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PROGRAMS

Undergraduate Areas of Study

Accounting Emphasis BS in Business Administration

Program Director: Michael Roberts
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Accounting courses are offered in several fields of professional accountancy at the intermediate, advanced and graduate levels. They provide preparation for practice in one or more of the following fields:

Auditing
Financial Accounting
Financial Management
Management Control Systems
Managerial Accounting
Tax Accounting
Teaching and Research

In all of these fields a thorough knowledge of the social, legal, economic and political environment is needed. A high degree of analytical ability and communication skill is indispensable. A grade of *C* must be earned in all accounting courses to qualify for graduation.

Courses in English composition, speech, ethics and logic are desirable. Courses in statistics and information systems, beyond the required business core courses, are highly recommended.

Required Courses

- ACCT 4054 - Accounting Systems and Data Processing
- ACCT 3220 - Intermediate Financial Accounting I
- ACCT 3230 - Intermediate Financial Accounting II
- ACCT 3320 - Intermediate Cost Accounting
- ACCT 4410 - Income Tax Accounting
- ACCT 4620 - Auditing

ACCT free elective (4000 level) (3 semester hours) choose one course from the following:

- ACCT 4240 - Advanced Financial Accounting
- ACCT 4070 - Management Accounting
- ACCT 4330 - Managerial Accounting Problems and Cases
- ACCT 4370 - International Accounting
- ACCT 4520 - Oil and Gas Accounting
- ACCT 4780 - Accounting and Information Systems Processes and Controls
- ACCT 4800 - Accounting for Government and Nonprofit Organizations
- ACCT 4840 - Independent Study

- ACCT 4915 - Accounting for the Public Interest
- ACCT 4950 - Special Topics

Total: 21 Hours

Students planning to pursue accounting as a career may take more than the above required hours. Many students complete a total of 30 hours of accounting, often taking two accounting courses each semester in their junior and senior years. Students should work closely with the accounting faculty and business advisors in planning their accounting programs.

The accounting program offers several 4000/6000-level courses. Students with credit for a 4000-level course cannot receive credit for the corresponding 6000-level course. Graduate students should take 6000-level courses.

Accounting students often specialize in a particular topical area of accounting.

Financial Accounting

Recommended Electives

- ACCT 4240 - Advanced Financial Accounting
- ACCT 4800 - Accounting for Government and Nonprofit Organizations

Managerial Accounting

Recommended Electives

- ACCT 4330 - Managerial Accounting Problems and Cases
- ACCT 4800 - Accounting for Government and Nonprofit Organizations

Accounting and Information Systems (ACIS)

Within the accounting curriculum students can choose to add courses in information systems to complement their individual interests as well as prior education and work experiences.

Required Courses

- ACCT 4054 - Accounting Systems and Data Processing
- ACCT 3220 - Intermediate Financial Accounting I
- ACCT 3230 - Intermediate Financial Accounting II
- ACCT 3320 - Intermediate Cost Accounting
- ACCT 4410 - Income Tax Accounting
- ACCT 4620 - Auditing
- ACCT 4780 - Accounting and Information Systems Processes and Controls or
- ISMG 4780 - Accounting and Information Systems Processes and Controls

ISMG Electives

Choose two:

- ISMG 4500 - Database Management and Applications
- ISMG 4600 - Systems Analysis and Design
- ISMG 4900 - Project Management and Practice

Total: 27 Hours

To further specialize, consider a graduate accounting program. Graduate study in accounting is receiving increasing emphasis by professional organizations and employers. Students meeting admission requirements should consider continuing their education at the graduate level. Qualified undergraduates may petition for permission to take one or two graduate accounting courses as electives (e.g. ACCT 6800, Special Topics).

Anthropology BA

Students majoring in anthropology for the BA degree must declare such by the time they have completed 60 semester hours. Majors must complete a minimum of 40 semester hours in anthropology with a grade of *C* (2.0) or better in each course. At least 24 hours must be at the upper-division level and a minimum of 21 semester hours must be taken from CU Denver faculty. (Note that most upper-division courses have lower-division prerequisites.)

Program Requirements

Required Anthropology Courses

- ANTH 1302 - Introduction to Archaeology
- ANTH 1303 - Introduction to Biological Anthropology
- ANTH 2102 - Culture and the Human Experience
- ANTH 3101 - Foundations of Cultural Anthropology
- ANTH 3301 - World Prehistory
- ANTH 3512 - Human Evolution

Total: 20 Hours

Anthropology Electives

Recommended courses:

- ANTH 4050 - Quantitative Methods in Anthropology
- ANTH 4810 - Integrating Anthropology

Total (minimum): 20 Hours

Major Total: 40 Hours

Architecture BSArch

Program Director: Phil Gallegos
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E-mail: phil.gallegos@ucdenver.edu

The College of Architecture and Planning offers a Bachelor of Science in Architecture degree exclusively on the downtown Denver campus. The city of Denver provides a rich environment to explore a diverse historic and cultural world that includes multiple approaches to solving urban and building problems. The degree is a "pre-professional" degree, which will provide fast track entry into the accredited Master of Architecture degree that is required for licensure in the profession. This degree provides a scientific and liberal education in design theory of the built world and its practice. Our graduates will have significant grounding in the science of building and the practice of architecture in a rapidly evolving profession. Our educational goal is to engender active and creative making of architecture along with critical thinking skills. Our graduates will have employment options in entry level architectural practices or related fields of urban design, historic preservation, design-build, construction, and even urban planning; or the opportunity to enter any accredited graduate program in the country.

Program Requirements

Satisfaction of all the following:

CU Denver undergraduate core:	37 semester hours
Architecture core:	71 semester hours
General studies electives:	12 semester hours
Total:	120 semester hours

CU Denver Undergraduate Core Curriculum

The faculty of the College of Architecture and Planning, the Business School, the College of Engineering and Applied Science and the College of Liberal Arts and Sciences have established a core curriculum for undergraduate students. All undergraduate students are required to complete the undergraduate core curriculum independent of their college or major.

The undergraduate core curriculum for CU Denver is outlined in the CU Undergraduate Core and gtPATHWAYS Curriculum segment of the catalog. The core requirements for BS in Architecture students are specified in the section labeled "Specific Program Requirements-College of Architecture and Planning."

The undergraduate core curriculum seeks to provide all baccalaureate students with basic intellectual competencies in English, mathematics, biological and physical sciences, behavioral sciences, social sciences, humanities and arts. Furthermore, the core curriculum promotes an awareness of cultural diversity and international perspective. The majority of the core curriculum is designed to be completed during a student's freshman and sophomore years in order to provide the foundation for specific training in a student's major discipline.

CORE REQUIREMENTS

Intellectual Competencies

- English, 6 semester hours
- Mathematics, 4 semester hours

Knowledge Areas, 21 semester hours total

- Biological and Physical Sciences, 9 semester hours
- Humanities, 3 semester hours
- Arts, 3 semester hours
- Behavioral Sciences, 3 semester hours
- Social Sciences, 3 semester hours

Cultural Diversity, 3 semester hours total

International Perspectives, 3 semester hours total

Total: 37 Hours

Foreign Language Proficiency

BS Architecture students are required to demonstrate a minimum level of proficiency in one foreign language. This requirement is met through completion of one of the following:

- A second year (level II) high school course with minimum grade of C- or 1.7
- A second semester level college course (1020) with a minimum grade of C- or 1.7
- Satisfactory proficiency testing. Contact the CU Denver Department of Modern Languages at 303-556-4893 for details

Architecture Core Curriculum

Design Studies

- ARCH 1110 - Introduction to Architecture
- ARCH 3110 - Design Studio II
- ARCH 3120 - Design Studio III
- ARCH 4110 - Design Studio IV
- ARCH 4120 - Design Studio V

Total: 27 Hours

Cultural Studies

- ARCH 1110 - Introduction to Architecture
- ARCH 2230 - Architectural History I
- ARCH 3230 - Architectural History II

Total: 9 Hours

Technical Studies

- ARCH 3130 - Construction Practices I
- ARCH 4440 - Construction Practices II
- ARCH 3330 - Building Systems I
- ARCH 4240 - Building Systems II
- ARCH 3340 - Theory of Structures I
- ARCH 4340 - Theory of Structures II

Total: 18 Hours

Architecture Electives

Total 17 Hours

Architecture Core Total: 71 Hours

Maximum Units per Term

The normal scholastic load of an undergraduate architecture student is 15 semester hours, with a maximum of 18 hours allowed during the fall/spring semesters and 12 hours allowed during the summer session. Hours carried concurrently in the Division of Continuing Education, University of Colorado Boulder, or the CU Denver Extended Studies Programs, whether in classes or through correspondence, are included in the student's term load.

Repeating Courses

A failed course (grade of F) may be repeated; however, the F will be included in the GPA and will appear on the transcript. Students must earn at least a C- grade in required architecture core courses. Architecture courses must be repeated if the student earns less than a C- grade.

Courses from Other Institutions

BS Architecture students must have the written approval of the BS Architecture director or undergraduate academic advisor to register for courses (excluding MSUD pooled courses) offered by other institutions, including other University of Colorado locations. Credit will not be given for courses taken without approval. Grades of C or better must be earned to receive the undergraduate bachelor degree credit. Generally, only non-architecture electives or lower-division, non-architecture requirements are acceptable for transfer from other institutions once a student has been admitted to the BS Architecture Program. Students who, after admission to the college, take more than 12 semester hours from another institution, must reapply for admission to the college as transfer students and must meet the current admission requirements.

Graduate-Level Courses

With prior written approval of the BS Architecture Director, students may take a maximum of 6 semester hours of graduate-level non-architecture elective credits. Students must earn grades of B or better in graduate courses to apply the credits toward BS Architecture degree requirements.

Pass/Fail

Only internships, independent studies and non-architecture elective courses may be taken pass/fail. Required architecture courses (including the campus core) may not be taken pass/fail. A maximum of 6 hours pass/fail credit may be applied toward the BS Architecture degree. Courses taken in excess of the maximum will not be applied toward degree credit. Pass/fail determination must be made within the posted deadlines (at census dates) and may not be rescinded (unless approved by the undergraduate committee).

Independent Study

Junior or senior architecture students desiring to work beyond regular course coverage may take variable credit courses (1–3 semester hours) as non-architecture electives under the direction of an instructor who approves the project, but the student must have the appropriate approval before registering. A maximum of 3 semester hours of independent study course work may be taken in any one semester; a maximum of 6 semester hours may be applied toward degree requirements. An independent study request form must be signed by the student, the instructor, the program director and the director of advising and admissions.

Graduation Requirements

Total Credits. The Bachelor of Science in Architecture degree requires a total of 120 semester hours.

Undergraduate Honors. Upon recommendation of the faculty, students who demonstrate superior scholarship are given special recognition at graduation. Students must achieve an overall University of Colorado GPA of 3.3 and a GPA of 3.5 in all architecture courses taken at the University of Colorado to be considered for cum laude. Those who achieve an overall University of Colorado GPA of 3.5 and a GPA of 3.7 in all architecture courses taken at the University of Colorado will be considered for magna cum laude. Those who achieve a 3.7 overall GPA and a 3.85 GPA in all architecture courses will be considered for summa cum laude.

Filing for Graduation. A senior audit is completed on all students who have completed 90 or more semester hours. Students must file an undergraduate candidacy form and diploma card and request a graduation evaluation prior to registering for their final semester. Failure to do so will delay graduation.

Bioengineering BS

The undergraduate program at CU Denver is a highly rigorous program that instills competencies in biomedical science, engineering and mathematics and biomedical design, while emphasizing the professional competencies of leadership, communication, presentation and critical problem solving. Our mission is to improve human health through the application of engineering principles, ideas, methods and inventions to solve important clinical problems. Bioengineering is a highly interdisciplinary field that brings together: (1) biological, chemical and physical sciences; (2) engineering and mathematics; and (3) clinical medicine. The undergraduate bioengineering program provides training at both the Denver campus (years 1 and 2) and the Anschutz Medical Campus (years 3 and 4). Additional program details are available on the Department of Bioengineering website.

Students applying to the program must select pre-bioengineering (Pre-BIOE) as their "Field of Study" in the online application. If you are admitted to the Pre-BIOE program you will enroll in the core curriculum courses, which are offered at the Denver campus. Students in pre-bioengineering must apply to advance to major status in bioengineering. The earliest time period to apply for major status will be spring 2014 (specific deadline to be announced). Admittance to the major in bioengineering will be granted to students who have successfully completed all Pre-Bioengineering prerequisites and who meet the program's selection criteria. All major courses will be taught at the Anschutz Medical Campus; note that these courses will not be available until fall 2015.

Graduates will be well-prepared for further education in graduate school, medical school or other advanced professional preparation. The department also offers a master of science (MS) and doctor of philosophy (PhD) degrees in bioengineering. Please contact us for advising.

Bioengineering BS Curriculum Description

The BS-BIOE degree comprises three core areas, supplemented by elective courses based on one of two tracks that the student chooses to pursue. The three core areas are: (1) the pre-bioengineering core; (2) the major bioengineering core; (3) the general education core. Together these three core areas and your specialty track will define your program.

Pre-Bioengineering Core (56 credit hours)

Students must complete all of these courses before they may apply for bioengineering major status. Credit for some of these courses may be achieved through high school Advanced Placement (AP) course work and exams.

Mathematics (16 credit hours)

- MATH 1401 - Calculus I
- MATH 2411 - Calculus II
- MATH 2421 - Calculus III
- MATH 3195 - Linear Algebra and Differential Equations

Biology (8 credit hours)

- BIOL 2051 - General Biology I
- BIOL 2071 - General Biology Laboratory I
- BIOL 2061 - General Biology II
- BIOL 2081 - General Biology Laboratory II

Chemistry (14 credit hours)

- CHEM 2031 - General Chemistry I
- CHEM 2038 - General Chemistry Laboratory I
- CHEM 2061 - General Chemistry II
- CHEM 2068 - General Chemistry Laboratory II
- CHEM 3411 - Organic Chemistry I
- CHEM 3418 - Organic Chemistry Laboratory I

Physics (10 credit hours)

- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I
- PHYS 2331 - General Physics II: Calculus-Based
- PHYS 2341 - General Physics Lab II

Bioengineering (8 credit hours)

- BIOE 1010 - Bioengineering Design and Prototyping I
- BIOE 1020 - Bioengineering Design and Prototyping II
- BIOE 2010 - Bioengineering Research
  BIOE 2020 - Computational Methods in Bioengineering

Major Bioengineering Core (36 credit hours)

Students admitted into the bioengineering major will undertake the majorb ioengineering core courses regardless of the track they choose. All BIOE major core classes will be taught at the Anschutz Medical Campus. These classes build upon pre-major courses and provide the next level of instruction in bioengineering. This instruction includes a year-long laboratory course, design experiences, and disciplinary subjects.

Bioengineering Track (12 credit hours)

At present, the BS BIOE contains three track specializations:

(1) Biomedical Devices and Biomechanics
(2) Imaging Instrumentation and Diagnostics
(3) BS/MD Track (Track details available on the Department of Bioengineering website)

Courses in these tracks will be taught at the Anschutz Medical Campus and expansion of specialties will grow with the department and recruitment of new faculty. Our tracks will provide students with a more advanced understanding of specialized areas in Bioengineering. Students must take a **minimum of 12 credit hours** of the courses in these tracks. **A minimum of 6 credit hours must be satisfied by courses offered by the Department of Bioengineering (BIOE-XXXX), and a minimum of 6 credit hours must be satisfied by courses at the 3000-level or above.**

General Education Core

Students must satisfy the core curriculum requirements including **8 courses (24 credit**

hours) distinct from the math and science requirements, as described in the CU Denver Undergraduate Core Curriculum. These core curriculum courses from will be selected from the Intellectual Competencies, Knowledge Areas, International Perspectives and Cultural Diversity areas. BIOE students may receive college credit for several general education core courses through Advanced Placement.

Total: 128 hours

Biology BS

Biology students must declare their major by the time they have taken 60 semester hours. A minimum of 36 hours of biology must be completed, of which 18 hours are at the upper-division level and taken in residence with CU Denver Downtown Campus biology faculty. All biology courses applied to the undergraduate biology major must be completed within 10 years of graduation. To ensure a proper background for the study of biology, majors are required to pass 31-33 hours of course work in ancillary disciplines. A GPA of 2.0 must be attained in BIOL coursework. The following biology and ancillary courses are required and must be completed with a letter grade of *C*- (1.7) or higher:

Requirements for the Major

Biology Core Courses (18 Credits)

- BIOL 2051 - General Biology I
- BIOL 2071 - General Biology Laboratory I
- BIOL 2061 - General Biology II
- BIOL 2081 - General Biology Laboratory II
- BIOL 3411 - Principles of Ecology
- -OR- BIOL 3412 - Fundamentals of Applied Ecology
- BIOL 3611 - General Cell Biology
- BIOL 3832 - General Genetics

Upper Division Biology Electives (18 Credits)

Biology elective courses (3000 or 4000 level)

One upper division biology lab course. Choose one of the following:

- BIOL 3225 - Human Physiology
- BIOL 3244 - Human Anatomy
- BIOL 3654 - General Microbiology
- BIOL 4335 - Plant Science
- BIOL 3413 - Ecology Laboratory
- BIOL 3612 - Cell Biology Laboratory
- BIOL 4125 - Molecular Biology Laboratory
- BIOL 4345 - Flora of Colorado
- BIOL 4640 - Mammalogy
- BIOL 4644 - Advanced Human Anatomy Laboratory
- BIOL 4910 - Field Studies

11-13 credits to create a total of 36 BIOL credit hours for the Major.

Four hours in biochemistry (CHEM 3810-4 or both CHEM 4810-4 & 4820-3) may be counted as biology elective hours, if not taken in place of second semester organic chemistry.

BIOL 3411 and 3412 cannot apply as electives.

A maximum of six hours of Independent Study (BIOL 3840 or 4840) and Internship (BIOL 3939), including a maximum of three credits of BIOL 3939, may be counted toward the upper-division biology electives.

3 credits of a 4000 level BIOL course taken from UCD Biology Faculty

BIOL 4840 and 4990 will not apply.

Ancillary Core Courses

- CHEM 2031 - General Chemistry I
- CHEM 2038 - General Chemistry Laboratory I
- CHEM 2061 - General Chemistry II
- CHEM 2068 - General Chemistry Laboratory II
- CHEM 3411 - Organic Chemistry I
- CHEM 3421 - Organic Chemistry II
- -OR- CHEM 3810 - Biochemistry
- PHYS 2010 - College Physics I
- PHYS 2030 - College Physics Lab I
- PHYS 2020 - College Physics II
- PHYS 2040 - College Physics Lab II
- MATH 1401 - Calculus I
- -OR- MATH 1110 - College Algebra

Plus one of the following:

- BIOL 3763 - Biostatistics
- MATH 4830 - Applied Statistics

Total Ancillary Core: 31-33 Hours

The following courses will **not** count toward the BS in biology:

- BIOL 1136 - Human Biology
- BIOL 1550 - Basic Biology: Ecology and the Diversity of Life
- BIOL 1560 - Basic Biology: From Cells to Organisms

Degree Total: 36 Hours Biology + 31-33 Hours Ancillary

Business Administration Core Requirements BS

Undergraduate Core Requirements For BS In Business Administration

Intellectual Competencies

English

- ENGL 1020 - Core Composition I
- ENGL 2030 - Core Composition II

Total: 6 Hours

Math

Choose one:

- MATH 1070 - Algebra for Social Sciences and Business
- MATH 1110 - College Algebra

Total: 3 Hours

Knowledge Areas

Biological and Physical Sciences

Choose two; one course with a laboratory is required:

- ANTH 1303 - Introduction to Biological Anthropology
- BIOL 1550 - Basic Biology: Ecology and the Diversity of Life
- BIOL 1560 - Basic Biology: From Cells to Organisms
- BIOL 2051 - General Biology I and
- BIOL 2071 - General Biology Laboratory I
- BIOL 2061 - General Biology II and
- BIOL 2081 - General Biology Laboratory II
- CHEM 1474 - Core Chemistry: Chemistry For the Consumer
- CHEM 2031 - General Chemistry I and
- CHEM 2038 - General Chemistry Laboratory I
- CHEM 2061 - General Chemistry II and
- CHEM 2068 - General Chemistry Laboratory II
- ENVS 1042 - Introduction to Environmental Sciences
- GEOG 1202 - Introduction to Physical Geography
- GEOL 1072 - Physical Geology: Surface Processes
- GEOL 1082 - Physical Geology: Internal Processes
- PHYS 1052 - General Astronomy I
- PHYS 1100 - Foundations of Physics
- PHYS 2010 - College Physics I and

- PHYS 2030 - College Physics Lab I
- PHYS 2020 - College Physics II and
- PHYS 2040 - College Physics Lab II
- PSYC 2220 - Biological Basis of Behavior

Total: 7-8 Hours

Humanities

Choose one:

- CHIN 1000 - China and the Chinese
- ENGL 1601 - Telling Tales: Narrative Art in Literature and Film
- ENGL 2600 - Great Works in British and American Literature
- ETST 2155 - African American History
- FREN 1000 - Introduction to Cultures of the French- Speaking World
- GRMN 1000 - Germany and the Germans
- HIST 1361 - U.S. History to 1876
- HIST 1362 - U.S. History Since 1876
- HIST 1381 - Paths to the Present
- PHIL 1012 - Introduction to Philosophy: Relationship of the Individual to the World
- PHIL 1020 - Introduction to Ethics and Society: The Person and the Community
- PHIL 2441 - Logic and Language
- RLST 1610 - Introduction to Religious Studies
- RLST 2660 - World Religions
- SPAN 1000 - Introduction to Cultures of the Spanish Speaking World

Total: 3 Hours

Arts

Choose one:

- FINE 1001 - Introduction to Art
- PMUS 1001 - Music Appreciation
- THTR 1001 - Introduction to Theatre & Arts in the Community

Total: 3 Hours

Behavioral Sciences

Choose one:

- ANTH 1302 - Introduction to Archaeology
- ANTH 2102 - Culture and the Human Experience
- COMM 1011 - Fundamentals of Communication
- COMM 1021 - Introduction to Media Studies

- PSYC 1000 - Introduction to Psychology I
- PSYC 1005 - Introduction to Psychology II

Total: 3 Hours

Social Sciences

- ECON 2012 - Principles of Economics: Macroeconomics

Total: 3 Hours

Cultural Diversity

Choose one:

- ANTH 3142 - Cultural Diversity in the Modern World
- COMM 3271 - Communication and Diversity
- ECON 3100 - Economics of Race and Gender
- ENGR 3400 - Technology and Culture
- ETST 3704 - Culture, Racism and Alienation
- ETST 3794 - Ethnic Diversity in American Literature
- HIST 3345 - Immigration and Ethnicity in American History
- MGMT 4100 - Managing Cultural Diversity
- PHIL 3500 - Ideology and Culture: Racism and Sexism
- PSCI 3034 - Race, Gender, Law and Public Policy
- PSCI 3035 - Political Movements: Race and Gender
- PSYC 4485 - Psychology of Cultural Diversity
- SOCY 3020 - Race and Ethnicity in the U.S.
- RLST 4000 - Religion and Cultural Diversity
- THTR 3611 - Drama of Diversity

Total: 3 Hours

International Perspectives

Choose one:

- ENGR 3600 - International Dimensions of Technology and Culture
- PSCI 3022 - Introduction to Comparative Politics
- PSCI 3042 - Introduction to International Relations

Total: 3 Hours

Core Total: 34-35 Hours

Business School Specific Graduation Requirements

- COMM 2050 - Business and Professional Speaking

- ECON 2022 - Principles of Economics: Microeconomics
- ENGL 3170 - Business Writing [1]
- MATH 1080 - Polynomial Calculus [2,3]
  A grade of 'C' or better must be earned to fulfill this requirement.
  Experiential Learning - Can be satisfied by: Internship, Project based course, Study Abroad

Notes:

1. Students are strongly encouraged to take ENGL 2030 from the university core requirements before completing ENGL 3170.
2. The required sequence of MATH 1070 or MATH 1110 from the university core requirements and MATH 1080 may be satisfied by a 6-semester-hour calculus sequence instead. A grade of *C*- or better in any of these courses is required to fulfill this requirement.
3. MATH 1080 grade must be a *C* or better to fulfill this requirement.

