, 320, 440, 441

Information Systems and Decision Sciences Cognate (9 units)

Three from the following:

ISDS 422, 465, 467, 472, 474, 475,490

Physics Cognate (11 units)

PHYS 225 Fundamental Physics: Mechanics (3)

PHYS 225L Fundamental Physics: Laboratory (1)

PHYS 226 Fundamental Physics: Electricity and Magnetism (3)

PHYS 226L Fundamental Physics: Laboratory (1)

PHYS 227 Fundamental Physics: Waves, Optics and Modern Physics (3)

Chemistry Cognate (10 units)

CHEM 120A General Chemistry (5)

CHEM 120B General Chemistry (5)

Civil Engineering Cognate (9 units)

EGCE 201 Statics (3)

EGCE 301 Mechanics of Materials (3)

One of the following:

EGCE 302, 325

Mathematics Cognate (9 units)

Three upper-division courses in Mathematics from one of the four concentrations of the Mathematics major other than the student's own concentration.

Research Cognate (9 units)

MATH 491 Research Seminar (1)

MATH 497 Undergraduate Research (3,3)

MATH 498 Senior Thesis (2)

Computer Programming Requirement (3 units)

MATH 320 Introduction to Mathematical Computation
    OR CPSC 120 Introduction to Programming
    OR CPSC 121 Programming Concepts

Writing Requirement

MATH 380 will satisfy the university's upper-division writing requirement for mathematics majors.

Internships in Mathematics

Students should contact the Center for Internships and Community Engagement, LH-206.

MINOR IN MATHEMATICS (25 UNITS)

The mathematics minor must include MATH 150A,B, 250A,B and at least nine units of upper-division mathematics. MATH 303A,B, 380, 401, 402, 403A,B, 495, 496 or 499 may not be used to fulfill the requirements for the minor in mathematics. All courses must be completed with a grade of "C" (2.0) or better.

MINOR IN MATHEMATICS FOR TEACHER EDUCATION (20-22 UNITS)

- For elementary education, the minor consists of 20 units of coursework offered by the Department of Mathematics. The courses must include MATH 150B or 338 and MATH 303A,B. All courses must be completed with a grade of "C" (2.0) or better.

- For secondary education, the minor consists of 22 units of coursework offered by the Department of Mathematics. The courses must include MATH 250B and six units of upper-division courses in mathematics. All courses must be completed with a grade of "C" (2.0) or better.

SINGLE SUBJECT TEACHING REQUIREMENT IN MATHEMATICS

The Department of Mathematics offers coursework meeting the requirements for California single subject credential in mathematics.

MASTER OF ARTS IN MATHEMATICS (30 UNITS)

The M.A. in Mathematics provides advanced study for students with one or more of the following interests: a Ph.D. program in mathematics or mathematics education, teaching in high school or community college, or using mathematical analysis in government, business or industry. The M.A. program includes a Teaching Option, Applied Mathematics Option and Special Topics Option.

Admission Requirements

Students are admitted in conditionally classified standing when the following requirements have been met:

- A bachelor's degree from an accredited institution

- A grade-point average of at least 2.5 in an acceptable earned baccalaureate degree or attained a grade-point average of at least 2.5 in the last 60 semester units attempted

- Good standing at the last college attended

- An undergraduate major in mathematics with a 3.0 in all upper-division mathematics courses, or a combination of previous coursework and work experience approved as equivalent by the graduate committee of the Mathematics Department

Classified Standing

A student's status is changed to classified standing when the following requirements have been met:

- Completion of all prerequisites and/or deficiencies, including the University Writing Requirement

- Development of a study plan approved by the Mathematics Department and Academic Programs. The study plan should be developed prior to the completion of nine units

Teaching Option (30 units)

Designed for mathematics teachers, this option requires that at least 16 units must be 500-level mathematics courses. The following coursework must be included:

MATH 581 Studies in Geometry (3)

MATH 582 Studies in Algebra (3)

MATH 584 Studies in Analysis (3)

MATH 586 Studies in Discrete Mathematics (3)

MATH 587 Studies in Mathematical Problem Solving (3)

MATH 599 Independent Graduate Research (3-6)

Each student will be required to take adviser-approved mathematics electives to meet the 30-unit requirement, and pass a set of four comprehensive exams. Comprehensive exams may be taken no more than twice.