Business Core

A grade C or better must be earned in each of the business core courses in order to (a) enroll in a course for which it is a prerequisite and (b) graduate.

Students should complete the business core in the order listed below:

- DSCI 2010 - Business Statistics
- ACCT 2200 - Financial Accounting and Financial Statement Analysis
- ACCT 2220 - Managerial Accounting and Professional Issues
- ISMG 2050 - Introduction to Business Problem Solving
- BLAW 3000 - Legal and Ethical Environments of Business I
- MGMT 3000 - Managing Individuals and Teams
- MKTG 3000 - Principles of Marketing
- FNCE 3000 - Principles of Finance
- ISMG 3000 - Technology In Business
- DSCI 3000 - Operations Management
- MGMT 4500 - Business Policy and Strategic Management

Total: 33 Hours

International Studies

International Business

Choose one:

- FNCE 4370 - International Financial Management
- MGMT 4400 - Environments of International Business
- MKTG 4200 - International Marketing
- MKTG 4220 - Asian Business Development and Marketing
- MKTG 4580 - International Transportation

Total: 3 Hours

Other courses in international business may be offered periodically that satisfy the international studies requirement.

Area Of Emphasis

Business majors must complete the prescribed courses in an area of emphasis comprising a minimum of 15 semester hours taken at CU Denver. Business students are advised to select an area of emphasis prior to completing the business core, and are required to declare a major area of emphasis by the time they have accumulated 60 to 75 semester hours. The courses in the area of emphasis are completed in the junior and senior years after completing the business core. A minimum GPA of 2.0 is required for courses in the area of emphasis.

The areas of emphasis include accounting, finance, financial management, human resources management, information systems, international business, management or marketing. The specific requirements for these areas of emphasis are described in subsequent sections.

Experiential Learning

Business students must earn 3 semester hours of credit in an approved experiential learning course. Experiences that may qualify for experiential credit include internships, project-based courses, business courses taken at a foreign university, study abroad programs.

Experiential learning is a graduation requirement for students beginning their bachelor degree program at any institution in summer 2007 or later. Students beginning their bachelor degree program prior to summer 2007 are not required to meet the experiential learning requirement. Students may petition to waive the experiential learning requirement based on hardship or substantial work experience.

Other Courses

Students may choose other courses freely, subject to the following general rules:

- only nonremedial (college-level, as determined by the Business School) courses will count toward the BS degree
- all students receiving the BS degree in business must take at least 48 upper-division semester hours, of which 42 semester hours must be upper-division business credit (excluding the economics core courses).
- students must complete 30 hours of actual business course work, including the area of emphasis, after acceptance to the Business School
- at least 50 percent of the business credits applied to the degree must be taken at CU Denver

Guidelines for Elective Credits. Elective credits should be selected carefully because not all classes are acceptable. Generally, to be acceptable, electives must be taught by regular University of Colorado faculty, must have a form of assessment, such as a term paper and/or

examinations, and must be regular classroom-type classes. Course coverage must be college level, not repetitious of other work applied toward the degree, must be academic as opposed to vocational or technical and must be part of the regular university offerings.

Specifically, the school *will* accept:

- a maximum of 6 semester hours of the theory of physical education, theory of recreation and/or theory of dance
- a maximum of 6 semester hours of approved independent study, internships, experimental studies, choir, band and/or music lessons, art lessons
- a maximum of 12 semester hours of advanced ROTC, providing the student is enrolled in the program and completes the total program

The school will *not* accept: activity physical education classes, recreation, workshops, orientations, dance, teaching methods, practicums and courses reviewing basic skills in computers, English composition, mathematics and chemistry.

Chemistry BS

Requirements for Major

Students must declare their major by the time they have completed 60 semester hours. The chemistry major requires 45 semester hours in chemistry. Transfer students must take at least 14 upper-division chemistry hours, including CHEM 4128, 4518 or 4538, in residency at CU Denver. A student who has declared a chemistry major at CU Denver may not take additional chemistry courses outside of the department for the purpose of applying those credits toward meeting the requirements of the major without prior written approval of the undergraduate advisor. Normally, no more than 3 additional hours of transfer credits will be allowed. The minimum grade in chemistry courses is *C*- (1.7) and a minimum chemistry GPA of 2.0 is required in chemistry and ancillary required courses. All majors must successfully complete the following core:

TRADITIONAL CHEMISTRY MAJOR

Required Chemistry Courses

- CHEM 2031 - General Chemistry I
- CHEM 2038 - General Chemistry Laboratory I
- CHEM 2061 - General Chemistry II
- CHEM 2068 - General Chemistry Laboratory II
- CHEM 3011 - Inorganic Chemistry
- CHEM 3111 - Analytical Chemistry
- CHEM 3118 - Analytical Chemistry Laboratory
- CHEM 3411 - Organic Chemistry I
  -OR-
- CHEM 3481 - Honors Organic Chemistry I
- CHEM 3418 - Organic Chemistry Laboratory I
  -OR-
- CHEM 3488 - Honors Organic Chemistry Laboratory I
- CHEM 3421 - Organic Chemistry II
  -OR-
- CHEM 3491 - Honors Organic Chemistry II
- CHEM 3498 - Honors Organic Chemistry Laboratory II
- CHEM 4121 - Instrumental Analysis
- CHEM 4128 - Instrumental Analysis Laboratory
- CHEM 4511 - Physical Chemistry I
- CHEM 4518 - Physical Chemistry Laboratory I
- CHEM 4521 - Physical Chemistry II
- CHEM 4538 - Physical Chemistry II Laboratory

And one of the following two courses:

- CHEM 3018 - Inorganic Chemistry Laboratory

- CHEM 4828 - Biochemistry Lab

Total Required Courses: 45 Hours

Required Ancillary Courses

- MATH 1401 - Calculus I
- MATH 2411 - Calculus II
- MATH 3511 - Mathematics of Chemistry
- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I
- PHYS 2331 - General Physics II: Calculus-Based
- PHYS 2341 - General Physics Lab II

Total Required Ancillary Courses : 22 Hours

Recommended Electives

- CHEM 3018 - Inorganic Chemistry Laboratory
- CHEM 3810 - Biochemistry
  -OR-
- CHEM 4810 - General Biochemistry I
- CHEM 4700 - Environmental Chemistry
- CHEM 4820 - General Biochemistry II
  Any CHEM 5000-level lecture class (3-4 semester hours)

Total Electives: 14-16 Hours

Chemistry Major (Traditional) Total: 67 Hours required

Students interested in the traditional chemistry major should consult regularly with a chemistry advisor. A complete description of the chemistry major's program may be obtained in the Department of Chemistry office or department website.

Qualified majors are strongly urged to participate in independent study or departmental honors programs.

Students planning chemistry as a career should be familiar with the recommendations of the American Chemical Society for the professional training of chemists. For ACS certification, students following the traditional BS program of study are required to take inorganic laboratory (CHEM 3018), at least one semester of biochemistry (CHEM 3810 or CHEM 4810), and one additional 3- or 4-credit upper-division chemistry course in addition to the curriculum outlined above. No course with a grade of less than *C* (2.0) can be applied toward ACS certification. Students should check with a chemistry advisor for details. CU Denver maintains an ACS chapter of student affiliates.

Chemistry BS, Biochemistry Emphasis

Requirements for Major

Students must declare their major by the time they have completed 60 semester hours. The chemistry major with a biochemistry emphasis requires 44-45 semester hours in chemistry. Transfer students must take at least 14 upper-division chemistry hours, including CHEM 4518, in residency at CU Denver. A student who has declared a chemistry major at CU Denver may not take additional chemistry courses outside of the department for the purpose of applying those credits toward meeting the requirements of the major without prior written approval of the undergraduate advisor. Normally, no more than 3 additional hours of transfer credits will be allowed. The minimum grade in chemistry courses is *C-* (1.7) and a minimum chemistry GPA of 2.0 is required in chemistry and ancillary required courses. All majors must successfully complete the following core:

Required Chemistry Courses

- CHEM 2031 - General Chemistry I
- -OR- CHEM 2081 - Honors General Chemistry I
- CHEM 2038 - General Chemistry Laboratory I
- -OR- CHEM 2088 - Honors General Chemistry I Laboratory
- CHEM 2061 - General Chemistry II
- -OR- CHEM 2091 - Honors General Chemistry II Lecture
- CHEM 2068 - General Chemistry Laboratory II
- -OR- CHEM 2098 - Honors General Chemistry II Laboratory
- CHEM 3111 - Analytical Chemistry
- CHEM 3118 - Analytical Chemistry Laboratory
- CHEM 3411 - Organic Chemistry I
- -OR- CHEM 3481 - Honors Organic Chemistry I
- CHEM 3418 - Organic Chemistry Laboratory I

  -OR-
- CHEM 3488 - Honors Organic Chemistry Laboratory I
- CHEM 3421 - Organic Chemistry II
- -OR- CHEM 3491 - Honors Organic Chemistry II
- CHEM 3498 - Honors Organic Chemistry Laboratory II
- CHEM 4511 - Physical Chemistry I
- CHEM 4518 - Physical Chemistry Laboratory I
- CHEM 4521 - Physical Chemistry II
- CHEM 4810 - General Biochemistry I
- CHEM 4820 - General Biochemistry II
- CHEM 4828 - Biochemistry Lab

Total Required Courses: 41-42 Hours

Required Ancillary Courses

- BIOL 2051 - General Biology I
- BIOL 2071 - General Biology Laboratory I
- MATH 1401 - Calculus I
- MATH 2411 - Calculus II
- MATH 3511 - Mathematics of Chemistry
- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I
- PHYS 2331 - General Physics II: Calculus-Based
- PHYS 2341 - General Physics Lab II

Total Required Ancillary Courses: 26 Hours

Required Electives

Any 3000-level or higher CHEM course except CHEM 3810 (Biochemistry) or 3428 (Organic Chemistry II laboratory). (*Note:* some of these courses may require additional prerequisites)
May also choose from the following biology courses:

- BIOL 3124 - Introduction to Molecular Biology
- BIOL 3611 - General Cell Biology
- BIOL 3621 - Introduction to Immunology
- BIOL 3654 - General Microbiology

Total Required Electives: 3 Hours

Chemistry Major (Biochemistry Emphasis) Total: 70-71 Hours

Students interested in the chemistry major with the biochemistry emphasis should consult regularly with a chemistry advisor. A complete description of the program may be obtained in the Department of Chemistry office or department website.

Qualified majors are strongly urged to participate in independent study or departmental honors programs.

Students planning chemistry as a career should be familiar with the recommendations of the American Chemical Society for the professional training of chemists. For ACS certification, students following the biochemistry emphasis BS program are required to take inorganic lecture (CHEM 3011), inorganic laboratory (CHEM 3018), and physical chemistry II laboratory (CHEM 4538) in addition to the curriculum outlined above. No course with a grade of less than C (2.0) can be applied toward ACS certification. Students should check with a chemistry advisor for details. CU Denver maintains an ACS chapter of student affiliates.

Civil Engineering BS

Program Objectives

The objectives of the bachelor of science in civil engineering program are to produce graduates who:

- are able to perform the technical analyses and design tasks of entry-level civil engineers
- can successfully work toward professional engineering licensure
- communicate effectively, both orally and in writing
- understand the importance of leadership skills, team building and ethical practice
- value lifelong learning and improvement through graduate degrees or professional study
- appreciate the importance of community involvement and social contribution civil engineers are dedicated to improving our living environment

Civil engineering offers an interesting and challenging career in the design, construction, and maintenance of buildings and urban infrastructure; in transportation systems, including highways, airports, rapid transit lines, railroads, and harbor facilities; in the development of water resources, including reservoirs for storage, canals for irrigation, dams for power generation, stormwater management for drainage, groundwater recharge for contamination prevention, wastewater treatment for environmental protection, and water purification for drinking purposes; in the construction industry; including foundations, bridges, concrete and steel structures, in problems concerned with environmental preservation; and in the sustainable development of cities. In preparing for work in such a broad field, the civil engineering student studies mathematics, basic science, communication, social science and humanities, engineering science and civil engineering design. CU Denver's civil engineering graduates usually find their first professional employment with consulting engineering firms, government agencies and various industries.

Typical Curriculum for BS (Civil Engineering)

Freshman Year

First Semester

- CHEM 1130 - Engineering General Chemistry *(see note 1)*
- ENGL 1020 - Core Composition I
- MATH 1401 - Calculus I

  Core Curriculum Elective (*see note 2*) (3 semester hours)

Total: 15 Hours

Second Semester

- CVEN 1025 - Civil Engineering Graphics and Computer Aided Design
- CVEN 2212 - Plane Surveying

- ENGL 2030 - Core Composition II
- MATH 2411 - Calculus II
- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I

Total: 18 Hours

Sophomore Year

First Semester

- CVEN 2121 - Analytical Mechanics I
- CVEN 2200 - Computing Methods in Civil Engineering
- MATH 2421 - Calculus III
- PHYS 2331 - General Physics II: Calculus-Based
  Core Curriculum Elective (*see note 2*) (3 semester hours)

Total: 17 Hours

Second Semester

- CVEN 3121 - Mechanics of Materials
- CVEN 3141 - Introduction to Structural Materials
- CVEN 3401 - Introduction to Environmental Engineering
- CVEN 4780 - Engineering Geology or
- GEOL 1072 - Physical Geology: Surface Processes or
- MATH 3800 - Probability and Statistics for Engineers
- MATH 3195 - Linear Algebra and Differential Equations

Total: 15 Hours

Junior Year

First Semester

- CVEN 3111 - Analytical Mechanics II
- CVEN 3313 - Theoretical Fluid Mechanics
- CVEN 3505 - Structural Analysis
- CVEN 3602 - Transportation Engineering
  Core Curriculum Elective (*see note 2*) (3 semester hours)

Total: 15 Hours

Second Semester

- CVEN 3323 - Applied Fluid Mechanics
- CVEN 3414 - Design of Water and Wastewater Systems

- CVEN 3708 - Introduction to Geotechnical Engineering
- CVEN 4718 - Intermediate Soils Engineering
- MECH 3012 - Thermodynamics
  Core Curriculum Elective (*see note 2*) (3 semester hours)

Total: 17 Hours

Senior Year

First Semester

- CVEN 4000 - Senior Seminar
- ELEC 3030 - Electric Circuits and Systems
  Civil Engineering Design Electives (*see note 3*) (6 semester hours)
  Upper-level Science, Math or Engineering Electives (*see note 4*) (6 semester hours)
  Core Curriculum Elective (*see note 2*) (3 semester hours)

Total: 18 Hours

Second Semester

  Civil Engineering Design Electives (*see note 3*) (6 semester hours)
- CVEN 4067 - Senior Design Projects
  Core Curriculum Elective (*see note 2*) (3 semester hours)
  Science, Math or Engineering Electives (*see note 4*) (3 semester hours)

Total: 15 Hours

Program Total: 130 Hours

1. Or CHEM 2031 and CHEM 2038, which are required for students wishing to take CHEM 2061 and CHEM 2068 as general electives.
2. The communication, humanities and social science electives selected by the student and approved by his/her advisor must satisfy the college core curriculum .
3. Students must satisfactorily complete four of the six civil engineering design courses listed below:

   CVEN 4427 Storm Water System Design

   CVEN 4565 Timber Structure Design

   CVEN 4575 Structural Steel Design

   CVEN 4585 Reinforced Concrete Design

   CVEN 4602 Highway Engineering

   CVEN 4738 Intermediate Foundation Engineering

4. Science, math or engineering electives. The purpose of the electives is to extend the student's knowledge beyond the basic civil engineering requirements. Electives chosen should come from the areas of engineering, mathematics, chemistry, biology, physics or geology. In the case of mathematics, chemistry, physics or geology, the elective must be of higher level than courses in this field required by the civil engineering program. Suggested courses are CVEN 4077, CVEN 4087, CVEN design courses or any 5000-level CVEN course.

Communication BA

Requirements for Admission

Undergraduates must declare their intention to major in communication by the time they have completed 60 semester hours; they must apply to the communication department to be accepted as majors.

Program Requirements

The communication major requires that students take a total of 39 hours of course work in communication, 18 of which must be taken in residence at CU Denver. At least 21 of the 39 hours must be upper division. Students must achieve a grade of *C* (2.0) or higher to receive credit for a course in the major and must maintain a minimum GPA of *C*+ (2.75) in their communication courses.

Students must complete 12 credits (4 courses) from the menu of core classes; they must complete at least 24 credits (8 classes) from the menu of electives; they must also complete at least 3 credits (1 class) from the menu of "exit" classes.

Core Courses

- COMM 1011 - Fundamentals of Communication
- COMM 1021 - Introduction to Media Studies
- COMM 2020 - Communication, Citizenship, and Social Justice
- COMM 2050 - Business and Professional Speaking
- -OR- COMM 1001 - Presentational Speaking

Total: 12 Hours

Electives

Skill Area Electives

In addition to the four communication core courses, students are required to complete at least 24 credits (8 classes) from among the department's six pathways, which include community service and public affairs, legal communication, health communication, media studies, organizational communication and public relations, and political communication and government. Students may use the pathways to help craft a program of study, but *they are not required to do so*; the pathways are simply suggestions for ways to organize courses that will prepare students for careers.

Total: 24 Hours

Upper Division Elective

"Exit" Course—majors are required to complete at least one "exit" class that concludes their course of study with a special experience focused on high-level research, community

engagement, international travel or workplace experience. Students may choose from the following courses:

- COMM 3939 - Internship
- COMM 4040 - Communication, Prisons, and Social Justice
- COMM 4282 - Environmental Communication
- COMM 4500 - Health Communication
- COMM 4640 - Advanced Public Relations
- COMM 4688 - Senior Seminar: Transitioning from College to Career
- COMM 4700 - Writing Practicum
- COMM 4995 - Travel Study

Total: 3 Hours

Major Total: 39 Hours

For more information, see the faculty advisor and the department's website.

Computer Science BS

Program Objectives

The educational objectives of the computer science undergraduate program are to produce graduates who:

- Advance professionally as productive, practicing professionals in computer science and related careers through the continued development of their expertise and skills.
- Further develop their knowledge, skill set, and career opportunities through graduate education and/or professional studies.
- Function effectively as part of a team to succeed in their professional careers.

Measurable Outcomes

The BS-CS program must enable its students to attain, by the time of graduation:

a.) An ability to apply knowledge of computing and mathematics appropriate to the discipline

b.) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

c.) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs

d.) An ability to function effectively on teams to accomplish a common goal

e.) An understanding of professional, ethical, legal, security and social issues and responsibilities

f.) An ability to communicate effectively with a range of audiences

g.) An ability to analyze the local and global impact of computing on individuals, organizations, and society

h.) Recognition of the need for and an ability to engage in continuing professional development

i.) An ability to use current techniques, skills, and tools necessary for computing practice

j.) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices. [CS]

k.) An ability to apply design and development principles in the construction of software systems of varying complexity. [CS]

Typical Curriculum for BS in Computer Science and Engineering

For up-to-date information, please refer to the current undergraduate handbook from the CSE department website under Degree Programs.

Freshman Year

First Semester

- CSCI 1410 - Fundamentals of Computing
- CSCI 1411 - Fundamentals of Computing Laboratory
- CSCI 1510 - Logic Design
- ENGL 1020 - Core Composition I (see note 1)
- MATH 1401 - Calculus I
- Core Curriculum Elective. Semester Hours: 3 (see note 1)

Total: 17 Hours

Second Semester

- CSCI 2312 - Intermediate Programming
- ENGL 2030 - Core Composition II
- MATH 2411 - Calculus II
- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I

Total: 15 Hours

Sophomore Year

First Semester

- CSCI 2421 - Data Structures and Program Design
- CSCI 2511 - Discrete Structures
- CSCI 2525 - Assembly Language and Computer Organization
- PHYS 2331 - General Physics II: Calculus-Based
- PHYS 2341 - General Physics Lab II
- Core Curriculum Elective Semester Hours: 3 (see note1)

Total: 17 Hours

Second Semester

- CSCI 2132 - Circuits and Electronics
- CSCI 3287 - Database System Concepts
- CSCI 3320 - Advanced Programming
- CSCI 3412 - Algorithms
- Core Curriculum Elective Semester Hours: 3 (see note 1)

Total: 15 Hours

Junior Year

First Semester

- CSCI 3415 - Principles of Programming Languages
- CSCI 3453 - Operating System Concepts
- CSCI 3511 - Hardware-Software Interface
- CSCI 3560 - Probability and Computing
- CSCI Tech Elective. Semester Hours: 3
- Core Curriculum Elective Semester Hours: 3 (see note 1)

Total: 18 Hours

Second Semester

- CSCI 3508 - Introduction to Software Engineering
- CSCI 4287 - Embedded Systems Programming
- MATH 3195 - Linear Algebra and Differential Equations
- CSCI Tech Elective. Semester Hours: 3

  Core Curriculum Elective. Semester Hours: 3 (see note 1)

Total: 16 Hours

Senior Year

First Semester

- CSCI 4034 - Theoretical Foundations of Computer Science
- CSCI 4650 - Numerical Analysis I
- CSCI 4738 - Senior Design I
- CSCI Tech Elective. Semester Hours: 3

Total: 15 Hours

Second Semester

- CSCI 4591 - Computer Architecture
- CSCI 4739 - Senior Design II
- CSCI 4761 - Introduction to Computer Networks
- CSCI Tech Elective. Semester Hours: 3
- Core Curriculum Elective Semester Hours: 3 (see note 1)

Total: 15 Hours

Program Total: 128 Hours

Students must take five courses (15 semester hours) chosen from any CSCI 3000 or 4000-level courses that are not part of the required bachelor of science in the Computer Science (BSCS) curriculum. The 2000-level CSCI “Practical Systems Administration” course will be counted as one CSCI elective.

Core Curriculum Elective is to be selected from the undergraduate General Education core.

ENGL 1020 and ENGL 2030 are the only approved composition courses for the CU Denver Core Curriculum. ENGL 1020 should be taken the first semester a student is enrolled at CU Denver.

Criminal Justice BA

Program Director: Angela Gover, PhD
Prospective Students: 303-315-2228
Current Students and Advising: 303-315-0021

Faculty

Professors:

Mary Dodge, PhD, University of California, Irvine

Angela Gover, PhD, University of Maryland

Mark Pogrebin, PhD, University of Iowa

Eric Poole, PhD, Washington State University

Paul Stretesky, PhD, Florida State University

Associate Professors:
Callie Rennison, PhD, University of Houston

Assistant Professor:

Lonnie Schaible, PhD, Washington State University

Instructor:

Lucy Dwight, PhD, Pennsylvania State University

The School of Public Affairs' bachelor of arts program in criminal justice is an interdisciplinary program that combines specific course work in criminal justice with a liberal arts focus. The criminal justice degree offers training for specific occupations within criminal justice agencies and provides students with the critical thinking, writing and presentation skills necessary for career advancement and graduate study. The course work explores the complex nature of crime causation, criminal justice organizations and the implications of public policies that allow graduates to adapt to the evolving nature of the field.

As with all undergraduate degrees, students are required to complete the requirements of the CU Denver core curriculum, providing an education that draws heavily on social and natural sciences as well as liberal arts. The program will not only provide a direct line to employment in the growing field of criminal justice, but will also facilitate the movement of outstanding

students into SPA's MCJ and PhD graduate programs. Students will be well prepared to pursue additional advanced degrees in fields where critical thinking and analytical skills are required.

Admissions Requirements

Entering freshmen, current CU Denver students and transfer students are eligible for admission to the program. All students must meet the admission requirements described in the Information for Undergraduate Students chapter of this catalog.

Transfer Students

Students who have attended another college or university are expected to meet general requirements for admission of transfer students as described in the Information for Undergraduate Students chapter. A maximum of 15 semester credits of criminal justice course work can be accepted and applied to the criminal justice major. The BACJ program director has the final discretionary authority to accept or reject criminal justice transfer credits.

Advising and Student Services

Upon matriculation into the criminal justice program, students will receive advising from the undergraduate academic advisor. The academic advisor will assist students with registration, clarify university and department policy and facilitate the graduation checkout. Advising will ensure that students take appropriate courses in the core curriculum to provide a foundation for their course work in the program. Students will also be assigned a faculty advisor who will assist them with questions about their majors, concentrations and career directions.

Grading and Policies

Dean's List Criteria

CU Denver will use a fixed criterion across all colleges for determining eligibility for the Dean's List. This policy applies to undergraduate students.

For fall and spring semesters, students must successfully complete 9 hours in the semester upon which to determine grade point. These courses can be both within and outside of the School of Public Affairs. MSCD Pooled courses will not be included in the calculation nor will they count towards the 9 hours required for consideration. The GPA set for inclusion in the Dean's List is 3.75. In the summer semesters, students must complete 6 hours as a basis for inclusion in the Dean's List. Course inclusion will be the same as in fall and spring semesters. The GPA for Dean's List in summer will also be 3.75 Colleges will collect data each semester on the number of students making the Dean's List and report the number and percentage of total students in the college. Students who make the Dean's List for both fall and spring semesters may be eligible of a Dean's List scholarship award. Dean's List Scholarship awards vary in amount each semester depending on funding and the number of BACJ students who achieve Dean's List status. The Registrar's Office will calculate the semester GPAs for all students two weeks prior to the due date for semester grades. Those GPAs will be the basis for determining the Dean's List. Incompletes will not be considered in the calculation of minimum number of hours. The Dean's List will not be recalculated to include completed incompletes.

Academic Probation and Suspension

Students at the university are expected to maintain progress in their degree program, as defined by being in "good academic standing." Good academic standing requires minimally a cumulative grade point average (GPA) of 2.0 on all University of Colorado course work.

Academic Probation

- Academic Probation is a warning to students that they are not progressing toward completion of their degree in a satisfactory manner.
- Students are placed on Academic Probation when their cumulative CU GPA falls below a 2.0 at the end of any academic term.
- Students are informed in writing (via university-assigned email and postal letter) of their academic probation status.
- Students on Academic Probation will be required to complete the Academic Success Plan during their first semester on Academic Probation.
- Students will be required to schedule an appointment and meet with their academic advisor to discuss the completed Academic Success Plan before they will be allowed to register for the subsequent term.
- Students on Academic Probation will be required to schedule an appointment and meet with their academic advisor every semester that they are on Academic Probation before they will be allowed to register.
- Academic Probation requires that students achieve a minimum 2.3 semester GPA each subsequent term until their cumulative CU GPA is at least a 2.0 to return to good academic standing. Students must achieve a minimum 2.0 cumulative CU GPA to meet graduation requirements.
- Students who fail to earn the 2.3 semester GPA during any semester of Academic Probation will be placed on Restricted Academic Probation.
- Students have five semesters or 30 credits (whichever happens sooner) to raise their cumulative GPA to above a 2.0, or they will be placed on Academic Suspension.
- Once a student has raised his/her cumulative CU GPA to at least a 2.0, s/he will be removed from Academic Probation and notified via University-assigned email that s/he is in Academic Good Standing.

Restricted Academic Probation

- Students who fail to earn the 2.3 semester GPA during any semester of Academic Probation will be placed on Restricted Academic Probation.
- Students are informed in writing (via University-assigned email and postal letter) of Restricted Academic Probation status.
- Students on Restricted Academic Probation will be allowed to enroll for a maximum of 6 credits/2 classes per semester (whichever is more). A course and its attached lab are considered to be one course in this case.
- Students on Restricted Academic Probation will be required to schedule an appointment and meet with their academic advisor in order to register for courses.

- Students on Restricted Academic Probation will not be able to register online; they will need to register for courses using a Schedule Adjustment Form, which must be submitted to the Service Center (North Classroom #1003) for processing.
- Restricted Academic Probation requires that students achieve a minimum 2.3 semester GPA each subsequent term until their cumulative CU GPA is at least a 2.0. Students must achieve a minimum 2.0 cumulative CU GPA to return to good academic standing and to meet graduation requirements.
- Students on Restricted Academic Probation who do not meet the 2.3 minimum semester GPA will be placed on Academic Suspension.
- Students who fail to raise their cumulative GPA to 2.0 or above in five semesters or 30 credit hours on Academic Probation and Restricted Academic Probation will be placed on Academic Suspension.

Academic Suspension

- Students on Restricted Academic Probation who do not meet the 2.3 minimum semester GPA will be placed on Academic Suspension.
- Students are informed in writing via certified/registered letter of their Academic Suspension status.
- The minimum duration of Academic Suspension is for a period of one year (three semesters, including summer term). Students placed on Academic Suspension will be unable to take courses from any CU campus during this time.
- Should a student be placed on Academic Suspension while registered for the next semester, s/he will be administratively dropped from their courses by the University.
- A student's Academic Suspension status is permanently indicated on his/her official University of Colorado transcript. During the one-year Academic Suspension period, students who wish to return to the University should consider one (or both) of the following actions:
    - Attend another regionally-accredited college/university.
      Students who choose to attend another institution while on Academic Suspension can take as many or as few credits as they choose, but must earn a 2.75 cumulative GPA in all transferable course work. Students should consult their academic advisor to discuss appropriate course work.
    - Use the time off to directly address and resolve the factors that contributed to the academic difficulty.
- After the one-year suspension period has elapsed, students must petition the appellate committee (of the school or college they wish to enter) for readmission and meet and document at least one of the following criteria:
    - Attendance at another regionally accredited college/university where they earned a minimum cumulative GPA of 2.75 in transferable credit.
    - Explanation of their previous academic difficulty, demonstration of what has changed, and how this will allow them to now achieve and maintain Good Academic Standing (including a semester GPA of at least 2.3 and a cumulative GPA of at least a 2.0).

- Students who choose to petition the School of Public Affairs appellate committee for readmission must submit their petitions by the following deadlines:
    - For fall admission: June 1
    - For spring admission: December 1
    - For Maymester/summer admission: April 1
- If a student is granted readmission and his/her CU GPA is below a 2.0, s/he will be readmitted on Restricted Academic Probation. These students must meet the condition of Restricted Academic Probation every semester until their cumulative CU GPA is at least a 2.0.

Second Suspension

- Students who are readmitted after their first Academic Suspension and fail to meet the conditions of Restricted Academic Probation for a second time are placed on a second suspension for an indefinite period of time.
- Students on a second suspension may be readmitted to the University only by petition to the college's appellate committee.
- Students will not be considered for readmission unless they have demonstrated significant improvement in academic performance at the college/university level, and/or considerable and positive change in personal circumstances.

Grade Policy

The University of Colorado grading system is based on a 4.0 absolute scale.

Retaking Courses

A student may not retake any course more than twice during the course of the degree program, regardless of whether the need for a retake results from a low grade, an incomplete, or a course withdrawal. A student who receives a letter grade for a course that is too low to qualify for credit (below a C- for major or minor courses) may retake the course once. Both grades will be used to calculate the student's overall GPA. To retake a course, the student must re-enroll and pay tuition and fees again.

Incompletes

An Incomplete may be granted when the student has successfully completed 75 percent or more of the course and is prevented from completing the class by circumstances beyond their control. The course instructor has discretion as to whether to grant an Incomplete, and students should be aware that not all faculty will grant Incompletes. In addition, students in online courses should be aware that they will not have access to the course shell after the ending date of the course, and so Incompletes are not available for work that must be completed using the course shell. If the instructor agrees to grant an Incomplete, the student must make arrangements to complete the remaining coursework with the original instructor within one year. The student may not sit in on the class in subsequent semesters. Once the coursework is completed, the instructor will change the grade to a letter grade. The Incomplete notation will appear along with the final grade on the student's transcript. If the coursework is not completed within a year, the Incomplete will automatically change to an F unless the student and the instructor have agreed in writing to an extension.

Pass/Fail Grades

Core knowledge area and general electives are the only courses that can be completed pass/fail. A grade of "D-" or better is translated by the Records Office to a P (pass) grade. P grades do not affect students' GPA; F grades do affect students' GPA. Students interested in completing a course as pass/fail must submit a Schedule Adjustment Form during the add/drop period during the respective semester to the BACJ Academic Advisor. Students need to consult the academic calendar posted on the Office of the Registrar's webpage for add/drop dates. Up to 16 credits may be completed as pass/fail and credited toward the bachelor degree. Students can complete a maximum of 6 credits as pass/fail in any one semester.

The Internship Program

Undergraduate students without experience in the field must complete an internship course for credit under the direction of a faculty sponsor and the Experiential Learning Center. Internships are helpful for career exploration early in a student's academic career or for job experience after developing academic content in the major. Students must have a minimum 2.0 cumulative GPA, a minimum of 15 semester hours completed at CU Denver, and must have successfully completed CRJU 1000 and CRJU 2041 before registering for the internship. A maximum of 3 semester hours of internship per semester and 6 semester hours total may be counted toward the 120 semester hours necessary for graduation. Undergraduate students should contact the Experiential Learning Center for details on internship placements, paperwork and requirements.

Program Requirements

Students completing a BA in criminal justice at CU Denver will complete a minimum of 120 semester hours including:

- 37–38 general education core curriculum semester hours
- 21 undergraduate criminal justice semester hours, including 18 upper-division semester hours
- 15 elective semester hours in criminal justice and ancillary fields for the selected area of concentration (including an internship)
- 46–48 elective semester hours, an optional College of Liberal Arts and Sciences or language minor (15-21 hours), optional electives or internship
- students without experience in the field of criminal justice must complete a 3-semester-hour internship

Students must receive a minimum of a C- in each undergraduate course applied to satisfy major or minor degree requirements.

Required Criminal Justice Courses

The following courses are required for majors:

- CRJU 1000 - Introduction to Criminal Justice
- CRJU 2041 - Crime Theory and Causes
- CRJU 3100 - Criminal Justice Research Methods
- CRJU 3150 - Statistics for Criminal Justice

- CRJU 4042 - Corrections
- CRJU 4043 - Law Enforcement
- CRJU 4044 - Courts and Judicial Process

In addition, criminal justice majors must take SOCY 1001 - Introduction to Sociology. This class also fulfills a social science requirement in UCD's general education core curriculum.

Total: 21

Criminal Justice Electives

Criminal justice majors must take 15 credit hours of electives, 9 of which must be criminal justice courses offered by the School of Public Affairs, and 6 of which may be taken from other departments. Electives in the School of Public Affairs include:

- CRJU 3160 - White-Collar Crime
- CRJU 3220 - Community-Based Corrections
- CRJU 3250 - Violence in Society
- CRJU 3251 - Crime and Media
- CRJU 3252 - Violent Offenders
- CRJU 3310 - Police in Contemporary Society
- CRJU 3320 - Police-Community Relations
- CRJU 3410 - Probation and Parole
- CRJU 3420 - Pleas, Trials and Sentences
- CRJU 3510 - Drugs, Alcohol and Crime
- CRJU 3520 - Juvenile Justice Administration
- CRJU 3540 - Crime and Delinquency Prevention
- CRJU 4120 - Race, Class and Crime
- CRJU 4121 - Ethics in Criminal Justice
- CRJU 4130 - Poverty and Crime
- CRJU 4140 - Domestic Violence and Crime
- CRJU 4150 - Sex Offenders and Offenses
- CRJU 4170 - Victim Studies
- CRJU 4171 - Murder In America
- CRJU 4180 - Comparative Study of Criminal Justice Systems
- CRJU 4190 - Women and Crime
- CRJU 4230 - Corrections and Treatment
- CRJU 4252 - Criminal Offenders
- CRJU 4310 - Leadership Roles in Criminal Justice
- CRJU 4410 - Criminal Law and Constitutional Procedures
- CRJU 4430 - Law and Society
- CRJU 4440 - Courts and Social Policy
- CRJU 4450 - Homeland Security
- CRJU 4520 - Gangs and Criminal Organizations
- CRJU 4530 - Families and Intergenerational Crime
- CRJU 4600 - Special Topics in Criminal Justice

- CRJU 4840 - Independent Study: CRJU

Total: 9 hours

Other Department Electives**

- COMM 4265 - Gender and Communication
- ECON 3300 - Economics of Crime and Punishment
- PSCI 3034 - Race, Gender, Law and Public Policy
- PSCI 4124 - Denver Politics
- PSCI 4185 - Corruption in the U.S. and Abroad
- PSCI 4427 - Law, Politics and Justice
- PSCI 4477 - Constitutional Law I
- PSCI 4487 - Constitutional Law II
- PSCI 4545 - Immigration Politics
- PSCI 4837 - Contemporary Issues in Civil Liberties
- PSYC 3205 - Human Development I: Child Psychology
- PSYC 3215 - Human Development II: Adolescence and Adulthood
- PSYC 3265 - Drugs, Brain and Behavior
- PSYC 3305 - Abnormal Psychology
- PSYC 3612 - Domestic Abuse
- SOCY 2462 - Introduction to Social Psychology
- SOCY 3020 - Race and Ethnicity in the U.S.
- SOCY 3600 - Social Relations
- SOCY 3700 - Sociology of the Family
- SOCY 4340 - Juvenile Delinquency
- SOCY 4440 - Social Inequality
- SOCY 4460 - Hate Groups and Group Violence
- SOCY 4770 - Advanced Topics in Sociology

Total: 6 hours

**Students must comply with departmental prerequisites.

Examples for Areas of Concentration

The BACJ major does not have formal areas of concentration that will appear as such on student transcripts; however, students may choose to create their own informal concentrations. Some examples of areas of informal concentration are listed below. For other options, consult with the academic advisor.

Juvenile Justice

- CRJU 3520 - Juvenile Justice Administration
- CRJU 3540 - Crime and Delinquency Prevention
- CRJU 4520 - Gangs and Criminal Organizations

- SOCY 3700 - Sociology of the Family
- SOCY 4340 - Juvenile Delinquency

Total: 15 hours

Law and Society

- CRJU 3420 - Pleas, Trials and Sentences
- CRJU 4430 - Law and Society
- CRJU 4440 - Courts and Social Policy
- PSCI 3034 - Race, Gender, Law and Public Policy
- PSCI 4427 - Law, Politics and Justice

Total: 15 hours

Domestic Violence

- CRJU 4140 - Domestic Violence and Crime
- CRJU 4170 - Victim Studies
- CRJU 4530 - Families and Intergenerational Crime
- COMM 4265 - Gender and Communication
- PSYC 3612 - Domestic Abuse

Total: 15 hours

Economics BA

Requirements for Major

Students majoring in economics for the BA degree must declare such by the time they have completed 60 semester hours and complete a minimum of 40 semester hours in economics. The minimum grade in each CU Denver economics course is a *C*- (1.7), except that one *D*- in one economics elective is allowed. A GPA of 2.5 in economics courses taken at CU Denver is required to graduate. No pass/fail grades may count toward the major.

Program Requirements

Required Economics Courses

- ECON 2012 - Principles of Economics: Macroeconomics
- ECON 2022 - Principles of Economics: Microeconomics
- ECON 3801 - Introduction to Mathematical Economics
  (ECON 3801 may be waived if student has completed Calculus I, II and III with a grade of *B* or better. UCD equivalents are MATH 1401, 2411 and 2421.)
- ECON 3811 - Statistics with Computer Applications
- ECON 4071 - Intermediate Microeconomic Theory
- ECON 4081 - Intermediate Macroeconomic Theory
- ECON 4091 - History of Economic Thought
- ECON 4811 - Introduction to Econometrics

Total: 25 Hours

Electives

Economics Courses

Any five 3-semester-hour courses taken in economics may satisfy this requirement, other than internships and independent studies which require the approval of the department chair.

Electives Total: 15 Hours

Major Total: 40 Hours

Graduating seniors must submit the three best papers that the student wrote in any three separate courses taken in the Department of Economics for the outcomes assessment of the economics program. The three papers should be handed in at one time in a folder to the economics office, before the first day of the month in which the student plans to graduate.

At least six of the major courses (18 semester hours), including at least three courses out of ECON 3801, 4071, 4081, 4091 and 4811, must be taken from economics faculty at CU Denver.

Once a student has enrolled at CU Denver, no courses in the major may be taken outside the economics department without permission from the undergraduate advisor. No math is formally

required, except for the college algebra prerequisite for ECON 3801. Students desiring a recommendation to a graduate school in economics, however, should consult with economics faculty regarding additional mathematics courses.

Electrical Engineering BS

Undergraduate Program Objectives

The educational objectives of the Electrical Engineering undergraduate program are to produce graduates who will within a few years of graduation:

- Advance professionally as productive, practicing engineers through the continued development of their technical capabilities and expertise.
- Further develop their knowledge, skill set, and career opportunities through graduate education in engineering and other fields such as business, medicine, and law.

These objectives are consistent with the mission of the University of Colorado Denver, congruent with the goals of the College of Engineering and Applied Science and reflective of the mission of the Department of Electrical Engineering.