Applied Mathematics Option (30 units minimum)

MATH 489A,B Applicable Analysis and Linear Algebra (3,3)

MATH 501A,B Numerical Analysis and Computation I and II (3,3)

MATH 502A,B Probability and Statistics I and II (3,3)

MATH 503A,B Mathematical Modeling I and II (3,3)

MATH 504A,B Simulation Modeling and Analysis (3,3)

MATH 597 Project (6)

Special Topics Program (30 units)

The Special Topics program requires a study plan approved by the graduate committee of the Mathematics Department. At least 16 units must be 500-level mathematics courses. Some of the 500-level courses may be accompanied by one unit of MATH 599 Independent Graduate Research. Students will also be required to pass a set of comprehensive exams or complete a six-unit project.

MATHEMATICS COURSES

Courses are designated as MATH in the class schedule.

030A Intermediate Algebra-ILE (3)

Prerequisite: A score of 30 or below on the ELM exam. For students who have taken but not passed the ELM exam. Equations and inequalities, algebraic expressions, functions, including polynomial functions. Degree credit is not awarded for these courses. Successful completion of MATH 30A and 30B satisfies the ELM requirement.

030B Intermediate Algebra-ILE (3)

Prerequisites: MATH 30A and a score of 30 or below on the ELM exam. For students who have taken but not passed the ELM exam. Continuation of MATH 30A. Factoring, rational expressions and equations, exponents, radicals, quadratic functions and their graphs, logarithmic functions.

040 Intermediate Algebra (3)

Prerequisite: a score of 32-48 on the ELM exam. An intermediate algebra course designed specifically for students who have taken but not passed the ELM exam. Linear equations and inequalities, polynomial, rational and radical expressions, quadratic functions, exponential and logarithmic functions and sequences and series. Degree credit is not awarded for this course. Successful completion satisfies the ELM requirement.

045 Intermediate Algebra Minicourse (1)

Prerequisite: a score between 36 and 48 on the ELM exam. An intermediate algebra course designed specifically for students who have taken but not passed the ELM exam. Linear equations, polynomials, rational expressions, radical expressions, quadratic formulas, exponential functions and logarithmic functions. Degree credit is not awarded for this course. Successful completion satisfies the ELM requirement. Offered via Internet only.

110 Mathematics for Liberal Arts Students (3)

Prerequisites: passing score on the ELM or exemption and three years of high school mathematics, including two years of algebra and one year of geometry. Survey of traditional and contemporary topics in mathematics, such as elementary logic, counting techniques, probability, graph theory, codes and coding and the mathematics of the social sciences. For non-science majors.

115 College Algebra (4)

Prerequisites: passing score on the ELM or exemption and three years of high school mathematics, including two years of algebra and one year of geometry. For students planning to take MATH 130 or 135. Equations, inequalities and systems of equations. Properties of functions and their graphs, including polynomial functions, rational functions, exponential and logarithmic functions, with applications. Sequences and series. If both MATH 115 and MATH 125 are taken, credit is given for second course only.

115W College Algebra Workshop (1)

Corequisite: MATH 115. Supplementary problem-solving workshop in a collegial setting.

120 Introduction to Probability and Statistics (3)

Prerequisites: passing score on the ELM or exemption, and three years of high school mathematics, including two years of algebra and one year of geometry. Set algebra, finite probability models, sampling, binomial trials, conditional probability and expectation. Recommended for students of economics, business, and biological, geological and social sciences.

125 Precalculus (5)

Prerequisites: passing score on the ELM or exemption, and three years of high school mathematics, including two years of algebra and one year of geometry. For students planning to take MATH 150A. Functions and their use in mathematical models, including linear functions, polynomial and rational functions, exponential and logarithmic functions and trigonometric functions. If both MATH 115 and MATH 125 are taken, credit is given for second course only.

125W Precalculus Workshop (1)

Corequisites: MATH 125 and consent of instructor. Supplementary problem-solving workshop in a collegial setting. (3 hours workshop)

130 A Short Course in Calculus (4)

Prerequisites: three years of high school mathematics, including two years of algebra and one year of geometry; a passing score on the ELM or exemption; and a passing score on the MQE or exemption. MATH 115 or MATH 125 (with a grade of "C" (2.0) or better) is an MQE exemption. Survey of differential and integral calculus and applications. For students of biological and social sciences, business and economics. If both MATH 130 and MATH 135 are taken, credit is given for second course only. Six units of credit are given if both MATH 130 and MATH 150A are taken.

135 Business Calculus (3)

Prerequisites: three years of high school mathematics, including two years of algebra and one year of geometry; a passing score on the ELM or exemption; and a passing score on the MQE or exemption. MATH 115 or MATH 125 (with a grade of "C" (2.0) or better) is an MQE exemption. Survey of differential and integral calculus with applications, including derivatives, integrals and max-min problems. For students of business and economics. If both MATH 130 and MATH 135 are taken, credit is given for the second course only. Six units of credit are given if both MATH 135 and 150A are taken.

150A Calculus (4)

Prerequisites: four years of high school mathematics, including geometry, two years of algebra and trigonometry; passing score on the ELM or exemption; passing score on the MQE or exemption. MATH 125 with a grade of "C" (2.0) or better is an MQE exemption. Properties of functions. The limit, derivative and definite integral concepts; applications of the derivative, and applications of integration. Six units of credit are given for both MATH 150A and MATH 130 or for both MATH 150A and MATH 135.

150B Calculus (4)

Prerequisite: MATH 150A or equivalent. Techniques of integration, improper integrals and applications of integration. Introduction to differential equations. Parametric equations; sequences and series.

151A Calculus I Workshop (1)

Corequisite: MATH 150A and consent of instructor. Supplementary problem-solving in a collegial setting. (3 hours workshop)

151B Calculus II Workshop (1)

Corequisite: MATH 150B and consent of instructor. Supplementary problem-solving in a collegial setting. (3 hours workshop)

196 Student-to-Student Tutorials (1-3)

Consult "Student-to-Student Tutorials" in this catalog for more complete course description. May be taken Credit/No Credit only.

250A Multivariate Calculus (4)

Prerequisites: MATH 150A,B or equivalent. Calculus of functions of several variables. Partial derivatives and multiple integrals with applications. Parametric curves, vector-valued functions, vector fields, line integrals, Green's Theorem, Stokes' Theorem, Divergence Theorem, geometry of 3-space and vectors.

250B Introduction to Linear Algebra and Differential Equations (4)

Prerequisite: MATH 250A. Introduction to the solutions of ordinary differential equations and their relationship to linear algebra. Topics include matrix algebra, systems of linear equations, vector spaces, linear independence, linear transformations and eigenvalues.

270A Mathematical Structures I (3)

Prerequisite: four years of high school mathematics. First of two semesters of fundamental discrete mathematical concepts and techniques needed in computer-related disciplines. Logic, truth tables, elementary set theory, proof techniques, combinatorics and Boolean algebra.

270B Mathematical Structures II (3)

Prerequisite: MATH 270A. Second of two semesters of fundamental discrete mathematical concepts and techniques needed in computer-related disciplines. Graph theory, algebraic structures and linear algebra.

280 Strategies of Proof (3)

Prerequisite: MATH 150B. Logic, set theory and methods for constructing proofs of mathematical statements. A bridge to the rigors of upper-division mathematics courses containing significant abstract content.

302 Modern Algebra (3)

Prerequisites: MATH 250B and 280. Integers, rational numbers, real and complex numbers, polynomial domains, introduction to groups, rings, integral domains and fields.

303A Fundamental Concepts of Elementary Mathematics (3)

Prerequisite: completion of a mathematics course that satisfies the General Education (G.E.) requirement. Structure and form of the mathematics that constitutes the core of the K-8 mathematics curriculum, including the real number system, number theory and equations.