Typical Curriculum for BS (Electrical Engineering)

Freshman Year

First Semester

- CHEM 1130 - Engineering General Chemistry
- ELEC 1201 - Introduction to Electrical Engineering
- ELEC 1510 - Logic Design
- ENGL 1020 - Core Composition I (*see note 1*)
- MATH 1401 - Calculus I

Total: 16 Hours

Second Semester

- ELEC 1520 - Embedded Systems Engineering I
- ELEC 2531 - Logic Laboratory
- MATH 2411 - Calculus II
- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I

  Core Curriculum Elective (*see note 1*) (3 semester hours)

Total: 16 Hours

Sophomore Year

First Semester

- ELEC 2132 - Circuit Analysis I
- ENGL 2030 - Core Composition II
- MATH 2421 - Calculus III

- MATH 3195 - Linear Algebra and Differential Equations
- PHYS 2331 - General Physics II: Calculus-Based

Total: 18 Hours

Second Semester

- ELEC 2142 - Circuit Analysis II
- ELEC 2520 - Embedded Systems Engineering 2
- ELEC 2552 - Sophomore Circuits Laboratory
  Core Curriculum Electives (see note 1) (6 semester hours)

Total: 13 Hours

Junior Year

First Semester

- ELEC 3133 - Electromagnetic Fields
- ELEC 3215 - Electronics I
- ELEC 3316 - Linear Systems Theory
- ELEC 3651 - Digital Hardware Design
- ELEC 3715 - Electronics Laboratory
- ENGR 3400 - Technology and Culture

Total: 16 Hours

Second Semester

- ELEC 3164 - Energy Conversion
- ELEC 3225 - Electronics II
- ELEC 3724 - Energy Conversion Laboratory
- ELEC 3735 - Junior Laboratory
- ELEC 3817 - Engineering Probability and Statistics
  Core Curriculum Elective (see note 1)
  Professional Elective (see note 3)

Total: 17 Hours

Senior Year

First Semester

- ELEC 4309 - Senior Design Project I
  Engineering Science Elective (see note 4) (3 semester hours)
  ELEC Specialty and Laboratory (see note 5) (4 semester hours)
  ELEC Specialty Courses (6 semester hours)

Total: 16 Hours

Second Semester

- ELEC 4319 - Senior Design Project II *(see note 3)*
  Professional Elective (*see note 3*) (3 semester hours)
  ELEC Specialty and Laboratory (*see note 6*) (4 semester hours)
  ELEC Specialty *(see note 6*) (3 semester hours)
  Core Curriculum Elective (*see note 1*) (3 semester hours)

Total: 16 Hours

Program Total: 128 Hours

The particular curriculum to be satisfied by each student is the one published in the catalog current at the time of his/her 30-hour senior checkout. A graduation agreement should be requested by each student before completing registration for his/her last semester. Additional information is contained in the "Department of Electrical Engineering Advisement Guide." Students should also refer to the section in this catalog on "Academic Policies of the College of Engineering and Applied Science."

1. Common core requirements of the College of Engineering and Applied Science are outlined in the CU Denver Undergraduate Core Curriculum or in the "Department of Electrical Engineering Advisement Guide."
2. All electrical engineering students must satisfactorily complete ELEC 4309, Senior Design Project I, and ELEC 4319, Senior Design Project II, in consecutive semesters.
3. Professional electives may be selected from an approved list of upper-division or graduate-level courses or cooperative education. The electrical engineering advisor must be consulted prior to the selection of these electives.
4. The engineering science elective may be satisfied by taking ENGR 3012 Thermodynamics, ELEC 4678 Quantum Electronics, or ELEC 4755 Renewable Energy.
5. Seventeen semester hours of electrical engineering elective and specialty courses in association with the laboratories are required.

Specialty Course and Laboratory Requirements

Students are required to take at least two (2) laboratories out of the following six (6) groups.

The theory component may be taken as a specialty course.

Control Systems

- ELEC 4136 - Control Systems Analysis
- ELEC 4276 - Digital Control Systems
- ELEC 4406 - Control Systems Laboratory

Micro-electronics

- ELEC 4025 - Device Electronics
- ELEC 4225 - Advanced Electronics
- ELEC 4435 - Advanced Electronics Laboratory
- ELEC 4555 - VLSI Circuit Simulation

Communications

- ELEC 4247 - Communication Theory
- ELEC 4248 - Digital Communication Systems
- ELEC 4467 - Communications Laboratory

Electromagnetic Fields and Waves

- ELEC 4133 - Advanced Electromagnetic Fields
- ELEC 4373 - Optical Engineering
- ELEC 4423 - Radio Frequency Laboratory
- ELEC 4678 - Quantum Electronics

Computer Engineering

- ELEC 4501 - Microprocessor Based Design
- ELEC 4511 - Hardware-Software Interface
- ELEC 4521 - Microprocessor Laboratory
- ELEC 4561 - Hardware-Software Lab
- ELEC 4723 - High Performance Computer Architecture

Power Systems

- ELEC 4164 - Electric Drive Systems
- ELEC 4170 - Electric Drive Systems Laboratory
- ELEC 4174 - Power Electronic Systems
- ELEC 4184 - Power Systems Analysis
- ELEC 4444 - Power Systems Laboratory
- ELEC 4474 - Power Electronics Laboratory
- ELEC 4755 - Renewable Energy Systems

English BA

The course of study offered by the Department of English is designed to develop a student's ability to read literature responsibly and imaginatively, to foster an understanding and appreciation of our literary inheritance and to provide the historical perspective from which to evaluate contemporary writing. Careful study of the use of the English language also should help a student to resist the misuse and corruption of language in politics, the media and elsewhere. Students who complete the program in English are expected to have mastered the ability to express their ideas in clear and succinct prose.

Requirements for the English Major

Students majoring in English must present a total of 39 hours in the literature, film studies and/or creative writing options (excluding ENGL 1010, 1020 and 2030), of which 27 hours must be earned in upper-division courses. None of the required 39 hours may be taken on a pass/fail basis. Only courses completed with a grade of *C* (2.0) or above may be counted toward the major. At least 15 upper-division hours of the student's work in English must be taken from English faculty at CU Denver. Students planning to major in English must consult with an advisor as soon as possible. Students may choose only one of the three options in the English major.

LITERATURE OPTION

REQUIRED COURSES

- ENGL 2450 - Introduction to Literature
- ENGL 3001 - Critical Writing
- ENGL 4999 - Literary Studies Senior Seminar

Total: 9 Hours

AREA REQUIREMENTS

Choose one course from each area below. No course is repeatable.

Historical Survey

- ENGL 4080 - History of English Language
- ENGL 4166 - History of American Poetry
- ENGL 4200 - History of the English Novel I
- ENGL 4210 - History of the English Novel II
- ENGL 4230 - The American Novel
- ENGL 4236 - The American Short Story
- ENGL 4300 - History of British Drama
- ENGL 4320 - History of Poetry in English
- ENGL 4350 - History of American Drama

Old English, Medieval Language and Literature

- ENGL 4400 - Old English I
- ENGL 4500 - Medieval Literature
- ENGL 4510 - Whores and Saints: Medieval Women
- ENGL 4730 - Chaucer

Renaissance, Restoration and 18th Century British Literature

- ENGL 3661 - Shakespeare
- ENGL 4520 - English Renaissance
- ENGL 4530 - Milton
- ENGL 4540 - Restoration and the 18th Century

Eighteenth- and Nineteenth-Century British Literature

- ENGL 4200 - History of the English Novel I
- ENGL 4210 - History of the English Novel II
- ENGL 4560 - English Romanticism
- ENGL 4580 - The Victorian Age

American Literature

- ENGL 3750 - American Literature after the Civil War
- ENGL 3700 - American Literature to the Civil War
- ENGL 4166 - History of American Poetry
- ENGL 4230 - The American Novel
- ENGL 4236 - The American Short Story
- ENGL 4350 - History of American Drama

Modern and Contemporary Literature

- ENGL 3450 - Twentieth Century Women Writers
- ENGL 3480 - Modern Drama
- ENGL 4250 - Twentieth Century Fiction
- ENGL 4460 - Contemporary World Literature
- ENGL 4600 - Modernism

Total: 18 Hours

REQUIRED ELECTIVES

Choose any four English courses: two at the 3000 or 4000 level, and two at any level.

Total: 12 Hours

Literature Option Total: 39 Hours

Additional courses, total not to exceed 56 hours (any level).

CREATIVE WRITING OPTION

REQUIRED COURSE

- ENGL 2450 - Introduction to Literature

Total: 3 Hours

AREA REQUIREMENTS

Complete all courses in **either** poetry or fiction.

Poetry

- ENGL 3020 - Poetry Workshop
- ENGL 3050 - Fiction Workshop
- ENGL 4025 - Advanced Poetry Workshop
- ENGL 4160 - Poetics
- ENGL 4820 - Senior Poetry Workshop

Choose one course from the following:

- ENGL 4080 - History of English Language
- ENGL 4166 - History of American Poetry
- ENGL 4320 - History of Poetry in English
- ENGL 4800 - Special Topics in Creative Writing (poetry emphasis)

Fiction

- ENGL 3020 - Poetry Workshop
- ENGL 3050 - Fiction Workshop
- ENGL 4055 - Advanced Fiction Workshop
- ENGL 4610 - Narrative: Form and Theory
- ENGL 4850 - Senior Fiction Workshop

Choose one course from the following:

- ENGL 4200 - History of the English Novel I

- ENGL 4210 - History of the English Novel II
- ENGL 4230 - The American Novel
- ENGL 4236 - The American Short Story
- ENGL 4800 - Special Topics in Creative Writing (fiction emphasis)

Area Requirements Total: 18 Hours

REQUIRED ELECTIVES

Choose any six 3000 or 4000 level English courses.

Recommended:

- ENGL 3001 - Critical Writing
- ENGL 3106 - Advocate Practicum
- ENGL 3416 - Magazine Writing
- ENGL 4800 - Special Topics in Creative Writing
- ENGL 4810 - Literary Editing Practicum

Electives Total: 18 Hours

Creative Writing Option Total: 39 Hours

Additional courses, total not to exceed 56 hours (any level).

FILM STUDIES OPTION

The film studies option within the English major is designed to prepare students for a range of professional careers in areas such as screenwriting, film criticism, video production and the teaching of film, as well as those students who plan to pursue graduate programs in film studies. Required courses give students a strong grounding in film history, verbal and visual narrative, and the critical terms and techniques used in both film and literary analysis. Electives give students the option of emphasizing either the creative approach or the critical approach to moving-image media, or a combination of the two. The film studies option also affords students the opportunity to create video productions using state-of-the-art digital video and editing equipment and the possibility of airing their productions on cable TV. Offered in cooperation with the College of Arts & Media (CAM), the film studies option can be completed entirely on the Auraria Campus.

REQUIRED COURSES

- ENGL 2250 - Introduction to Film
- ENGL 2450 - Introduction to Literature
- ENGL 3070 - Film History I
- ENGL 3080 - Film History II
- ENGL 4420 - Film Theory and Criticism

Total: 15 Hours

AREA REQUIREMENTS

Choose eight courses. Students may take courses in all areas. Eighteen of the 24-hour minimum must be at the 3000/4000 level. Production courses must be taken through the College of Arts & Media (CAM). Equivalent screenwriting courses may also be taken through CAM. [Courses marked by an asterisk are repeatable if taken as a different genre/director/topic.]

A. Critical Studies

- ENGL 1601 - Telling Tales: Narrative Art in Literature and Film
- ENGL 3001 - Critical Writing
- * ENGL 3075 - Film Genres
- * ENGL 3085 - Film Directors
- ENGL 3200 - From Literature to Film
- * ENGL 3300 - Topics in Film
- * ENGL 4190 - Special Topics in Rhetoric and Writing
  (film and media-focused only; e.g., Film and Rhetoric)
- * ENGL 4770 - Topics in English: Film and Literature
  (film and media-focused only)
- ENGL 4990 - Senior Writing Project in Creative Writing or Film Studies
  Any 3000- or 4000-level literature course with ENGL prefix

B. Screenwriting

- ENGL 2390 - Writing the Short Script
- ENGL 2415 - Introduction to Movie Writing
- ENGL 3415 - Screenwriting Workshop (repeatable once)
- ENGL 4990 - Senior Writing Project in Creative Writing or Film Studies

C. Production

- FITV 1050 - Production I Basics of Film and Television
- FITV 2050 - Production II Film and Television Techniques

Total: 24 Hours

Film Studies Option Total: 39 Hours

Additional courses, total not to exceed 56 hours (any level).

College Core Courses for English Majors

Students must complete the College of Liberal Arts and Sciences core curriculum requirements as specified in the CLAS Core Curriculum/Graduation Requirements chart. Check the online schedule for specific course offerings.

Electives

Elective hours may be selected at the student's discretion, but students are urged to work with their advisor in outlining a program in which electives and requirements support each other. Six hours earned in the internship/cooperative education program may be counted toward the major.

English Writing BA

Especially designed for future writers, the writing major offers a wide range of intensive writing experiences combining such areas as rhetoric, professional, general and creative writing.

Requirements for the English Writing Major

Students majoring in writing must present a total of 39 hours for the major (excluding ENGL 1010, 1020 and 2030), of which 27 hours must be earned in upper-division courses. None of the required 39 hours may be taken on a pass/fail basis. Only courses completed with a grade of *C* (2.0) or above may be counted toward the major. At least 15 upper-division hours of the student's work in writing must be taken from English faculty at CU Denver. Students planning to major in writing should consult with an advisor as soon as possible. This major is also available online. [Courses marked by an asterisk are repeatable when title/content differ.]

Required Courses

- ENGL 2060 - Introduction to Writing Studies
- ENGL 3084 - Multimedia Composition
- ENGL 3160 - Language Theory
- -OR- ENGL 4080 - History of English Language
- ENGL 4190 - Special Topics in Rhetoric and Writing
  (Repeatable if topic differs)
- ENGL 4830 - Advanced Rhetorical Analysis (Seniors only)

Total: 15 Hours

Area Requirements

WRITING ELECTIVES

Choose three courses from the following (3000 or 4000 level only, except ENGL 2070):

- ENGL 2070 - Grammar, Rhetoric and Style
- ENGL 3154 - Technical Writing
- ENGL 3160 - Language Theory
- ENGL 3170 - Business Writing
- ENGL 4180 - Argumentation and Logic
- ENGL 4190 - Special Topics in Rhetoric and Writing
  (Repeatable if topic differs)
- ENGL 4280 - Proposal and Grant Writing
- ENGL 4601 - Principles and Practices of Second Language Acquisition
- ENGL 4651 - Second Language Writing
  ENGL ____ - Writing Course

Total Writing Electives: 9 Hours

INTERDISCIPLINARY LANGUAGE, LITERACY AND DIGITAL MEDIA

Students pursuing interdisciplinary language studies may choose any five writing or workshop courses offered by the Department of English at the 3000 or 4000 level only. In addition, students may also choose writing-intensive courses offered by other departments with prior approval of an English advisor. Additional ENGL choices include:

- ENGL 3939 - Internship
- ENGL 4190 - Special Topics in Rhetoric and Writing
- ENGL 4740 - Honors in Writing

Total Interdisciplinary Language, Literacy and Digital Media Area: 15 Hours

Major Total: 39 Hours

Additional courses, total not to exceed 56 hours (any level).

College Core Courses for English Writing Majors

Students must complete the College of Liberal Arts and Sciences core curriculum requirements as specified in the UC Denver Core Curriculum and CLAS Graduation Requirements chart. Check the online schedule for specific course offerings.

Electives

Elective hours may be selected at the student's discretion, but students are urged to work with their advisor in outlining a program in which electives and requirements support each other. Up to 6 hours earned in the cooperative education program may be counted toward the major.

Ethnic Studies, BA

Advisor: Resa Cooper-Morning

Students earning a BA degree with a Major in Ethnic Studies at CU Denver will complete a minimum of 33 credit hours in ethnic studies (21 required credit hours in ethnic studies, 12 elective credit hours in ethnic studies). The skills and knowledge that students gain while pursuing this degree are transferable to a variety of careers. In common with other liberal arts graduates, those with a degree in ethnic studies will be trained in creative and critical thinking, complex reasoning, and effective communication. In addition, ethnic studies graduates will have cultural competency skills that are highly valued by employers, especially those in sales, and service areas. Other occupations that employ many ethnic studies graduates include: law, teaching, journalism, marketing, community and union organizing and social work. Ethnic studies graduates also find work in non-profit agencies and in federal, state, and local government agencies.

Degree Requirements

Required Ethnic Studies Core Course

- ETST 2000 - Introduction to Ethnic Studies

Total: 3 Hours

Focal Racial/Ethnic Groups Courses

- ETST 2155 - African American History
- ETST 3108 - Chicano/a and Latino/a History
- ETST 3297 - Social History of Asian Americans
- ETST 3396 - History of the American Indian

Total: 12 Hours

Any Four Ethnic Studies Electives

Total: 12 Hours

Research Methods Course

One course from the following:

- ETST 4000 - Research Methods in Ethnic Studies
- PSCI 3011 - Research Methods
- SOCY 3111 - Research Methods
- COMM 4221 - Research Methods: Qualitative

Total: 3 Hours

Senior Seminar

- ETST 4960 - Senior Seminar in Ethnic Studies

Total: 3 Hours

Major Total: 33 Hours

All grades in ETST must be a C or above. Grades of C- or below DO NOT APPLY.

Finance Emphasis - BS in Business Administration

The principal areas of study in finance are financial management in small and large businesses, investments, financial institutions, and international finance. The study of finance is intended to provide an understanding of fundamental theory and practice pertaining to finance, to make sound financial decisions. Students are taught to think logically about financial problems, so that they can formulate and implement value maximizing decisions and policies for the business. For this purpose, it is necessary to understand the importance of finance in the economy and the functions and purposes of monetary systems, credit, prices, money markets and financial institutions. Emphasis is placed on financial policy, management, control, analysis, and decision making.

The finance emphasis provides the students with the skills to succeed in all areas of finance. Numerous job opportunities exist in the field of business finance and with financial institutions, mutual funds, securities firms, personal wealth management firms, and financial planning firms including positions involving an understanding and sale of securities.

For this area of emphasis, students are required to take the following complement of courses, in addition to the undergraduate business core:

FNCE 3500 - Management of Business Capital
FNCE 3600 - Financial Markets and Institutions
FNCE 3700 - Investment and Portfolio Management
FNCE 4370 - International Financial Management*
FNCE 4500 - Corporate Financial Decisions
Upper division business electives (12 semester hours)

Total: 27 semester hours

Financial Management Concentration

ACCT 3220 Intermediate Financial Accounting I
ACCT 4054 Accounting Systems and Data Processing
ACCT 3320 Intermediate Cost Accounting
ACCT 3000- or 4000-level elective
FNCE 3600 - Financial Markets and Institutions
FNCE 3700 - Investment and Portfolio Management
FNCE 4370 - International Financial Management*
FNCE 4500 - Corporate Financial Decisions

Total: 27 semester hours

Risk Management and Insurance Concentration

The risk management and insurance (RMI) concentration in the finance area of emphasis provides students with the fundamental knowledge needed to accurately measure and manage risk.

Recent crisis situations suggest that understanding risk and how to manage it, and ultimately, how risk management can be used to increase firm value, is essential in the current business

environment. The RMI specialty will provide an overall perspective on risk, with a specific focus on insurance products and their use in mitigating risk in business and personal situations. The insurance industry recognizes many high-level certifications as a sign of expertise, and the RMI course work will provide the knowledge base so that students can proceed to acquire certification in their specific choice of insurance specialty.

Potential job opportunities include positions in the insurance industry and those that require a thorough understanding of risk, such as corporate risk officer or risk manager. In addition, students who choose to work in the insurance industry can make a seamless transition into underwriting, ratemaking, and policy approval. The program will be supported by unique internship and special project opportunities in the insurance industry, and is the first program of its kind in the region.

The following course work will be required, in addition to the undergraduate business core:

FNCE 3500 - Management of Business Capital
FNCE 3700 - Investment and Portfolio Management
FNCE 3809 - Introduction to Risk Management
FNCE 3949 - Experiential Learning with Risk Management Industry
FNCE 4129 - Practical Enterprise Risk Mgmt
FNCE 4500 - Corporate Financial Decisions
FNCE 4809 - Property & Casualty Insurance
International elective (3 semester hours)

Total: 27 semester hours

NOTES:

FNCE 3949 will be a specialized offering in lieu of FNCE 3939. The internship or individualized study will be with specific providers of risk management services (including insurance companies), and will be monitored for content and performance.

Students should note that all FNCE courses are not offered every semester. Students should take ACCT 2200, ACCT 2220 and FNCE 3000 courses as early as possible to avoid future problems in their schedules.

For 2010-11, the RMI concentration, comprising of five new courses will be offered with a fixed tuition of $900 per course (in-state) and $2,400 per course (nonresident). The courses will not be eligible for COF.

Financial Management and Information Systems Emphasis—BS in Business Administration

The financial management and information systems emphasis provides students with skills that they need to succeed in careers that bridge the fields of finance and information systems.

The financial management and information systems specialty incorporates knowledge of financial management and markets, accounting and information systems and technology. This specialization provides the manager with knowledge of financial information systems, databases, risk management and accounting systems.

Job opportunities include positions that require knowledge of both financial management and business information systems and databases. The specialization provides a solid accounting/finance and information systems background for other finance specialist and business analyst positions as well.

Required Courses

Finance

- FNCE 3500 - Management of Business Capital
- FNCE 3700 - Investment and Portfolio Management
- FNCE 3600 - Financial Markets and Institutions
- FNCE 4500 - Corporate Financial Decisions

FNCE

Accounting

- ACCT 4054 - Accounting Systems and Data Processing
- ACCT 3220 - Intermediate Financial Accounting I
- ACCT 3320 - Intermediate Cost Accounting
- ACCT 4780 - Accounting and Information Systems Processes and Controls or
- ISMG 4780 - Accounting and Information Systems Processes and Controls

ISMG

- ISMG 4500 - Database Management and Applications
- ISMG 4600 - Systems Analysis and Design
- ISMG 4900 - Project Management and Practice

Total: 33 Hours

In addition, students must complete FNCE 4370, International Finance, to fulfill the international studies requirement.

Financial Management Emphasis—BS in Business Administration

The financial management emphasis provides students with the skills needed to succeed in careers in financial management. The business community has affirmed that students need skills in both the accounting and finance areas. The financial management specialty incorporates knowledge of corporate financial management, financial institutions and markets, investments, financial accounting and managerial accounting, accounting information systems and information technology. Career opportunities include corporate financial management, finance/accounting positions with financial institutions and accounting positions that are not CPA-track. The specialization provides a solid finance and accounting background for other business positions as well.

Financial Management Concentration

FNCE 3500 - Management of Business Capital
FNCE 3600 - Financial Markets and Institutions
FNCE 3700 - Investment and Portfolio Management
FNCE 4370 - International Financial Management*
FNCE 4500 - Corporate Financial Decisions
ACCT 3220 Intermediate Financial Accounting I
ACCT 4054 Accounting Systems and Data Processing
ACCT 3320 Intermediate Cost Accounting
ACCT 3000- OR 4000-LEVEL ELECTIVE

Required Courses

- FNCE 3500 - Management of Business Capital
- FNCE 3600 - Financial Markets and Institutions
- FNCE 3700 - Investment and Portfolio Management
- FNCE 3809 - Introduction to Risk Management
- FNCE 4500 - Corporate Financial Decisions
- ACCT 3220 - Intermediate Financial Accounting I
- ACCT 3320 - Intermediate Cost Accounting
- ACCT 4054 - Accounting Systems and Data Processing

Total: 24 Hours

In addition, financial management students must complete FNCE 4370, International Finance, to fulfill the international studies requirement.

* Students should note that all finance and accounting courses are not offered every semester. Students should take the ACCT 2200 and ACCT 2220 courses as soon as possible to avoid future problems in their schedules, since these are prerequisites for all courses in the specialization.

Fine Arts BA — Art History Emphasis

All students pursuing a BA in fine arts with an emphasis in art history must complete 12 semester hours of studio arts and English rhetoric course work, 15 semester hours of required specific art history courses and 18 semester hours of upper-division art history electives. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

General Requirements

- All courses within the major must be completed with a grade of C (2.0) or better.
- All upper-division visual arts courses must be taken at CU Denver unless approved otherwise by visual arts faculty.
- At least 21 semester hours of all visual arts credits (at any level) must be taken at CU Denver.
- At least 18 semester hours of total visual arts courses must be upper-division.

Students must also follow the College of Arts & Media's general degree requirements.

Required Studio Arts and English Rhetoric Courses

____ - Two-dimensional Studio Arts course (3 semester hours) - *consult an advisor for approved options*
____ - Three-dimensional Studio Arts course (3 semester hours) - *consult an advisor for approved options*
____ - Studio Arts Elective (3 semester hours)

- ENGL 2070 - Grammar, Rhetoric and Style

Total: 12 Hours

Required Art History Courses

- FINE 2600 - Art History Survey I
- FINE 2610 - Art History Survey II
- FINE 3600 - Art History Survey III: Non-Western Art
- FINE 4790 - Methods in Art History
- FINE 4951 - Bachelor of Art Thesis

Total: 15 Hours

Upper-Division Art History Electives

Students must complete six upper-division (3000/4000 level) art history electives. (Contact an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for a complete list of options.)

Total: 18 Hours

Fine Arts BA — Studio Art Emphasis

All students pursuing the BA in studio fine arts must complete 18 semester hours of visual arts foundation courses as well as 21 semester hours in additional lower-division studio courses. They must also complete 30 semester hours in upper-division studio courses and 6 semester hours of upper-division art history. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

General Requirements

- All courses for the major must be completed with a grade of C (2.0) or better.
- All upper-division visual arts courses must be taken at CU Denver unless approved otherwise by visual arts faculty.
- At least 21 semester hours of visual arts credits (at any level) must be taken at CU Denver.
- At least 18 semester hours of total visual arts courses must be upper-division.

Students must also follow the College of Arts and Media's general degree requirements.

Required Visual Arts Foundation Courses

- FINE 1100 - Drawing I
- FINE 1400 - Two Dimensional Design
- FINE 1500 - Three-Dimensional Design
- FINE 2015 - Intermedia Foundations
- FINE 2600 - Art History Survey I
- FINE 2610 - Art History Survey II

Total: 18 Hours

Lower-Division Studio Courses

- FINE 1150 - Introduction to Darkroom Photography
- FINE 2010 - The Graphic Novel Workshop
- FINE 2030 - Life Drawing
- FINE 2155 - Introduction to Digital Photography
- FINE 2200 - Painting I
- FINE 2500 - Bronze Casting and Metal Sculpture
- FINE 2510 - Wood and Metal Sculpture

Total: 21 Hours

Upper-Division Studio Courses

- FINE 3015 - Interdisciplinary Practices
- FINE 3030 - The Media of Drawing
- FINE 3161 - The Silver Fine Print

- FINE 3162 - The Digital Fine Print
- FINE 3172 - Digital Bookmaking
- FINE 3240 - Abstract Painting and Drawing
- FINE 3300 - Painting, Drawing and the Printed Image
- FINE 3400 - Introduction to Web Design and Digital Imaging
- FINE 3500 - Modeling and Casting the Figure
- FINE 3510 - Installation Art

Total: 30 Hours

Upper-Division Art History Courses

- FINE 3600 - Art History Survey III: Non-Western Art
- FINE 4990 - Contemporary Art: 1960 to Present

Total: 6 Hours

Fine Arts BFA — 3-D Graphics and Animation, Digital Design, Digital Design - Scientific Media Design Track, Illustration, Painting/Drawing, Photography, Sculpture, Transmedia Emphases

All students pursuing the BFA in fine arts must complete 24 semester hours of visual arts courses and also select an emphasis area, consisting of 57 additional semester hours (66 for the scientific media design track). Students interested in pursuing a double emphasis (e.g., emphases in sculpture and photography) are encouraged to consult a College of Arts & Media advisor to discuss required courses.

General Requirements

- All major courses for the major must be completed with a grade of *C* (2.0) or better.
- All upper-division visual arts courses must be taken at CU Denver unless otherwise approved by visual arts faculty.
- At least 27 semester hours of visual arts credits (at any level) must be taken at CU Denver.
- At least 25 semester hours of total visual arts courses must be upper-division.

Students must also follow the College of Arts & Media's general degree requirements.

Required Visual Arts Courses

To be completed by all BFA-seeking students:

- FINE 1100 - Drawing I
- FINE 1400 - Two Dimensional Design
- FINE 1500 - Three-Dimensional Design
- FINE 2600 - Art History Survey I
- FINE 2610 - Art History Survey II
- FINE 3015 - Interdisciplinary Practices
- FINE 3600 - Art History Survey III: Non-Western Art
- FINE 4990 - Contemporary Art: 1960 to Present

Total: 24 Hours

3-D Graphics and Animation Emphasis Courses

The 3-D graphics and animation emphasis at the University of Colorado Denver is a competitive and rigorous four-year curriculum focused on preparing students to work in a wide variety of fields that use animated digital computer graphics (CG), including entertainment, film and television, gaming, medicine, and science. The 3-D graphics and animation emphasis courses are billed at a different rate than the standard course tuition due to the state-of-the-art technology used in the program. For more information regarding this rate, contact Howard Cook at howard.cook@ucdenver.edu or the College of Arts & Media Office at CAMadvising@ucdenver.edu.

In order to maintain the highest standards of excellence, acceptance into the 3-D graphics and animation emphasis comes at the end of the first year and is competitive by portfolio review. To be considered, students are required to take the first two courses in the 3-D graphics and animation curriculum, FINE 1810 and FINE 1820. These two courses are open to all College of Arts & Media and CU Denver students. Students wishing to enroll in these entry level courses must contact faculty member Howard Cook at howard.cook@ucdenver.edu or the College of Arts & Media Advising Office at CAMadvising@ucdenver.edu before registering.

Selection for entrance into the 3-D graphics and animation emphasis occurs at the end of the first year of the program and is a competitive process (by faculty review) that includes:

- Submission by the candidate of a "Portfolio Demo Reel". The reel must include original works from FINE 1810 and FINE 1820 as well as representative works created in other Visual Arts courses completed during the first year of the program. The Portfolio Demo Reel must be turned in as a .mov (Quicktime, H.264, 720x404 minimum frame size, 16:9 aspect ratio). Still work should be a component of the reel and should be on screen for at least 3 seconds but no more than 10 seconds. Name and contact information should appear at the beginning and end of the reel. The reel should not be greater in length than 3.5 minutes.
- A "breakdown sheet": the run time at which the work occurs and which describes what work is included on the submission reel, and, if collaborative in nature, what aspect of the work shown was created by the applicant. Turn in .pdf only please.
- A one page double-spaced written statement regarding the applicant's aspirations as a productive and contributing member of the 3-D graphics and animation cohort and the CG community as a whole. Turn in .pdf only please.
- A minimum of a 2.8 GPA in the CU Denver 3-D graphics and animation courses.

The student's submission package must be submitted electronically - \\DACps2>Cook Drop Box>FreshmanPortfolioSubmissions - no later than the first Friday after the spring semester has ended. Notification is by e-mail and/or letter and occurs on or before the first Monday of June of the application year. Upon acceptance, students will be able to enroll in advanced digital animation classes.

Students should show only their best work and show the very best work first. Students should be selective since reels may only be 3.5 minutes long. Music is not recommended for professional reels, but if music is used, students should choose wisely.

Please see http://www.cu3d.org
or www.ucdenver.edu/academics/colleges/CAM/programs/va/Pages/3danimation.aspx for the emphasis and portfolio information, or contact area head Howard Cook at howard.cook@ucdenver.edu.

Entry Level Courses (No Prerequisites):

- FINE 1810 - Digital Animation Foundations: Producing Animation
- FINE 1820 - Digital Animation Foundations: Introduction to Digital 3D

Core Cadre Course Work (acceptance into the Core Cadre is competitive through portfolio review):

- FINE 2810 - Digital Animation Techniques: Surface Modeling
- FINE 2820 - Digital Animation Techniques: Surface Properties
- FINE 2830 - Digital Animation Techniques: Lighting
- FINE 2850 - Digital Animation Techniques: 3D Character Creation
- FINE 3810 - Digital Animation Studio: Set/Environment Design
- FINE 3820 - Digital Animation Techniques: Rigging and Animation
- FINE 3830 - Digital Animation Technique: Character Animation
- FINE 3845 - Digital Animation Discovery and Preproduction Seminar
- FINE 3850 - Digital Animation Techniques: Dynamic Simulation
- FINE 4810 - Digital Animation Studio: Animation Production I
- FINE 4820 - Digital Animation Studio: Animation Production Thesis

The following courses are required for 3-D graphics and animation students, but are offered at the standard CU Denver tuition rates:

- ENGL 2250 - Introduction to Film
- FINE 2010 - The Graphic Novel Workshop
  or
- FINE 2030 - Life Drawing
  or
- FINE 3414 - Motion Design I
- FINE 4632 - Media History and Aesthetics

  ____ - Visual Arts Electives (9 semester hours) *May include studio, lecture, internship or art history*

Total: 57 Hours

Digital Design Emphasis Courses

The digital design emphasis integrates aesthetic, creative and critical thought with expertise in advanced electronic media. Configured as an interdisciplinary arts and design laboratory, digital design offers a hands-on education combining new art technologies and design concepts in a concentrated theoretical framework that promotes an understanding of the cultural impact and uses of digital technologies. Through this interdisciplinary approach combining arts and communication, digital design strives to produce artists and designers who will use technology in innovative ways in both commercial and artistic spheres.

Students who are applying for entrance into the digital design emphasis are required to submit a written statement, a designed portfolio and unofficial transcript(s) from CU Denver and all previous post-secondary educational institutions. The digital design course sequence starts in fall semester. Students who meet the following requirements can apply. Upon acceptance students will be able to register for upper-division digital design courses.

ELIGIBILITY

University of Colorado Denver Students

- The student has completed, or is in the process of completing, the following foundation studio courses: FINE 1100 - Drawing I, FINE 1400 - Two Dimensional Design, FINE 2405 - Introduction to Digital Design and FINE 2415 - Typography Studio (FINE 2405 and FINE 2415 offered only in fall semester).
- A minimum cumulative fine arts/art history GPA of 2.75.

Transfer Students

- The student has completed and is transferring a minimum of 24 credit hours from a previous institution.
- Student has completed, or is in the process of completing, the equivalents of the following foundation studio courses: FINE 1100 - Drawing I, FINE 1400 - Two Dimensional Design, FINE 2405 - Introduction to Digital Design and FINE 2415 - Typography Studio.
- A minimum cumulative fine arts/art history GPA of 2.75.

APPLICATION PORTFOLIO REQUIREMENTS

To properly prepare your application, refer to http://designucd.com/index.php/portfolio/ for detailed instructions. Applications are due by 5 p.m. on November 1 or on the following business day if the deadline falls on a weekend or holiday. Students should register and create a page two weeks prior to uploading so that they understand how to format and prepare work.

Applications are only accepted online and must be formatted to the specifications listed on http://designucd.com/index.php/portfolio/. The portfolio samples should consist of images (JPGs) and embedded video. Written work should be integrated into the submission. **It is VERY important for students to visit the submission page early and begin uploads one week before the due date.** Late submissions due to technical difficulties on the part of the applicant will NOT be accepted.

Portfolio of Images

- The portfolio must include 10-12 electronic examples of your creative work. At least four portfolio works must be taken from Intro to Digital Design or Typography. Additional works may comprise design, drawing, sculpture, photography, installation, painting, video, etc.
- All artwork must include a corresponding brief explanation of the concept and creative process behind each piece.

GPA

- The applicant must compile a list of all fine arts/art history courses taken, categorized by each college/university attended.
- The applicant must clearly calculate his or her fine arts/art history GPA.

Written Statement

The written statement should address all of the following in a clear, detailed and accurate essay no more than two pages in length. The content of the answers has significant impact on the committee's decision whether to offer admission to the digital design emphasis.

- The applicant describes why he or she would like to be a designer in the digital design emphasis and what goals and expectations the applicant has regarding digital design as a career. Include any special considerations that would be useful for the committee in making a decision, such as a high GPA, art-related extracurricular activities or relevant professional experience.
- The applicant reflects on the artists and designers who have influenced his or her artistic interests. Use at least two examples of each artist's work, discussing both form and content.
- The applicant identifies his or her creative strengths and areas that need further development. How will the applicant best utilize strengths? How does the applicant plan to resolve any deficiencies in work and performance?
-

Course Transcripts

These may be official or unofficial transcripts from CU Denver and previous post-secondary institutions.

The Evaluation Process

- A committee of design faculty members reviews the application packet. The decision for admission into the digital design emphasis is based on the portfolio images, written statement and grades/GPA. For acceptance, the committee looks for a high level of skill and sophistication in studio, written and presentation skills.
- If not admitted into the digital design emphasis, a student has the choice of attempting the review process again the following year or selecting another emphasis. Students not admitted into the digital design emphasis are encouraged to schedule a meeting with a digital design faculty member to learn of ways to improve portfolios for future submissions.

The application is evaluated on the following criteria:

- **Presentation** - Is the portfolio well crafted and well organized in content and presentation? Are all of the required components included?
- **Visual Literacy** - Does the portfolio reflect sensitivity to design concepts and visual logic, and does it demonstrate fundamental understanding of composition? Does the work communicate effectively?
- **Technical Skill** - Does the portfolio reflect a strong knowledge of tools and materials and a strong aptitude for digital design skills?
- **Conceptual Skills** - Do the portfolio and written statement demonstrate analytical thinking as it applies to visual art and design? Is there a developing conceptual exploration of the digital medium?

- **Written Statement** - Does the statement reflect an understanding of digital design and explain your goals as a student in the digital design emphasis? Are potential strengths and weaknesses addressed clearly?
- **Academic Performance** - Do your grades reflect a commitment to learning and growth?

Questions

Please contact CAMadvising@ucdenver.edu for emphasis and portfolio information, or contact digital design area head Brian DeLevie at brian.delevie@ucdenver.edu.

Digital Design Electives

FINE 3438 - Text, Image and Electronic Art

FINE 4434 - Virtual Landscapes

Digital Design Emphasis Course Requirements:

- FINE 2405 - Introduction to Digital Design
- FINE 2415 - Typography Studio
- FINE 3414 - Motion Design I
- FINE 3415 - Design Studio I
- FINE 3424 - Interactive Media
- FINE 3434 - 3D Motion Design
- FINE 3444 - Interactive Media II
- FINE 3454 - Motion Design II
- FINE 3464 - Design Studio II
- FINE 3474 - Narrative and Experience
- FINE 4400 - Design Studio III
- FINE 4480 - The Practice of Design
- FINE 4495 - Design Studio IV: Thesis (It is highly suggested that ALL art history courses be completed prior to enrolling in FINE 4495)
- FINE 4600 - History of Modern Design:Industrial Revolution-Present
- FINE 4632 - Media History and Aesthetics

____ - Studio Arts/Visual Arts Electives (12 semester hours) *Consult advisor about course selection*

Total: 57 Hours

Digital Design Emphasis - Scientific Media Design Track Courses

Through a truly interdisciplinary approach that integrates design, art and science, the scientific media design track (offered within the digital design emphasis) provides an educational experience that combines collaboration, exploration, project-based learning and real world problem solving skills. Theoretical as well as practical knowledge prepares graduates for successful careers designing clear, accurate, communicative works for science and medicine.

Admission into the scientific media design track is by portfolio review. This review process occurs November 1 (or on the following business day if the deadline falls on a weekend or a holiday) during a student's sophomore year after the student has met the following eligibility criteria.

University of Colorado Denver Students

The student has completed, or is in the process of completing, the following foundation studio courses:

- FINE 1100 - Drawing I
- FINE 1400 - Two Dimensional Design
- FINE 2405 - Introduction to Digital Design
- FINE 2415 - Typography Studio
- FINE 2428 - Introduction to Scientific Media Design

A minimum cumulative fine arts/art history GPA of 2.75. Please note: FINE 2405, FINE 2415 and FINE 2428 are only offered during the fall semester.

- BIOL 2051 - General Biology I and BIOL 2071 - General Biology Laboratory I

Grade of C (2.0) or better required

Transfer Students

The student has completed and is transferring a minimum of 24 semester hours from a previous institution. The student has also completed, or is in the process of completing, the equivalents of the following foundation studio courses:

- FINE 1100 - Drawing I
- FINE 1400 - Two Dimensional Design
- FINE 2405 - Introduction to Digital Design
- FINE 2415 - Typography Studio

A minimum cumulative fine arts/art history GPA of 2.75

- BIOL 2051 - General Biology I and BIOL 2071 - General Biology Laboratory I

Grade of C (2.0) or better required

Students who are applying for entrance into the scientific media design track are required to submit a portfolio that consists of (1) a written statement, (2) a digital portfolio and (3) unofficial transcript(s) from all previous post-secondary education institutions. Upon acceptance into the scientific media design track, students may register for upper-division classes in the scientific media design curriculum.

APPLICATION PORTFOLIO REQUIREMENTS

To properly prepare your application, refer to http://designucd.com/index.php/portfolio/ for detailed instructions. Applications are due by 5 p.m. on November 1 or on the following business day if the deadline falls on a weekend or holiday. Students should register and create a page two weeks prior to uploading so that they understand how to format and prepare work.

Applications are only accepted online and must be formatted to the specifications listed on http://designucd.com/index.php/portfolio/. The portfolio samples should consist of images (.jpgs) and embedded video. Written work should be integrated into the submission. It is VERY important for students to visit the submission page early and begin uploads one week before the due date. Late submissions due to technical difficulties on the part of the applicant will NOT be accepted.

Portfolio of Images

- The portfolio must include 10-12 electronic examples of your creative work. At least four portfolio works must be taken from Intro to Scientific Media Design or Intro to Digital Design. Additional works may comprise design, drawing, sculpture, photography, installation, painting, video, etc.
- All artwork must include a corresponding brief explanation of the concept and creative process behind each piece.

GPA

- The applicant must compile a list of all fine arts/art history courses taken, categorized by each college/university attended.
- The applicant must clearly calculate his or her fine arts/art history GPA.

Written Statement

The written statement should address all of the following in a clear, detailed and accurate essay no more than two pages in length. The content of the answers has significant impact on the committee's decision whether to offer admission to the scientific media design track.

- The applicant describes why he or she would like to be a designer in the scientific media design track and what goals and expectations the applicant has regarding scientific media design as a career. Include any special considerations that would be useful for the committee in making a decision, such as a high GPA, art-related extracurricular activities or relevant professional experience.
- The applicant reflects on the artists and designers who have influenced his or her artistic interests. Use at least two examples of each artist's work, discussing both form and content.
- The applicant identifies his or her creative strengths and areas that need further development. How will the applicant best utilize strengths? How does the applicant plan to resolve any deficiencies in work and performance?

Course Transcripts

These may be official or unofficial transcripts from CU Denver and previous post-secondary institutions.

The Evaluation Process

- A committee of design faculty members reviews the application packet. The decision for admission into the scientific media design track is based on the portfolio images, written statement and grades/GPA. For acceptance, the committee looks for a high level of skill and sophistication in studio, written and presentation skills.
- If not admitted into the scientific media design track, a student has the choice of attempting the review process again the following year or selecting another emphasis outside of digital design. Students not admitted into the scientific media design track are encouraged to schedule a meeting with a scientific media design faculty member to learn of ways to improve portfolios for future submissions.

The application is evaluated on the following criteria:

- **Presentation** - Is the portfolio well crafted and well organized in content and presentation? Are all of the required components included?
- **Visual Literacy** - Does the portfolio reflect sensitivity to design concepts and visual logic, and does it demonstrate fundamental understanding of composition? Does the work communicate effectively?
- **Technical Skill** - Does the portfolio reflect a strong knowledge of tools and materials and a strong aptitude for digital design skills?
- **Conceptual Skills** - Do the portfolio and written statement demonstrate analytical thinking as it applies to visual art and design? Is there a developing conceptual exploration of the digital medium?
- **Written Statement** - Does the statement reflect an understanding of scientific media design and explain your goals as a student in the scientific media design track? Are potential strengths and weaknesses addressed clearly?
- **Academic Performance** - Do your grades reflect a commitment to learning and growth?

Questions

Please contact CAMadvising@ucdenver.edu for track and portfolio information, or contact scientific media design Professor Travis Vermilye at travis.vermilye@ucdenver.edu.