303B Fundamental Concepts of Elementary Mathematics (3)

Prerequisites: completion of a mathematics course that satisfies the G.E. requirement and a grade of "C" (2.0) or better in MATH 303A. Structure and form of the mathematics that constitutes the core of the K-8 mathematics curriculum, including the real number system, number theory and equations.

306 Vector and Tensor Analysis (3)

Prerequisite: MATH 250B. Vector analysis, including coordinate bases, gradient, divergence and curl, Green's, Gauss' and Stokes' theorems. Tensor analysis, including the metric tensor, Christoffel symbols and Riemann curvature tensor. Applications will be drawn from differential geometry, continuum mechanics, electromagnetism, general relativity theory.

307 Linear Algebra (3)

Prerequisite: MATH 250B. Corequisite: MATH 280. Introduction to the theory of vector spaces. Linear equations and matrices, determinants, linear transformations and eigenvalues, norms and inner products.

310 Ordinary Differential Equations (3)

Prerequisite: MATH 250B. Theory and methods of solutions for ordinary differential equations, including Laplace transform methods and power series methods. Oscillation theory for second order linear differential equations and/or theory for systems of linear and nonlinear differential equations.

320 Introduction to Mathematical Computation (3)

Corequisite: MATH 250B. Introduction to problem-solving on the computer using modern interactive software. Numerical and symbolic computation. Variety of problems arising in mathematics, science and engineering. Also serves as preparation for subsequent computer-based courses in mathematical modeling.

335 Mathematical Probability (3)

Prerequisite: MATH 250A. Probability theory; discrete, continuous and multivariate probability distributions, independence, conditional probability distribution, expectation, moment generating functions, functions of random variables and the central limit theorem.

337 Introduction to Experimental Design and Statistics in the Laboratory Sciences (3)

Prerequisites: passing score on the ELM or exemption; completion of one of the following: BIOL 241, 261; CHEM 120; or PHYS 211, 225. Graphical and numerical descriptive statistics; experimental design, randomization, replication, block designs, stratified samples, controlled experiments versus observational studies. Fundamental inference for proportions, means, variances. Analysis of variance, regression. Computer analysis of data from the laboratory sciences, e.g., biology, chemistry, geology.

338 Statistics Applied to Natural Sciences (4)

Prerequisite: MATH 130 or 150B or consent of instructor. Introduction to the theory and application of statistics. Elementary probability, estimation, hypothesis testing, regression, analysis of variance, non-parametric tests. Computer-aided analysis of real data. Graphical techniques, generating and interpreting statistical output, presentation of analysis (3 hours lecture, 2 hours activity).

340 Numerical Analysis (3)

Prerequisites: MATH 250B and one of the following: MATH 320, CPSC 120, 121 or equivalent. Approximate numerical solutions of systems of linear and nonlinear equations, interpolation theory, numerical differentiation and integration, numerical solution of ordinary differential equations. Computer coding of numerical methods.

350 Advanced Calculus I (3)

Prerequisite: MATH 250B. Corequisite: MATH 280. Development of the theoretical foundations of calculus with an emphasis on mathematical rigor and formal proof. Algebraic and topological properties of the real numbers; limits of sequences and functions; continuity, differentiation and integration of functions of one variable; infinite series.

368 First Course in Symbolic Logic (3)

(Same as PHIL 368)

370 Mathematical Model Building (3)

Prerequisites: MATH 250B or consent of instructor, and one of the following: MATH 320, CPSC 120, 121 or equivalent. Introduction to mathematical models in science and engineering: dimensional analysis, discrete and continuous dynamical systems, flow and diffusion models.

375 Discrete Dynamical Systems and Chaos (3)

Prerequisite: MATH 250B or consent of instructor. Analysis of the evolution of linear and nonlinear deterministic discrete systems with emphasis on long range behavior, stability and instability of stationary states and periodic orbits, chaotic orbits, strange attractors, fractional dimension and Lyapunov exponents; examples from current research literature.

380 History of Mathematics (3)

Prerequisite: MATH 250B. History of mathematics through its methods and concepts. Helps students become proficient in writing and reading mathematical literature. Satisfies the upper-division writing requirement for mathematics majors.