Track Course Requirements in Sciences

- BIOL 2051 - General Biology I (also applies toward Core Biological/Physical Sciences requirement)
- BIOL 2071 - General Biology Laboratory I (also applies toward Core Biological/Physical Sciences requirement)
- BIOL 2061 - General Biology II (also applies toward Core Biological/Physical Sciences requirement)

- BIOL 2081 - General Biology Laboratory II (also applies toward Core Biological/Physical Sciences requirement)
- CHEM 2031 - General Chemistry I
- CHEM 2038 - General Chemistry Laboratory I

____ - Science Elective (3 semester hours) - Needs approval from Area Head.

Track Course Requirements in Fine Arts

- FINE 2030 - Life Drawing
- FINE 2405 - Introduction to Digital Design
- FINE 2415 - Typography Studio
- FINE 2428 - Introduction to Scientific Media Design
- FINE 3414 - Motion Design I
- FINE 3415 - Design Studio I
- FINE 3424 - Interactive Media
- FINE 3434 - 3D Motion Design
- FINE 3444 - Interactive Media II
- FINE 3448 - Scientific Media Design I
- FINE 3454 - Motion Design II
- FINE 4020 - Anatomy for the Artist
- FINE 4448 - Scientific Media Design II
- FINE 4495 - Design Studio IV: Thesis

_____ - Studio Arts/Visual Arts Electives (9 semester hours) *Consult advisor about course selection*

Total: 66 Hours

Illustration Emphasis Courses

Illustration is the art of making ideas communicate through visual art. The profession spans a wide range of applications, encompassing graphic novels, scientific illustration, visual development for animation and games, children's books, interactive illustration and anything an illustrator can bring to life. The field includes editorial, advertising, and product illustration. Given the vast array of opportunities, today's illustrators must understand how to communicate effectively with a chosen medium and situate their work professionally within a particular market.

Students in the illustration emphasis receive instruction in conceptual illustration, digital illustration, rendering, perspective, painting, exhibition preparation, professional practices and the use of various artistic and illustration techniques. In preparation for a professional illustration career, the course work allows students to master numerous essential digital and traditional tools.

Students who are applying for entrance into the illustration emphasis are required to submit a written statement, a portfolio of images and unofficial transcript(s) from CU Denver and all previous post-secondary educational institutions. The illustration course sequence starts in the

fall semester. Students who meet the following requirements can apply. Upon acceptance students will be able to register for upper-division illustration courses.

ELIGIBILITY

University of Colorado Denver Students

The student has completed, or is in the process of completing, the following courses:

- FINE 1100 - Drawing I
- FINE 1400 - Two Dimensional Design
- FINE 1500 - Three-Dimensional Design
- FINE 2015 - Intermedia Foundations
- FINE 2030 - Life Drawing
- FINE 2600 - Art History Survey I
- FINE 2610 - Art History Survey II

A minimum of cumulative fine arts/art history GPA 2.75

Transfer Students

The student has completed and is transferring a minimum of 24 credit hours from a previous institution.

Student has completed, or is in the process of completing, the equivalents of the following courses:

- FINE 1100 - Drawing I
- FINE 1400 - Two Dimensional Design
- FINE 1500 - Three-Dimensional Design
- FINE 2030 - Life Drawing
- FINE 2600 - Art History Survey I

A minimum of cumulative fine arts/art history GPA 2.75

PORTFOLIO REQUIREMENTS

Students applying to the illustration emphasis should submit a CD or DVD to the area head of painting/drawing and illustration, Mary K. Connelly, in room 815G of the CU Building, 1250 14th Street. The CD or DVD is due by 5 p.m. on November 1 or on the following business day if the deadline falls on a weekend or holiday. The CD or DVD should include contact information and an email address for notification for the results of the portfolio review. Late submissions will not be accepted.

(NOTE: Portfolio submissions may switch to an online process; please consult Mary Connelly (mary.connelly@ucdenver.edu) for details and updates before submitting your portfolio.)

The CD or DVD must include the following:

Portfolio of Images

- The portfolio must include 10, but no more than 15, examples of creative work. At least six portfolio images should be drawings done from life (examples from FINE 1100 Drawing I—still life, perspective and/or figure drawings). Additional examples may be in the form of design, drawing, painting and printmaking.
- Image list (Word doc) with title, year, media and size, and a brief explanation of each artwork. All images should be formatted as JPEGs. Limit file size to 1 megabyte. File names should correspond to the list, be numbered, include the student's last name, and then an underscore and a brief title/description.
  Examples:
  1_Connelly_Figurecharcoal.jpeg
  2_Connelly_StillLifeacrylic.jpeg

Written Statement

The written statement must also be saved to the disk. Please address the following in a clear, detailed essay no more than one page in length (or 500 words).

- The applicant should describe why he or she would like to study illustration and what goals and expectations the applicant has regarding a career as an illustrator.
- Include any special considerations that would be useful for the committee in making a decision, such as Dean's List, GPA, internships, art-related extracurricular activities or relevant professional experience.
- The applicant should identify his or her creative strengths and areas that need further development.

Course Transcripts

These may be official or unofficial transcripts from CU Denver and previous post-secondary institutions.

The Evaluation Process

- A committee of painting/drawing and illustration faculty members reviews the portfolio packets. Acceptance into the illustration emphasis is based on the portfolio images, written statement and GPA.
- If not admitted into the illustration emphasis, a student has the choice of attempting the review process again the following year or selecting another emphasis. Students not admitted into the emphasis are encouraged to schedule a meeting with the area head of illustration to learn ways to improve their portfolios for future submissions.

The application is evaluated on the following criteria:

- **Presentation** - The portfolio should be well crafted and well organized in content and presentation.
- **Technical Skill** - The portfolio should demonstrate strong proficiency in drawing, composition, design and color.

- **Creativity** – The portfolio should demonstrate creative choices in content and aesthetics.
- **Conceptual Skills** - The portfolio and written statements should reflect analytical thinking and conceptual exploration of the foundations of drawing and design.
- **Written Statement** - The statement should outline academic and artistic goals, addressing any potential strengths and weaknesses.
- **Academic Performance** - The grades must reflect a commitment to learning and growth.
- All required documentation included (images, written statement and transcripts).

Questions

Please contact CAMadvising@ucdenver.edu for emphasis and portfolio information, or contact illustration area head Mary K. Connelly at mary.connelly@ucdenver.edu.

Illustration Emphasis Course Requirements

- FINE 2010 - The Graphic Novel Workshop
- FINE 2015 - Intermedia Foundations
- FINE 2030 - Life Drawing
- FINE 2155 - Introduction to Digital Photography
- FINE 2200 - Painting I
- FINE 2405 - Introduction to Digital Design
- FINE 3001 - Digital Illustration Studio
- FINE 3002 - Spatial Draw for Illustrators
- FINE 3260 - Portraiture
- FINE 3300 - Painting, Drawing and the Printed Image
- FINE 4001 - Adv Illustration Studio I
- FINE 4002 - Adv Illustration Studio II
- FINE 4003 - Adv Illustration Studio III
- FINE 4020 - Anatomy for the Artist

____ - Upper-division Art History Elective (3 semester hours)
____ - Studio Arts Electives (6 semester hours)
____ - Visual Arts Electives (6 semester hours) *May include studio, lecture, internship or art history*

Total: 57 Hours

Painting/Drawing Emphasis Courses

The painting and drawing emphasis takes a contemporary approach that works to integrate painterly and drawing concerns with focused artistic practice and developing critical dialogue. As a studio discipline, painting and drawing is as rich in visual arts history as it is charged with contemporary innovation. Painting and drawing as a studio practice encourages a multi-faceted dialogue within this continuum. Students are introduced to a variety of techniques and ideas, exposed to several art-historical and contemporary practices, and are challenged to develop a studio process that involves both formal and conceptual impact. Painting and drawing classes are interdisciplinary in that they allow the use of multiple materials and/or techniques in the

production of a successful art piece or body of work. Students come away with a strong studio skill base, an engaged conceptual framework, and an ability to take part in the exciting discourse of contemporary painting and drawing.
Students who are applying for entrance into the painting and drawing emphasis are required to submit a written statement, a portfolio of images and unofficial transcript(s) from CU Denver and all previous post-secondary educational institutions. The painting and drawing course sequence starts in fall semester. Students who meet the following requirements can apply. Upon acceptance students will be able to register for upper-division courses in painting and drawing.

ELIGIBILITY

University of Colorado Denver Students

The student has completed, or is in the process of completing, the following courses:

- FINE 1100 - Drawing I
- FINE 1400 - Two Dimensional Design
- FINE 1500 - Three-Dimensional Design
- FINE 2015 - Intermedia Foundations
- FINE 2030 - Life Drawing
- FINE 2600 - Art History Survey I
- FINE 2610 - Art History Survey II

A minimum cumulative fine arts/art history GPA of 2.75

Transfer Students

The student has completed and is transferring a minimum of 24 credit hours from a previous institution.

Student has completed or is in the process of completing the equivalents of the following courses:

- FINE 1100 - Drawing I
- FINE 1400 - Two Dimensional Design
- FINE 1500 - Three-Dimensional Design
- FINE 2030 - Life Drawing
- FINE 2600 - Art History Survey I

A minimum cumulative fine arts/art history GPA of 2.75

PORTFOLIO REQUIREMENTS

Students applying to the painting and drawing emphasis should submit a CD or DVD to the area head of painting, drawing and illustration, Mary K. Connelly, in room 815G of the CU Building, 1250 14th Street. The CD or DVD is due by 5 p.m. on November 1, or on the following business day if the deadline falls on a weekend or holiday. The CD or DVD should include contact information and an email address for notification for the results of the portfolio review. Late submissions will not be accepted.

(NOTE: Portfolio submissions may switch to an online process; please consult Mary Connelly at mary.connelly@ucdenver.edu for details and updates before submitting your portfolio.)

The CD or DVD must include the following:

Portfolio of Images

- The portfolio must include 10, but no more than 15, examples of creative work. At least six portfolio images must be drawings done from life (examples from FINE 1100 Drawing I and FINE 2030 Life Drawing—still life, perspective and figure drawings). Also provide at least two portfolio pieces that demonstrate an understanding of color. Additional examples may be in the form of design, drawing, painting and printmaking.
- Image list (Word doc) with title, year, media and size, and a brief explanation of each artwork. All images should be formatted as JPEGs. Limit file size to 1 megabyte. File names should correspond to the list, be numbered, include the student's last name, and then an underscore and a brief title/description.
  Examples:
  1_Connelly_Figurecharcoal.jpeg
  2_Connelly_StillLifeacrylic.jpeg

Written Statement

The written statement must also be saved to the disk. Please address the following in a clear, detailed essay no more than one page in length (or 500 words).

- The applicant should describe why he or she would like to study painting and drawing, and what goals and expectations the applicant has regarding a career as an artist.
- Include any special considerations that would be useful for the committee in making a decision, such as Dean's List, GPA, internships, art-related extracurricular activities or relevant professional experience.
- The applicant should identify his or her creative strengths and areas that need further development.

Course Transcripts

These may be official or unofficial transcripts from CU Denver and previous post-secondary institutions.

The Evaluation Process

- A committee of painting and drawing faculty members reviews the portfolio packets. Acceptance into the painting and drawing emphasis is based on the portfolio images, written statement and GPA.
- If not admitted into the painting and drawing emphasis, a student has the choice of attempting the review process again the following year or selecting another

emphasis. Students are encouraged to schedule a meeting with the area head of painting and drawing to learn ways to improve their portfolios for future submissions.

The application is evaluated on the following criteria:

- **Presentation** - The portfolio should be well crafted and well organized in content and presentation.
- **Technical Skill** - The portfolio should demonstrate strong proficiency in drawing, composition, design and color.
- **Creativity** – The portfolio should demonstrate creative choices in content and aesthetics.
- **Conceptual Skills** - The portfolio and written statements should reflect analytical thinking and conceptual exploration of the foundations of drawing and design.
- **Written Statement** - The statement should outline academic and artistic goals, addressing any potential strengths and weaknesses.
- **Academic Performance** - The grades must reflect a commitment to learning and growth.
- All required documentation included (images, written statement and transcripts).

Questions

Please contact CAMadvising@ucdenver.edu for emphasis and portfolio information, or contact painting/drawing area head Mary K. Connelly at mary.connelly@ucdenver.edu.

Painting/Drawing Emphasis Course Requirements

- FINE 2010 - The Graphic Novel Workshop
- FINE 2015 - Intermedia Foundations
- FINE 2030 - Life Drawing
- FINE 2200 - Painting I
- FINE 3030 - The Media of Drawing
- FINE 3050 - Figure Painting
- FINE 3200 - Intermediate Painting and Drawing I
- FINE 3210 - Intermediate Painting and Drawing II
- FINE 3240 - Abstract Painting and Drawing
- FINE 3300 - Painting, Drawing and the Printed Image
- FINE 4100 - Painting & Drawing Theory & Practice
- FINE 4200 - Advanced Painting and Drawing I
- FINE 4210 - Advanced Painting/Drawing II
- FINE 4950 - Studio BFA Thesis

____ - Upper-division Art History Elective (3 semester hours)
____ - Studio Arts Electives (6 semester hours) *FINE 3400 Intro to Web Design or FINE 3405 Intro to Digital Video is strongly recommended.*
____ - Visual Arts Electives (6 semester hours) *May include studio, lecture, internship or art history*

Total: 57 Hours

Photography Emphasis Courses

Students in the photography emphasis develop technical skills in traditional and digital photographic practice while refining creative and conceptual approaches to the medium. The photography curriculum emphasizes individual artistic development while integrating the history of photography as well as contemporary work and critical theory. Through an exploration of a variety of photographic methods, students are given the tools to create visually compelling photographs that communicate their artistic ideas.

Students who apply for entrance into the photography emphasis must submit a written statement, a portfolio of images, and unofficial transcript(s) from CU Denver and all previous post-secondary educational institutions. Students who meet the following requirements and are accepted into the emphasis will be eligible to register for upper-division photography courses.

ELIGIBILITY

University of Colorado Denver students and transfer students must have a minimum cumulative GPA of 2.75 in fine art and art history courses. In order to apply to the photography emphasis, students must have completed, or be in the process of completing, the following courses:

FINE 1100 - Drawing I

FINE 1150 - Introduction to Darkroom Photography

FINE 1400 - Two Dimensional Design

FINE 2155 - Introduction to Digital Photography

FINE 2600 - Art History Survey I

PORTFOLIO REQUIREMENTS

Students applying to the emphasis should submit a CD or DVD to the area head of photography, Carol Golemboski, in room 815M of the CU Building. The CD or DVD is due by 5 p.m. on November 1, or on the following business day if the deadline falls on a weekend or holiday. The CD or DVD must include contact information and an email address for notification of the results of the portfolio review. Late submissions will not be accepted.
(NOTE: Portfolio submissions may switch to an online process; please consult Carol Golemboski (carol.golemboski@ucdenver.edu) for details and updates before submitting your portfolio.)

The CD or DVD must include the following:

Portfolio of Images

- The portfolio must include 10 examples of creative work. At least six portfolio images should be photographic (three images from Introduction to Darkroom Photography and three images from Introduction to Digital Photography). Additional examples may be in the form of design, drawing, sculpture, installation, painting and/or video.

- All portfolio images must include a brief explanation of the concept and creative process behind each piece.
- All images should be formatted as JPEGs.

Written Statement

The written statement must address the following in a clear, detailed essay no more than two pages in length.

- The applicant should describe why he or she would like to be in the photography emphasis and what goals and expectations the applicant has regarding photography as a career. Include any special considerations that would be useful for the committee in making a decision, such as a high GPA, art-related extracurricular activities or relevant professional experience.
- The applicant should reflect on the artists and photographers who have influenced his or her artistic interests. Reference at least two examples of their work, discussing both form and content.
- The applicant should identify his or her creative strengths and areas that need further development.

Course Transcripts

These may be official or unofficial transcripts from CU Denver and previous post-secondary institutions.

The Evaluation Process

- A committee of photography faculty members reviews the portfolio packets. Acceptance into the photography emphasis is based on the portfolio images, written statement and GPA.
- If not admitted into the photography emphasis, a student has the choice of attempting the review process again the following year or selecting another emphasis. Students not admitted into the photography emphasis are encouraged to schedule a meeting with the area head of photography to learn ways to improve their portfolios for future submissions.

The application is evaluated on the following criteria:

- **Presentation** - The portfolio should be well crafted and well organized in content and presentation.
- **Technical Skill** - The portfolio should demonstrate strong knowledge of the fundamental tools of photography including camera functions, analog film development and printing, digital imaging, as well as an understanding of design, form, composition and color.
- **Creativity** – The portfolio should demonstrate creative choices in content and aesthetics.

- **Conceptual Skills** - The portfolio and written statements should reflect analytical thinking and conceptual exploration of the photography medium.
- **Written Statement** - The statement should outline academic and artistic goals, addressing any potential strengths and weaknesses.
- **Academic Performance** - The grades must reflect a commitment to learning and growth.
- All required documentation included (images, written statement and transcripts).

Questions

Please contact CAMadvising@ucdenver.edu for emphasis and portfolio information, or contact photography area head Carol Golemboski at carol.golemboski@ucdenver.edu

Photography Emphasis Course Requirements

- FINE 1150 - Introduction to Darkroom Photography
- FINE 2015 - Intermedia Foundations
- FINE 2155 - Introduction to Digital Photography
- FINE 3160 - Color and Studio Lighting
- FINE 3161 - The Silver Fine Print
  Note: must be completed before 3171
- FINE 3162 - The Digital Fine Print
  Note: must be completed before 3172
- FINE 3171 - Concepts and Processes in Photography
- FINE 3172 - Digital Bookmaking
- FINE 3630 - History of Photography
- FINE 3631 - Photography: Theory and Criticism
- FINE 3635 - Photography Now
- FINE 4195 - Advanced Photography I
- FINE 4196 - Advanced Photography II
- FINE 4950 - Studio BFA Thesis

____ - Studio Arts Electives (9 semester hours)
____ - Visual Arts Electives (6 semester hours) *May include studio, lecture, internship or art history*

Total: 57 Hours

Sculpture Emphasis Courses

Portfolio review is not required for admission to the sculpture emphasis.

- FINE 2015 - Intermedia Foundations
- FINE 2500 - Bronze Casting and Metal Sculpture
- FINE 2510 - Wood and Metal Sculpture
- FINE 3500 - Modeling and Casting the Figure
- FINE 3510 - Installation Art
- FINE 3515 - Public Art
- FINE 3525 - Environmental Sculpture
- FINE 3530 - Iron Casting

- FINE 3535 - Sculpture Rendering
- FINE 4500 - Kinetic Sculpture
- FINE 4505 - Performance Art
- FINE 4510 - Advanced Sculpture
- FINE 4950 - Studio BFA Thesis

____ - Upper-division Art History Elective (3 semester hours)
____ - Studio Arts Electives (9 semester hours)
____ - Visual Arts Electives (6 semester hours) *May include studio, lecture, internship or art history*

Total: 57 Hours

Transmedia Emphasis Courses

Portfolio review is not required for admission to the transmedia emphasis.

- FINE 2015 - Intermedia Foundations
- FINE 2405 - Introduction to Digital Design
- FINE 2510 - Wood and Metal Sculpture
- FINE 3400 - Introduction to Web Design and Digital Imaging
- FINE 3405 - Introduction to Digital Video
- FINE 3434 - 3D Motion Design
- FINE 3438 - Text, Image and Electronic Art
- FINE 3474 - Narrative and Experience
- FINE 3510 - Installation Art
- FINE 3535 - Sculpture Rendering
- FINE 4434 - Virtual Landscapes
- FINE 4500 - Kinetic Sculpture
- FINE 4510 - Advanced Sculpture
- FINE 4950 - Studio BFA Thesis

____ - Upper-division Art History Elective (3 semester hours)
____ - Studio Arts Electives (9 semester hours)
____ - Visual Arts Electives (3 semester hours) *May include studio, lecture, internship or art history*

Total: 57 Hours

French BA

The French program offers courses in advanced language, linguistics, literature, civilization, culture and business, all taught exclusively in French. A minor is also offered. All French majors are strongly encouraged to participate in a study abroad program. Please see your French department advisor for information about opportunities to include study abroad as part of your major.

Admission and Grade Requirements

To be admitted to major status in French, students must have an overall GPA of *C*+ (2.3). The minimum grade acceptable in any French course applied to a French major is *C* (2.0). The grade point average in all courses applied to a French major at CU Denver must be 2.5. No courses taken on a pass/fail basis may be credited toward a French major. Upon declaring a major in French, each student will be assigned to a faculty advisor with whom the student should consult at least once per semester thereafter. It is especially important that students have their transcripts reviewed by their advisor before enrolling in their final 30 credit hours at CU Denver. Failure to do so may result in delay of graduation. Students presenting four years of high school French (Level IV) for admission to CU Denver must see a French advisor before enrolling in courses for the major. Students with advanced placement credits from high school must see a French advisor about course equivalencies. The Department of Modern Languages does not accept CLEP credits.

Honors in French

Qualified majors will automatically graduate with regular honors in French. Faculty occasionally nominate students for extra course work leading to higher levels of honors in French. For information, consult the French advisor in the Department of Modern Languages.

Outcomes Assessment

During their final semester in the language, French major students participate in an oral proficiency interview and take a written outcomes assessment exam to measure their level of proficiency and mastery of key concepts.

Residency Requirement

All students majoring in French must complete 30 semester hours of upper-division French courses (courses numbered 3000 and above). A minimum of 18 of those semester hours must be taken from the faculty in French at CU Denver. Courses taken at other institutions while a student is enrolled at CU Denver may be applied to the major only with departmental approval before enrollment in those courses. Students studying French for the professions must also take courses in other areas. Requirements for both tracks are outlined below.

Course Requirements for the Major

Track A: Language, Literature and Culture

Students wishing to improve their linguistic skills as well as their knowledge of Francophone literature and culture may choose this track.

Required Courses

- FREN 3010 - French Phonetics and Pronunciation
- FREN 3020 - Oral Practice
- FREN 3050 - Advanced Grammar and Composition
- FREN 3060 - Advanced French Language Skills

Total: 12 Hours

Electives

Three courses at the 4000 level: **9 semester hours**

Three electives at 3000 or 4000 level: **9 semester hours**

Note: students must take at least one literature course and at least one culture or civilization course.

Total: 18 Hours

Track A Major Total: 30 Hours

Track B: International Language and Culture for the Professions

This option in the French major offers career possibilities, both in government and private industry, at home and abroad. Languages are useful in business, industry, commerce, civil service, law, library science, media, science, economics, health and social sciences. Students who follow this course of study could also qualify as teachers of general business subjects in bilingual as well as traditional school systems. Students interested in this track should contact the French advisor in the Department of Modern Languages as early as possible in their academic career, but not later than the second semester of the sophomore year.

Prerequisites

(these courses do not count toward the major total of 48 hours)

- ECON 2012 - Principles of Economics: Macroeconomics
- ECON 2022 - Principles of Economics: Microeconomics
- MATH 1070 - Algebra for Social Sciences and Business
- -OR- MATH 1110 - College Algebra
  (or higher level math course)

Required French Courses

- FREN 1000 - Introduction to Cultures of the French- Speaking World
- FREN 3020 - Oral Practice
- FREN 3050 - Advanced Grammar and Composition
- FREN 3060 - Advanced French Language Skills
- FREN 3112 - Survey of French Literature I
- -OR- FREN 3122 - Survey of French Literature II
- FREN 3130 - Current Topics of the French-Speaking World
- -OR- FREN 3140 - Contemporary Francophone Cultures
- FREN 4050 - Advanced French for Business
- FREN 4082 - Introduction to Translation
- FREN 4210 - French Civilization - Twentieth and Twenty-First Centuries

Total: 27 Hours

French Electives

Choose two (at least one at 4000 level) from:

- FREN 3120 - French Cultural Identities: Myths and Realities
- FREN 3130 - Current Topics of the French-Speaking World
- FREN 3140 - Contemporary Francophone Cultures
- FREN 4200 - French Civilization Through the Nineteenth Century
  Any 3000- or 4000-level literature course (not already taken from required list)

Total: 6 Hours

Business Courses

(please be aware of prerequisites in business course descriptions)

- ACCT 2200 - Financial Accounting and Financial Statement Analysis
- MGMT 1000 - Introduction to Business
- MGMT 3000 - Managing Individuals and Teams
- MKTG 3000 - Principles of Marketing
  One 3000-level course in international business

Total: 15 Hours

Recommended

Official proficiency exam (Paris Chamber of Commerce)

Track B Major Total: 48 Hours

Secondary Foreign Language Teacher Licensure Program

With this option, students complete a major in French along with additional course work required for certification to teach French in the public schools. This program should be chosen early in the students' careers. See the description of Undergraduate Teacher Licensure on the School of Education & Human Development (SEHD) Urban Community Teacher Education program page for more information. You may also contact the CLAS Advising Office (phone 303-556-2555 or visit North Classroom, 4002) and the French advisor for more information.

Geography BA

Requirements for Major in Geography

Students must declare a major by the time they have completed 60 semester hours of course work. The geography program (within the Department of Geography and Environmental Sciences) offers a BA degree that includes a full range of courses in the fundamentals of geography taught mainly by full-time faculty. Five degree options are available for the major in geography: general, environmental science, environmental studies, urban studies and planning and earth science. Total semester-hour requirements vary among the five options, but all options require a minimum of 24 hours of upper-division credit. In addition, for each option, at least 15 semester hours must be taken at CU Denver.

- Option 1—General Geography
- Option 2—Environmental Science
- Option 3—Environmental Studies
- Option 4—Urban Studies and Planning
- Option 5—Earth Science

Option 1—General Geography

Option Advisors: Frederick B. Chambers and Brian Page

OPTION 1 REQUIREMENTS

Lower division

- GEOG 1202 - Introduction to Physical Geography
- GEOG 1302 - Introduction to Human Geography
- GEOG 2080 - Introduction to Mapping and Map Analysis

Upper division

- GEOG 3232 - Weather and Climate
- GEOG 3411 - Globalization and Regional Development
- GEOG 4080 - Introduction to GIS

Total: 18 Hours

ADDITIONAL REQUIREMENTS

Choose six additional courses, **including at least one course from each of the following subfields**:

Physical Geography

- GEOG 3240 - Colorado Climates
- GEOG 3302 - Water Resources
- GEOG 4010 - Landscape Geochemistry
- GEOG 4020 - Earth Environments and Human Impacts
- GEOG 4240 - Geomorphology
- GEOG 4270 - Glacial Geomorphology
- GEOG 4280 - Environmental Hydrology

Human Geography

- ENVS 1342 - Environment, Society and Sustainability
- GEOG 1602 - Introduction to Urban Studies
- GEOG 2202 - Natural Hazards
- GEOG 3300 - Population and Resources in the World Environment
- GEOG 3401 - Geography of Food and Agriculture
- GEOG 3430 - Geography of Tourism
- GEOG 3440 - Ecotourism
- GEOG 3501 - Geography of Health
- GEOG 4265 - Sustainability in Resources Management
- GEOG 4335 - Contemporary Environmental Issues
- GEOG 4350 - Environment and Society in the American Past
- GEOG 4420 - The Politics of Nature
- GEOG 4440 - Science, Policy and the Environment
- GEOG 4450 - Urban Food and Agriculture: Perspectives and Research
- GEOG 4640 - Urban Geography: Denver and the U.S.
- GEOG 4680 - Urban Sustainability: Perspectives and Practice
- GEOG 4710 - Disasters, Climate Change, and Health

Regional Geography

- GEOG 1102 - World Regional Geography
- GEOG 3100 - Geography of Colorado
- GEOG 3120 - Geography of Europe
- GEOG 3130 - Central America and the Caribbean
- GEOG 3140 - Geography of South America
- GEOG 3150 - Middle East
- GEOG 3160 - Geography of China

Techniques for Geographical Analysis

- GEOG 4060 - Remote Sensing I: Introduction to Environmental Remote Sensing

- GEOG 4070 - Remote Sensing II: Advanced Remote Sensing
- GEOG 4081 - Cartography and Computer Mapping
- GEOG 4085 - GIS Applications for the Urban Environment
- GEOG 4090 - Environmental Modeling with Geographic Information Systems
- GEOG 4095 - Deploying GIS Functionality on the Web
- GEOG 4220 - Environmental Impact Assessment
- GEOG 4230 - Hazard Mitigation and Vulnerability Assessment
- GEOG 4235 - GIS Applications in the Health Sciences
- GEOG 4770 - Applied Statistics for the Natural Sciences

Total: 18 Hours

OPTION TOTAL: 36 HOURS

Option 2—Environmental Science

Option Advisor: Frederick B. Chambers and Casey Allen

Option 2 allows geography majors to concentrate on course work in environmental science.

ANCILLARY COURSES

Option 2 students must take one general biology and one general chemistry course (both with labs), OR a sequence of either (BIOL 2051 and 2061 with labs or CHEM 2031 and 2061 with labs). If applying to the MS in Environmental Sciences program, students must have taken both sequences. Course choices with descriptions are below:

- BIOL 2051 - General Biology I
- *and* BIOL 2071 - General Biology Laboratory I
  (4 semester hours total), followed by:
- BIOL 2061 - General Biology II
- *and* BIOL 2081 - General Biology Laboratory II
  (4 semester hours total)
- CHEM 2031 - General Chemistry I
- *and* CHEM 2038 - General Chemistry Laboratory I
  (4 semester hours total), followed by:
- CHEM 2061 - General Chemistry II
- *and* CHEM 2068 - General Chemistry Laboratory II
  (5 semester hours total)

OPTION 2 REQUIREMENTS

Lower division

- ENVS 1042 - Introduction to Environmental Sciences
- GEOG 1202 - Introduction to Physical Geography

- GEOG 1302 - Introduction to Human Geography
- -OR- ENVS 1342 - Environment, Society and Sustainability
- GEOG 2080 - Introduction to Mapping and Map Analysis

Upper division

- GEOG 3232 - Weather and Climate
- GEOG 3411 - Globalization and Regional Development
- -OR- GEOG 4335 - Contemporary Environmental Issues
- GEOG 4080 - Introduction to GIS

Total: 22 Hours

ADDITIONAL REQUIREMENTS

Choose six additional courses:

Environmental Science

- GEOG 4020 - Earth Environments and Human Impacts
- GEOG 4265 - Sustainability in Resources Management

Plus one class from the following list:

- ENVS 3082 - Energy and the Environment
- GEOG 3240 - Colorado Climates
- GEOG 4010 - Landscape Geochemistry
- GEOG 4240 - Geomorphology
- GEOG 4270 - Glacial Geomorphology
- GEOG 4280 - Environmental Hydrology
- GEOL 4030 - Environmental Geology

Upper-Division Environmental-Oriented Biology or Chemistry (3 Hours)

One upper-division biology or chemistry course related to the student's environmental science interest must be taken as part of the environmental science option.

Techniques for Environmental Analysis

Quantitative methods (choose one course from the following):

- ANTH 4050 - Quantitative Methods in Anthropology
- GEOG 4770 - Applied Statistics for the Natural Sciences
- -OR- GEOL 4770 - Applied Statistics for the Natural Sciences
- MATH 2830 - Introductory Statistics
- PSYC 2090 - Statistics and Research Methods

- SOCY 3121 - Statistics

Geo-Spatial Analysis (choose one course from the following):

- GEOG 4060 - Remote Sensing I: Introduction to Environmental Remote Sensing
- GEOG 4085 - GIS Applications for the Urban Environment
- GEOG 4090 - Environmental Modeling with Geographic Information Systems
- GEOG 4230 - Hazard Mitigation and Vulnerability Assessment
- GEOG 4235 - GIS Applications in the Health Sciences

Total: 18 Hours

OPTION TOTAL: 40 HOURS

Option 3—Environmental Studies

Option Advisors: Rafael Moreno, Deborah Thomas and Gregory Simon

Option 3 gives geography majors the opportunity to concentrate on the topic of human-environmental interaction, emphasizing environmental policy, sustainability and social issues.

OPTION 3 REQUIREMENTS

Lower division

- ENVS 1042 - Introduction to Environmental Sciences
- ENVS 1342 - Environment, Society and Sustainability
- GEOG 1302 - Introduction to Human Geography
- GEOG 2080 - Introduction to Mapping and Map Analysis

Upper division

- GEOG 3232 - Weather and Climate
- GEOG 3411 - Globalization and Regional Development
- GEOG 4080 - Introduction to GIS

Total: 22 Hours

ADDITIONAL REQUIREMENTS

Choose six additional courses:

Environmental Studies

Choose three courses from the following:

- GEOG 3300 - Population and Resources in the World Environment
- GEOG 3302 - Water Resources

- GEOG 3401 - Geography of Food and Agriculture
- GEOG 3440 - Ecotourism
- GEOG 3501 - Geography of Health
- GEOG 4335 - Contemporary Environmental Issues
- GEOG 4350 - Environment and Society in the American Past
- GEOG 4420 - The Politics of Nature
- GEOG 4450 - Urban Food and Agriculture: Perspectives and Research
- GEOG 4680 - Urban Sustainability: Perspectives and Practice

Environmental Policy and Planning

Choose two courses from the following:

- GEOG 4220 - Environmental Impact Assessment
- GEOG 4230 - Hazard Mitigation and Vulnerability Assessment
- GEOG 4260 - Natural Resource Planning and Management
- GEOG 4265 - Sustainability in Resources Management
- GEOG 4440 - Science, Policy and the Environment
- GEOG 4710 - Disasters, Climate Change, and Health

Techniques for Environmental Analysis

Choose one course from the following:

- GEOG 4060 - Remote Sensing I: Introduction to Environmental Remote Sensing
- GEOG 4070 - Remote Sensing II: Advanced Remote Sensing
- GEOG 4081 - Cartography and Computer Mapping
- GEOG 4085 - GIS Applications for the Urban Environment
- GEOG 4090 - Environmental Modeling with Geographic Information Systems
- GEOG 4095 - Deploying GIS Functionality on the Web
- GEOG 4235 - GIS Applications in the Health Sciences
- GEOG 4770 - Applied Statistics for the Natural Sciences

Community/Professional Experience

(optional but highly recommended)

- GEOG 3939 - Internship
- -OR- GEOG 4995 - Travel Study

Total: 18 Hours

OPTION TOTAL: 40 HOURS

Note: Up to 4 semester hours of honors thesis course work or up to 3 semester hours of internships may be counted toward the 18 hours of additional requirements. Such substitutions must be approved by a program option advisor.

Option 4—Urban Studies and Planning

Option Advisors: Brian Page and Amanda Weaver

Option 4 allows geography majors to concentrate on social and spatial aspects of metropolitan growth and change. Students are given the opportunity to take advanced planning courses in their junior and senior years.

OPTION 4 REQUIREMENTS

Lower Division

- GEOG 1202 - Introduction to Physical Geography
- GEOG 1302 - Introduction to Human Geography
- GEOG 1602 - Introduction to Urban Studies
- GEOG 2080 - Introduction to Mapping and Map Analysis

Upper division

- GEOG 3232 - Weather and Climate
- GEOG 3411 - Globalization and Regional Development
- GEOG 4080 - Introduction to GIS

Total: 21 Hours

ADDITIONAL REQUIREMENTS

Choose six additional courses:

Urban Studies, both of the following (4000 or 5000 level):

- GEOG 4640 - Urban Geography: Denver and the U.S.
- GEOG 4680 - Urban Sustainability: Perspectives and Practice

Urban Planning (choose three courses from the following list):

- GEOG 4000 - Planning Methods I
- GEOG 4220 - Environmental Impact Assessment
- GEOG 4230 - Hazard Mitigation and Vulnerability Assessment
- GEOG 4260 - Natural Resource Planning and Management
- GEOG 4265 - Sustainability in Resources Management
- GEOG 4400 - Regional Economic Development
- GEOG 4450 - Urban Food and Agriculture: Perspectives and Research
- GEOG 4630 - Transportation Planning I: Transport Network Analysis
- GEOG 4670 - Transportation Planning II: Urban Transportation Planning
- GEOG 4710 - Disasters, Climate Change, and Health

Techniques for Urban Analysis

Choose one course from the following:

- GEOG 4060 - Remote Sensing I: Introduction to Environmental Remote Sensing
- GEOG 4070 - Remote Sensing II: Advanced Remote Sensing
- GEOG 4081 - Cartography and Computer Mapping
- GEOG 4085 - GIS Applications for the Urban Environment
- GEOG 4090 - Environmental Modeling with Geographic Information Systems
- GEOG 4095 - Deploying GIS Functionality on the Web
- GEOG 4235 - GIS Applications in the Health Sciences

Community/Professional Experience

(optional but highly recommended)

- GEOG 3939 - Internship
- -OR- GEOG 4995 - Travel Study

Total: 18 Hours

OPTION TOTAL: 39 HOURS

Note: Up to 4 semester hours of honors thesis course work or up to 3 semester hours of internship may be counted toward the 18 hours of additional requirements. Such substitutions must be approved by a program option advisor.

Option 5—Earth Science

Option Advisor: Ryan Sincavage

Option 5 allows geography majors to concentrate on studying natural and physical processes within and on the surface of the planet.

OPTION 5 REQUIREMENTS

Lower division

- ENVS 1342 - Environment, Society and Sustainability
- -OR- GEOG 1302 - Introduction to Human Geography
- GEOL 1072 - Physical Geology: Surface Processes
- GEOL 1082 - Physical Geology: Internal Processes
- GEOG 2080 - Introduction to Mapping and Map Analysis

Upper division

- GEOG 3411 - Globalization and Regional Development
- -OR- GEOG 4335 - Contemporary Environmental Issues
- GEOG 4080 - Introduction to GIS

Total: 20 Hours

ADDITIONAL REQUIREMENTS

Choose six additional courses:

Earth Science

- GEOG 3232 - Weather and Climate
- GEOG 4240 - Geomorphology
- GEOL 3011 - Mineralogy
- GEOL 3421 - Sedimentation and Stratigraphy

Plus one of the following courses:

- GEOG 3240 - Colorado Climates
- GEOG 4010 - Landscape Geochemistry
- GEOG 4020 - Earth Environments and Human Impacts
- GEOG 4095 - Deploying GIS Functionality on the Web
- GEOG 4270 - Glacial Geomorphology
- GEOL 3032 - Geology of Colorado
- GEOL 4030 - Environmental Geology
- GEOL 4111 - Field Methods In Geology
- GEOL 4280 - Environmental Hydrology
- GEOL 4402 - Unsaturated Zone Hydrology

Techniques for Earth Science Analysis

Choose one course from the following:

- GEOG 4060 - Remote Sensing I: Introduction to Environmental Remote Sensing
- GEOG 4070 - Remote Sensing II: Advanced Remote Sensing
- GEOG 4090 - Environmental Modeling with Geographic Information Systems
- GEOG 4095 - Deploying GIS Functionality on the Web
- GEOG 4770 - Applied Statistics for the Natural Sciences
- -OR- GEOL 4770 - Applied Statistics for the Natural Sciences
- GEOL 4111 - Field Methods In Geology

Total: 20 Hours

OPTION TOTAL: 40 HOURS

NOTE: Any upper division course used to fulfill requirements for the geography major, option 5 cannot also be used for the geology minor.

History BA

The bachelor's degree in history provides students with firm grounding for advanced studies in education, librarianship, law, business and public service, as well as graduate work in the humanities and social sciences broadly. History is an all-inclusive discipline, making it an excellent choice for students with a wide variety of career goals.

For the BA in history, students must complete a minimum of 36 credit hours of history course work, with at least 18 history hours taken at the University of Colorado Denver. Additionally, majors must have at least 18 upper division (3000 and 4000) history credit hours, **of which 15 must be taken at the 4000 level, including HIST 4839, the History Seminar**. Not more than 48 hours of history will be counted toward graduation requirements. A student needs a cumulative grade point average of 2.5 or better in the major to graduate, and no grade below a *C* (2.0) will count toward major requirements to graduate.

Course Requirements

Required History Courses

- HIST 3031 - Theory and Practice of History: An Introduction to the Major
- HIST 4839 - History Seminar
  Students must complete HIST 3031 before enrolling in HIST 4839.

Total: 6 Hours

Distribution Requirement

A minimum of 6 semester hours in each of the following areas: United States, Europe and world (Africa, Asia, Latin America). At least 3 semester hours in each area must be upper-division (3000- and 4000-level).

Total: 18 Hours

Electives

The degree requires a minimum of 12 additional semester hours of electives, which can be satisfied by a combination of additional history courses, history internships, or history honors independent study for eligible students.

Total: 12 Hours

Major Total: 36 Hours

BA in History with Secondary Licensure

Students seeking secondary social studies teacher licensure may pursue a BA in history. This option enables them to complete their history major as well as fulfill requirements for licensure at the undergraduate level.

If you are interested in this option, you should meet with a CLAS advisor as soon as possible. You can complete your degree, including licensure, within a 4-year graduation plan, but only if you declare it early in your college career and meet regularly with your advisors.

To earn the professional teacher licensure, you will complete a major in history and then complete licensure courses in the School of Education & Human Development (SEHD). See Undergraduate Teacher Licensure on the SEHD Urban Community Teacher Education program page for more information. The licensure process requires that you be admitted into the SEHD to complete licensure classes. You will be working with your CLAS advisor through the application process.

Get to know your advisor! He/she is your guide through what can be a complex process dictated by the State of Colorado. Call 303-556-8316 for more information.

Human Resources Management Emphasis—BS in Business Administration

Human resources management offers opportunities for students to develop professional competence in the areas of personnel administration and development. Students acquire an understanding of, and skills in, developing and implementing human resources systems, including recruitment, selection, evaluation, training, motivation and compensation.

Required Course

- MGMT 3010 - Managing People for a Competitive Advantage

Electives

Choose two:

- MGMT 4420 - Human Resources Management: Staffing
- MGMT 4430 - Human Resources Management: Training
- MGMT 4440 - Human Resource Management: Performance Management
- MGMT 4450 - Human Resources Management: Compensation

Management Electives

Choose three:

Any MGMT course (up to 9 hours)

- ENTP 3000 - Principles of Entrepreneurship

Total: 18 Hours

Individually Structured Major BA

Requirements for the Major

The ISM program plan requires course work over two or three disciplines. A discipline is defined as a single department or program such as biology, ethnic studies or math. The ISM program plan must comply with the following policies:

- Between 48 and 54 semester hours are allowed for the program plan.
- A minimum of 16 semester hours must be upper-division credit.
- A minimum of 30 semester hours must be completed in liberal arts and sciences course work.
- Each discipline requires a minimum of 15 semester hours, of which at least 3 must be upper-division hours.
- A minimum of 6 semester hours in each discipline must be taken from CU Denver faculty.
- A maximum of one discipline may be outside CLAS.
- A third optional discipline may be a mixture of course work, excluding courses from the first and second disciplines.
- An ISM title must be consistent with the academic theme and disciplines in the program plan.

The ISM program plan contract is approved by faculty for each discipline and submitted along with a cover letter identifying the ISM focus or academic theme to the CLAS Advising Office, North Classroom, 4002, for college approval by the assistant/associate dean. The ISM program plan must be approved before one-third of the ISM course work is completed. Typically, a maximum of 16-18 hours of previously completed courses is allowed.

Graduation requirements for ISM students include a minimum 2.0 GPA for all ISM course work, a minimum 2.0 GPA in each discipline in the program plan and a minimum of 24 hours of course work taken from CU Denver faculty.

Information Systems Emphasis—BS in Business Administration

The information systems program at the University of Colorado Denver is a nationally accredited program for students who want to design and implement effective solutions to meet organizational and management needs for information, control and decision making.