390 Introduction to Actuarial Science (3)

Prerequisite: MATH 150B. Corequisites: MATH 335 or 338 or ISDS 361A. Fundamentals of actuarial science, including risk theory, interest theory, rate making, loss reserve and actuarial modeling. Selective corporate finance, investment and insurance topics, such as amortization, bonds, sinking funds, securities, annuities and pensions.

401 Algebra and Probability for the Secondary Teacher (3)

Prerequisites: 12 units of upper-division mathematics exclusive of MATH 303A,B and MATH 403A,B. Overview of mathematical topics relevant to the teacher of secondary mathematics. Problem-solving approach to areas, including algebra, number theory, combinatorics and probability while maintaining an historical perspective.

402 Logic and Geometry for the Secondary Teacher (3)

Prerequisites: 12 units of upper-division mathematics exclusive of MATH 303A,B and MATH 403A,B. Parallel to MATH 401, but with emphasis on geometry, trigonometry and the theory of equations.

403A Fundamental Concepts of Middle School Mathematics I (3)

Prerequisite: MATH 303B. Content background in mathematics to help satisfy credentialing requirements for teaching mathematics at the middle school level. Focuses on gaining a thorough understanding of algebra, including patterns, functions and the use of technology.

403B Fundamental Concepts of Middle School Mathematics II (3)

Prerequisite: MATH 403A. Content background in mathematics to help satisfy credentialing requirements for teaching mathematics at the middle school level. Focuses on gaining a thorough understanding of advanced algebra, geometry, probability and statistics and the use of technology.

406 Introduction to Partial Differential Equations (3)

Prerequisite: MATH 306. First order linear and quasi-linear partial differential equations. Classification of second order linear partial differential equations. Fourier analysis, Sturm-Liouville theory, integral transforms and their application to boundary-value problems for the potential, wave and diffusion equations.

407 Abstract Algebra (3)

Prerequisite: MATH 302. Sets, mappings, groups, rings, modules, fields, homomorphisms, advanced topics in vector spaces and theory of linear transformations, matrices, algebras, ideals, field theory, Galois Theory.

412 Complex Analysis (3)

Prerequisite: MATH 350. Complex differentiation and integration, Cauchy's theorem and integral formulas, maximum modulus theorem, harmonic functions, Laurent series, analytic continuation, entire and meromorphic functions, conformal transformations and special functions.

414 Topology (3)

Prerequisite: MATH 350. Topological spaces and continuous functions, connectedness and compactness, metric spaces and function spaces.

417 Foundations of Geometry (3)

Prerequisite: MATH 307. Foundations of Euclidean and non-Euclidean geometries through transformations and formal axiomatics.

425 Differential Geometry (3)

Prerequisite: MATH 307. Differential geometry of curves and surfaces. Frenet-Serret formulas, Gauss-Weingarten equations, Gauss-Bonnet theorem.

430 Number Theory (3)

Prerequisite: MATH 302. Basic concepts of classical number theory with modern applications. Divisibility, congruences. Diophantine approximations and equations, primitive roots, continued fractions. Applications to public key cyprotography, primality testing, factoring methods and check digits.

435 Mathematical Statistics (3)

Prerequisite: MATH 335 or equivalent. Statistical theory and its applications, based on the use of calculus.

436 Advanced Applied Statistics (4)

(Same as BIOL 436)

438 Introduction to Stochastic Processes (3)

Prerequisite: MATH 335. Stochastic processes, including Markov chains, Poisson Process, Wiener Process. Applications to birth and death processes and queuing theory.

439 Intermediate Data Analysis (3)

Prerequisites: MATH 250B or 270B, and 338. Simple and multiple linear regression, testing hypotheses, dummy variables, ANOVA, ANCOVA, confounding and interaction, diagnostics, influence and outliers, transformation and weighting and model selection. Introductory nonlinear and logistic regression. SAS statistical software will be used.

440 Advanced Numerical Analysis (3)

Prerequisite: MATH 340. Advanced topics in numerical analysis selected from iterative methods for linear systems, approximation of eigenvalues and eigenvectors, numerical methods for ordinary and partial differential equations, optimization methods and approximation theory. Error and convergence analysis and computer coding.

450 Advanced Calculus II (3)

Prerequisite: MATH 350. Sequences and series of functions. Continuity, differentiation and integration of functions of several variables. Advanced topics in analysis, such as Lebesgue integration or the theory of metric spaces.

470 Advanced Mathematical Model Building (3)

Prerequisites: MATH 307, 335 and 370. A capstone course for students with strong mathematical preparation. Topics may include stochastic models, Monte Carlo integration, simulation of discrete event systems, simulation software and further studies in dynamic systems and flow and diffusion models.

471 Combinatorics (3)

Prerequisite: MATH 302 or 307. Analysis of discrete structures, including existence, enumeration and optimization. Permutations and combinations, combinatorial identities, the inclusion-exclusion principle, recurrence relations, Polya counting. Basic definitions and properties of graphs, Eulerian and Hamiltonian graphs, trees, graph colorings and chromatic number, planar graphs.

489A Applicable Linear Algebra (3)

Prerequisites: linear algebra, advanced calculus and consent of instructor. Corequisite: MATH 489B. Topics from linear algebra useful in graduate studies in applied mathematics. Finite and infinite dimensional vector spaces, linear transformations and matrices. Introduction to Hilbert spaces. Projection theorem and some of its applications.

489B Applicable Analysis (3)

Prerequisites: undergraduate calculus, linear algebra, advanced calculus and consent of instructor. Corequisite: MATH 489A. Topics from analysis useful in graduate studies in applied mathematics. Topics may include initial and boundary value problems, including series solutions, eigenvalues and eigenfunctions, Fourier analysis, generalized functions, an introduction to the calculus of variations, and transform methods.

491 Research Seminar (1)

Prerequisite: consent of instructor. Corequisite: MATH 497 or 498. Students are required to attend the weekly undergraduate research seminars and give at least one seminar presentation as determined by the faculty adviser. May be repeated for credit.

495 Internship in Applied Mathematics (1-3)

Prerequisites: 15 units of upper-division mathematics and consent of instructor. Work experience in advanced mathematics through positions in business, industry or government.

496 Student-to-Student Tutorials (1-3)

Consult "Student-to-Student Tutorials" in this catalog for more complete course description. May be taken Credit/No Credit only.

497 Undergraduate Research (1-3)

Prerequisites: nine units of upper-division math and consent of instructor. Methods of research in the mathematical sciences through a research project supervised by a departmental faculty. May be repeated for up to 6 units towards major.

498 Senior Thesis (2)

Prerequisites: six units MATH 497 (up to 2 units concurrently) and consent of instructor. Preparation, presentation and defense of thesis. Topic approved by the undergraduate research committee. Thesis formatted in accordance with journal in field. May not be repeated for credit.

499 Independent Study (1-3)

Prerequisite: consent of instructor. Special topic in mathematics, selected in consultation with and completed under supervision of instructor.

501A Numerical Analysis and Computation I (3)

Prerequisites: MATH 489A,B. Corequisite: MATH 501B. Numerical methods for linear and nonlinear systems of equations, eigenvalue problems. Interpolation and approximation, spline functions, numerical differentiation, integration and function evaluation. Error analysis, comparison, limitations of algorithms.

501B Numerical Analysis and Computation II (3)

Prerequisites: MATH 489A,B. Corequisite: MATH 501A. Numerical methods for initial and boundary-value problems for ordinary and partial differential equations. The finite element method. Error analysis, comparison, limitations of algorithms.

502A Probability and Statistics I (3)

Prerequisites: MATH 335, 489A,B. Corequisite: MATH 502B. Theory and applications of probability models including univariate and multivariate distributions; expectations and transformations of random variables. Must be taken prior to or concurrently with MATH 502B.

502B Probability and Statistics II (3)

Prerequisites: MATH 335, 489A,B. Corequisite: MATH 502A. Theory and applications of sampling theory, statistical estimation and hypothesis testing. Must be taken after or concurrently with MATH 502A.

503A Mathematical Modeling I (3)

Prerequisites: MATH 489A,B and 501A,B. Mathematical modeling concepts. Topics may include: dimensional analysis, scaling and sensitivity; system concepts, state space, observability, controllability and feedback; dynamical systems, models and stability analysis; optimization models.

503B Mathematical Modeling II (3)

Prerequisite: MATH 503A. Development and analysis of mathematical models in such areas as mechanics, economic planning, operations management, environmental and ecological sciences, biology and medicine.

504A Simulation Modeling and Analysis (3)

Prerequisites: MATH 501A,B; 502A,B; 503A,B. Corequisite: MATH 504B. Advanced techniques of simulation modeling, including the design of Monte Carlo, discrete event and continuous simulations. Topics may include output data analysis, comparing alternative system configurations, variance-reduction techniques and experimental design and optimization.

504B Applications of Simulation Modeling Techniques (3)

Prerequisites: MATH 501A,B; 502A,B; 503A,B. Corequisite: MATH 504A. Introduction to a modern simulation language and its application to simulation modeling. Topics will include development of computer models to demonstrate the techniques of simulation modeling, model verification, model validation and methods of error analysis.

581 Studies in Geometry (3)

Prerequisites: MATH 307, graduate standing, plus one year of full-time teaching in secondary school mathematics. Topics relating to the high school curriculum from an advanced standpoint, including the axiomatic method and non-Euclidean geometry.

582 Studies in Algebra (3)

Prerequisites: MATH 302, graduate standing, plus one year of full-time teaching in secondary school mathematics. Topics relating to the high school curriculum from an advanced standpoint, including algorithms, fields and polynomials.

583 Topics in Statistics (3)

Prerequisites: MATH 338, graduate standing, plus one year of full-time teaching in secondary school mathematics. Calculus-based course designed to teach appropriate strategies and tools to effectively address problems in statistics. Includes project design, exploratory data analysis and interpretation, and effective communication of results.

584 Studies in Analysis (3)

Prerequisites: MATH 350, graduate standing, plus one year of full-time teaching in secondary school mathematics. Topics relating to the high school curriculum from an advanced standpoint, including limits, continuity, differentiation and integration.

586 Studies in Discrete Mathematics (3)

Prerequisites: MATH 335 and one of the following: MATH 320, CPSC 120, CPSC 121 or equivalent; graduate standing and one year of full time teaching in secondary school mathematics. Topics relating to the high school curriculum from an advanced standpoint, including combinatorics, probability, matrices and linear programming.

587 Studies in Mathematical Problem Solving (3)

Prerequisites: MATH 302, graduate standing, plus one year of full-time teaching in secondary school mathematics. Problem solving via non-routine and enrichment-type problems from several branches of mathematics.

597 Project (3-6)

Prerequisite: consent of instructor. May be repeated for credit. Students in the Applied Master's Program earn a total of 6 units.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing and consent of instructor. Normally taken in conjunction with required graduate courses. Also offered without being attached to any course. May be repeated for credit.

MATHEMATICS EDUCATION COURSES

Courses are designated as MAED in the class schedule

442 Teaching Mathematics in Secondary School (3)

Prerequisite: admission to Teacher Education Program in Mathematics; concurrent enrollment in EDSC 440F. Research, standards, objectives, and methods and technology for teaching mathematics. Required of mathematics majors for the general single subject credential. (2 hours lecture, 2 hours activity)

449E Externship in Secondary Teaching (3)

(Same as EDSC 449E)

449I Internship in Secondary Teaching (10)

(Same as EDSC 449I)

449S Seminar in Secondary Teaching (3)

(Same as EDSC 449S)

499 Independent Study (1-3)

Prerequisite: consent of instructor. Special topic in mathematics education, selected in consultation with and completed under supervision of the instructor. May be repeated for credit.

532 Teaching Problem Solving in Middle School Mathematics (3)

Prerequisite: MATH 403B. Seminar to explore techniques of problem solving for mathematics teachers of grades 5-9. Review of research on problem solving at the middle school level. Review of state and national documents on middle school mathematics education. Emphasis on problem solving in algebra, geometry and probability.