An information systems (ISMG) emphasis draws on a diverse set of skills and strengths requiring creative and innovative thinking at the intersections of disciplinary knowledge and practice. Information systems students learn how information technology, effective teamwork and leadership and sound project management combine to enable innovation and change, to improve organizational agility and to add competive value. Courses require extensive hands-on projects, teamwork and use of high-end technology. A combination of technical skills gained in class work with broad based business process knowledge enables our graduates to be ideally situated to take leading roles in shaping the technology-based future of employers in the Rocky Mountain region and the nation.

Undergraduate options

The Business School at the University of Colorado Denver offers a bachelor of science in business administration where you may choose information systems as your primary core specialty:

- Information Systems, Bachelor of Science in Business Administration degree

Or you may choose to add an information systems speciality to another business discipline.

- Accounting and Information Systems emphasis
- Financial Management Systems emphasis
- Management and Information Systems emphasis
- Marketing and Information Systems emphasis

Career Opportunities

Careers in information systems continue to be one of the highest growth markets in the business world. A student completing the information systems program curriculum will be prepared for challenging careers as business analyst, database analyst, Web content manager, project manager, IT consultant and information auditing and compliance specialist. Employment possibilities include financial operations, health care, management consulting, service operations, transportation and logistics and government.

Information systems is becoming the foundation of all business activities, and a solid understanding of the role of information systems in business and in the national and global economy is now critical for every business student. The information systems emphasis focuses on effective use of information technology in business. You are equipped with logical and analytical thinking in all areas of business and a strong basis for continued career growth in a variety of growing professions. You will develop the technical skills, business know-how and administrative insights required for acquisition, deployment and management of IT resources

and services development, operation and evolution os IS infrastructure for use in accounting, finance, marketing, management and other business processes.

Curriculum

The courses emphasize both team and individual work, allowing students to gain critical thinking skills, knowledge and experience to analyze, design, program, implement and use information.

Requirements for the Information Systems emphasis

Lower Division

- ISMG 2050 - Introduction to Business Problem Solving (fall or spring)
- ISMG 2800 - Designing for the Web (spring)

Upper Division: Junior Year

- ISMG 3000 - Technology In Business
- ISMG 3500 - Enterprise Data and Content Management (fall)
- ISMG 3600 - System Strategy, Architecture and Design (spring)

Upper Division: Senior Year

- ISMG 4200 - Building Business Applications (fall)
- ISMG 4700 - Business Data Communications and Networking (spring)
- ISMG 4900 - Project Management and Practice (fall or spring)

Important note

It is particularly important to take the required courses in the proper squence to fulfill the prerequisites and ensure you can complete your degree within four years. Please refer to the sample degree plan for the recommended course sequence.

Information Systems Electives

- ACCT 4054 - Accounting Systems and Data Processing
- CSCI 2312 - Intermediate Programming
- CSCI 2421 - Data Structures and Program Design
- ISMG 4300 - Information Security and Compliance
- ISMG 4750 - Business Intelligence and Financial Modeling
- ISMG 4760 - Customer Relationship Management

Specialization in a minor area

You may also choose a secondary business minor area to support your career objectives.

Accounting

Choose two from the following:

- ACCT 4054 - Accounting Systems and Data Processing
- ACCT 3220 - Intermediate Financial Accounting I
- ACCT 3230 - Intermediate Financial Accounting II
- ACCT 4780 - Accounting and Information Systems Processes and Controls

Finance

Choose two from the following:

- FNCE 3500 - Management of Business Capital
- FNCE 3700 - Investment and Portfolio Management
- FNCE 3600 - Financial Markets and Institutions
- FNCE 4750 - Business Intelligence and Financial Modeling

Human Resource Management

Choose two from the following:

- MGMT 3010 - Managing People for a Competitive Advantage
- MGMT 4420 - Human Resources Management: Staffing
- MGMT 4430 - Human Resources Management: Training
- MGMT 4450 - Human Resources Management: Compensation
- MGMT 4770 - Human Resource Information Systems

Management

Choose two from the following:

- MGMT 4350 - Leading Organizational Change
- MGMT 4370 - Organization Design
- MGMT 4400 - Environments of International Business

Marketing

Choose two from the following:

- MKTG 3100 - Marketing Research
- MKTG 3200 - Buyer Behavior
- MKTG 4050 - Applied Marketing Management

- MKTG 4760 - Customer Relationship Management

NOTE:

All information systems courses are not offered every semester.

International Business Emphasis—BS in Business Administration

Increasingly, businesses are reorienting their thinking, planning and operations to capitalize on opportunities that exist in the world marketplace. Every phase of business is affected by this reorientation. For individuals with the appropriate skills, training and interest, international business provides excellent career opportunities.

The international business curriculum is designed to enhance and build on thorough training in basic business skills and to provide students with additional skills and knowledge appropriate to international business.

Required Foundation Courses

- MGMT 4370 - Organization Design
- MKTG 4050 - Applied Marketing Management

Required Emphasis Courses

- FNCE 4370 - International Financial Management
- MGMT 4400 - Environments of International Business
- MGMT 4410 - Operations of International Business
- MKTG 4200 - International Marketing

Total: 18 Hours

A second area of emphasis in business is highly recommended. In addition, serious consideration should be given to advanced study of a foreign language and to either a minor or a certificate in international affairs, offered by the College of Liberal Arts and Sciences.

Elective Business Emphasis Courses (9 semester hours)

- Three business courses (3000 or 4000 level), 3 semester hours each

Students are strongly recommended to take courses within the same business discipline, including internationally-oriented courses within the discipline such as MKTG 4220 - Asian Business Development and Marketing and ACCT 4370 - International Accounting.

International Studies BA

Program Requirements

The major consists of 48 to 51 semester hours, structured as follows:

- complete 9 semester hours from a list of introductory courses listed below
- choose three thematic concentrations from the following five:
  language and culture, international relations and comparative politics, economics and development, international commerce, and regional societies and history. Majors complete 12 hours in each theme (except international commerce, which requires 15). Below is a list of preapproved courses in each concentration. Students wishing to apply courses not on the list may do so with the approval of the program director.
- a capstone seminar (3 semester hours) for students in their last year
- the major is interdisciplinary, and students must take classes in at least three different disciplines (anthropology, economics, geography, history, international commerce/business, modern languages, political science or religious studies). No more than 18 hours in any one discipline will be accepted toward the major.
- students are expected to develop a regional specialization. They must choose courses from the introductory and thematic concentration lists that contribute to an understanding of a world region.
- all international studies majors must demonstrate a proficiency in a language other than English. This may be fulfilled with the fourth semester of a foreign language course sequence. Students must receive a grade of *C* or better in all language courses; they also have the option of testing out of this requirement.
- majors must complete at least half (24 hours) of the semester hours at CU Denver. A cumulative GPA of 2.5 or better is required, with a minimum grade of *C-* earned in all major courses to graduate.

Required Courses

Introductory Courses

Choose one course from each of the following three groups:

Choose one:

- ECON 2012 - Principles of Economics: Macroeconomics
- GEOG 1102 - World Regional Geography

Choose one:

- INTB 3000 - Global Perspectives
- PSCI 3022 - Introduction to Comparative Politics
- PSCI 3042 - Introduction to International Relations

Choose one:

- ANTH 2102 - Culture and the Human Experience
- HIST 3451 - Introduction to African History
- HIST 3460 - Introduction to Latin American History
- HIST 3470 - Introduction to Asian History
- HIST 3480 - Introduction to European History
- HIST 3483 - Introduction to Modern South Asia
- RLST 2660 - World Religions

Total: 9 Hours

Thematic Concentrations

Students must take a minimum of four upper-division courses in each of three of the following five concentrations, for a total of 36 semester hours (12 hours in each concentration). Please note that the concentration in international commerce requires five courses rather than four, for a total of 39 semester hours. The list below does not include all the international courses applicable to the major, only the ones frequently taught. It is expected to change as departments develop new courses and hire new faculty in different areas.

Note: Concentrations are interdisciplinary and are not the same as academic departments. Students must take courses in at least three different academic departments and no more than 18 semester hours in any one department.

Language, Culture and Literature

This concentration aims at deepening the student's understanding of the cultural underpinnings and worldviews of different societies.

Modern languages: any upper-division courses in the Department of Modern Languages except Methods of Teaching French/German/Spanish. We have not listed the courses individually because there are so many upper-division courses on world literature and culture available in modern languages.

- ANTH 3121 - Language, Culture, and Communication
- PHIL 4650 - Differing Concepts of God
- -OR- RLST 4400 - Differing Concepts of God
- RLST 4010 - Comparative Religious Systems

International Relations and Comparative Politics

Courses in this concentration stress comparative approaches, diplomacy and conflict resolution. Students will have an understanding of how different societies make decisions and manage international relations. How do other cultures conceive of and practice power?

- ANTH 4180 - The Nature of Power
- HIST 3121 - The World at War, 1914-1945
- HIST 4032 - Globalization in World History Since 1945
- HIST 4220 - U.S. Foreign Policy Since 1912
- HIST 4412 - Mexico and the United States: People and Politics on the Border
- HIST 4471 - The Second World War
- HIST 4475 - The Vietnam War
- * PSCI 3022 - Introduction to Comparative Politics
- * PSCI 3042 - Introduction to International Relations
- PSCI 4057 - Religion and Politics
- -OR- RLST 4500 - Religion and Politics
- PSCI 4105 - Comparative Politics: Europe
- PSCI 4146 - Indigenous Politics
- PSCI 4156 - The Arab-Israeli Peace Process
- PSCI 4185 - Corruption in the U.S. and Abroad
- PSCI 4216 - International Politics: Human Rights
- PSCI 4225 - Democracy and Democratization
- PSCI 4226 - The United Nations in World Affairs
- PSCI 4236 - American Foreign Policy
- PSCI 4266 - International Law
- PSCI 4286 - International Relations: War or Peace?
- PSCI 4726 - Russian and Chinese Foreign Policy
- PSCI 4736 - The Middle East in World Affairs
- PSCI 4807 - Political Violence
- PSCI 4995 - Travel Study

  * If not taken to fulfill the introductory major requirements.

Economics, Development and Environment

Students taking this concentration will develop an understanding of economic processes in an international context. The courses offer comparative approaches and cultural perspectives on development and environment.

Note: Students in this concentration must take ECON 2012 - Principles of Economics: Macroeconomics as one of their three introductory courses.

Required economics course

- ECON 2022 - Principles of Economics: Microeconomics

Choose three upper division courses from the following:

- ANTH 4010 - Medical Anthropology: Global Health
- ANTH 4070 - Culture of Development and Globalization
- ANTH 4170 - Culture and the Environment
- ANTH 4390 - Laboratory Methods in Archaeology

- ECON 4081 - Intermediate Macroeconomic Theory
- ECON 4230 - Law and Economics
- ECON 4410 - International Trade
- ECON 4420 - International Finance
- ECON 4540 - Environmental Economics
- ECON 4770 - Economic Development--Theory and Problems
- GEOG 3300 - Population and Resources in the World Environment
- GEOG 3411 - Globalization and Regional Development
- GEOG 3430 - Geography of Tourism
- GEOG 4265 - Sustainability in Resources Management
- INTB 3000 - Global Perspectives
- PSCI 4085 - Comparative Public Policy
- PSCI 4126 - Introduction to International Political Economy
- PSCI 4235 - Politics and Markets in Latin America
- PSCI 4248 - Gender, Globalization and Development
- PSCI 4326 - Advanced International Political Economy: Globalization
- PSCI 4365 - Global Ecological Crises
- PSCI 4555 - International Women's Resistance

International Commerce

The objective of this concentration is to give students an introduction to international business practices.

ECON 2012 and ECON 2022 are prerequisites for most of these courses. Note that the first three courses are prerequisites for MGMT 4400 and MKTG 4200. Students opting for this concentration must take both MGMT 4400 and MKTG 4200. Students must meet Business School entrance requirements for the international commerce concentration, with a 3.0 GPA overall or in the last 24 hours.

Note: This concentration requires 15 hours, not 12.

- ACCT 2200 - Financial Accounting and Financial Statement Analysis (MATH 1070 or MATH 1110 prerequisite and sophomore standing).
- * MGMT 3000 - Managing Individuals and Teams
- * MKTG 3000 - Principles of Marketing
- * MGMT 4400 - Environments of International Business
- * MKTG 4200 - International Marketing

* Students must have junior standing to take the 3000-level courses and must be formally admitted to the international studies program to take the 4000-level courses.

Regional Societies and History

Students in this concentration are expected to develop a historical understanding of how nations and political systems develop. To understand why international actors behave in a given way,

one needs to understand the historical background of those actors; this concentration will familiarize students with that background.

- ANTH 4995 - Travel Study
- GEOG 3120 - Geography of Europe
- GEOG 3130 - Central America and the Caribbean
- GEOG 3140 - Geography of South America
- GEOG 3150 - Middle East
- HIST 3350 - Colonial Latin America
- HIST 3500 - African History in Novels and Films
- HIST 3995 - Travel Study
- HIST 4027 - Enlightenment and Revolution
- HIST 4028 - Nations and Classes: 19th Century Europe
- HIST 4029 - Age of Anxiety in Europe
- HIST 4046 - Victorians and Victorianism
- HIST 4051 - Britain and The Empire
- HIST 4062 - Modern France, 1789 to the Present
- HIST 4071 - Modern Germany
- HIST 4074 - Post-War Germany
- HIST 4082 - Reform and Revolution in Russia: The 1860s to 1917
- HIST 4083 - Russia Since 1917
- HIST 4086 - Eastern Europe
- HIST 4303 - Sex and Gender in Modern Britain
- HIST 4411 - Modern Mexico
- HIST 4414 - Nationalism and State Building in Latin America, 1750-1850
- HIST 4415 - Social Revolutions in Latin America
- HIST 4421 - Modern China
- HIST 4451 - Southern Africa
- HIST 4455 - African Struggle for Independence
- HIST 4460 - The Islamic World's Golden Age
- HIST 4461 - The Modern Middle East
- HIST 4621 - Explorers and Exploration
- PSCI 4155 - Political Systems of the Middle East and North Africa
- PSCI 4165 - Islamic Politics and Culture
- -OR- RLST 3100 - Islamic Politics and Culture
- PSCI 4505 - Political System of Russia and Its Neighbors
- PSCI 4554 - Chicano and Latino Politics
- PSCI 4615 - Politics and Government of China
- RLST 3400 - Asian Philosophies and Religions
- -OR- PHIL 3666 - Asian Philosophies and Religions
- RLST 3500 - Religions of India
- RLST 3660 - Chinese Philosophy and Culture
- -OR- PHIL 3981 - Chinese Philosophy and Culture

International Studies Capstone Course

All majors must take a 3-semester-hour seminar focusing on a global issue. Currently the designated capstone courses are:

- HIST 4417 - Commodities and Globalization: Dessert in World History
- PSCI 4126 - Introduction to International Political Economy

Return to International Studies

Management Emphasis—BS in Business Administration

The management curriculum provides the foundation for careers in supervision and general management in a wide variety of organizations. It develops skills in management practice through an understanding of general management principles, individual and group behavior, organizational change and design and human resources management.

Required Foundation Courses

- MKTG 4050 - Applied Marketing Management

Required Emphasis Courses

- MGMT 3010 - Managing People for a Competitive Advantage
- MGMT 4330 - Mastering Management
- MGMT 4350 - Leading Organizational Change
- MGMT 4370 - Organization Design

Choose two:

Students may choose 9 hours Management elective courses.

Total: 21 Hours

Management/Information Systems (MGIS)

Within the management curriculum students can choose to add additional courses in information systems to complement their individual interests as well as prior education and work experiences.

Required Information System courses

- ISMG 3500 - Enterprise Data and Content Management
- ISMG 3600 - System Strategy, Architecture and Design
- ISMG 4900 - Project Management and Practice

Total: 9 Hours

Marketing Emphasis—BS in Business Administration

Marketing is concerned with directing the activities of the organization toward the satisfaction of customer wants and needs. This involves understanding customers, identifying those wants and needs that the organization can best serve, guiding the development of specific products or services, planning and implementing ways to take products or services to the market, securing the customer's order and finally, monitoring customer response in order to guide future activities.

In most organizations, marketing is a major functional area that provides a wide variety of career opportunities in such fields as personal selling and sales management, advertising and sales promotion, public relations, marketing research, physical distribution, product management, market management, marketing information systems and retail management. Increasingly, career opportunities exist in service businesses and nonprofit organizations.

Required Emphasis Courses

- MKTG 3100 - Marketing Research
- MKTG 4050 - Applied Marketing Management

  Elective Marketing courses: Any four 3000 or 4000-level and above MKTG prefixed courses (excluding any used to satisfy the international business or diversity requirements)

  Elective Business course: One 3000 or 4000-level or above business course

  Students are encouraged to meet with their advisers to discuss which electives can best help them meet their career goals.

Electives

Choose three: Students may select 3 memangement electives

- MKTG 3200 - Buyer Behavior
- MKTG 3300 - Social Media in Business
- MKTG 4000 - Advertising
- MKTG 4200 - International Marketing
- MKTG 4220 - Asian Business Development and Marketing
- MKTG 4250 - Sports Marketing
- MKTG 4580 - International Transportation
- MKTG 4700 - Personal Selling and Sales Management
- MKTG 4760 - Customer Relationship Management
- MKTG 4950 - Special Topics

Total: 21 Hours

In addition to the three required courses beyond the core, students may select marketing electives, business electives and nonbusiness electives that support their particular career orientations. The marketing faculty advisor can assist the student in choosing an appropriate set of electives to fit career objectives.

Marketing courses that were used to satisfy the international business requirement cannot be applied to the marketing area of emphasis.

Marketing/Information Systems (MKIS)

Within the marketing curriculum students can choose to add courses in information systems to complement their individual interests as well as prior education and work experiences.

Required Information System Courses

- ISMG 3500 - Enterprise Data and Content Management
- ISMG 3600 - System Strategy, Architecture and Design
- ISMG 4900 - Project Management and Practice

Required Emphasis Courses

- MKTG 3100 - Marketing Research
- MKTG 4050 - Applied Marketing Management
- ISMG 4760 - Customer Relationship Management
  or
- MKTG 4760 - Customer Relationship Management

Choose two:

- MKTG 3200 - Buyer Behavior
- MKTG 4000 - Advertising
- MKTG 4220 - Asian Business Development and Marketing
- MKTG 4700 - Personal Selling and Sales Management
- MKTG 4720 - Internet Marketing
- MKTG 4950 - Special Topics

Total: 24 Hours

Marketing courses that were used to satisfy the international business requirement cannot be applied to the marketing area of emphasis.

Mathematics BS

Degree Requirements

Required Core Courses for All Mathematics Majors

- MATH 1401 - Calculus I
- MATH 2411 - Calculus II
- MATH 2421 - Calculus III
- MATH 3000 - Introduction to Abstract Mathematics
- MATH 3191 - Applied Linear Algebra
- MATH 4310 - Introduction to Real Analysis I

TOTAL REQUIRED CORE: 21 HOURS

IN ADDITION, ALL STUDENTS MUST SATISFY THE FOLLOWING REQUIREMENTS:

- Programming experience: MATH 3250 (Problem-Solving Tools) or MATH 4650 (Numerical Analysis I)
- Capstone Experience: MATH 4779 (Math Clinic) or MATH 4015 (Capstone Course for Secondary Teachers)
- Statistics Requirement: MATH 3800 (Probability and Statistics for Engineers) or MATH 4820 (Statistics)
- Depth in Proofcraft Requirement: at least one additional class requiring significant proof-writing. Choose from MATH 4110, 4140, 4201, 4220, 4320 and 4408
- Applied/Modeling Requirement: at least one class containing significant applied/modeling content. Choose from MATH 3301, 3302, 4387, 4409, 4733, 4791, 4792, 4793 and 4794
- A total of at least 36 upper-division credits (typically 12 courses)
- All mathematics options require at least 48 credits total for the bachelor's degree

Required Courses for Each Option

GENERAL MATHEMATICS OPTION

All core courses (21 semester hours), plus the following:

- MATH 4779 - Math Clinic

One course chosen from:

- MATH 3250 - Problem Solving Tools
- MATH 4650 - Numerical Analysis I

One course chosen from:

- MATH 3800 - Probability and Statistics for Engineers

- MATH 4820 - Statistics

One course chosen from:

- MATH 4110 - Theory of Numbers
- MATH 4140 - Introduction to Modern Algebra
- MATH 4201 - Topology
- MATH 4220 - Higher Geometry II
- MATH 4320 - Introduction to Real Analysis II
- MATH 4408 - Applied Graph Theory

One course chosen from:

- MATH 3301 - Introduction to Operations Research I - Deterministic Systems
- MATH 3302 - Operations Research II
- MATH 4387 - Regression Analysis, Modeling and Time Series
- MATH 4409 - Applied Combinatorics
- MATH 4733 - Partial Differential Equations
- MATH 4791 - Continuous Modeling
- MATH 4792 - Probabilistic Modeling
- MATH 4793 - Discrete Math Modeling
- MATH 4794 - Optimization Modeling

Electives:
Four approved math electives (at least 12 semester hours) above 3000, excluding 3040, 3511, 4012, 4013, 4014 and 4015. (Note: Students cannot use MATH 3195 to satisfy this requirement if both MATH 3191 and MATH 3200 are being applied toward this degree.)
General B.S. in Mathematics Total: 48-49 Hours

APPLIED MATHEMATICS OPTION

All core courses (21 semester hours), plus the following:

- MATH 3200 - Elementary Differential Equations
- MATH 4650 - Numerical Analysis I
- MATH 4779 - Math Clinic

One course chosen from:

- MATH 3800 - Probability and Statistics for Engineers
- MATH 4820 - Statistics

One course chosen from:

- MATH 4110 - Theory of Numbers
- MATH 4140 - Introduction to Modern Algebra
- MATH 4201 - Topology
- MATH 4220 - Higher Geometry II
- MATH 4320 - Introduction to Real Analysis II
- MATH 4408 - Applied Graph Theory

Two courses chosen from:

- MATH 3301 - Introduction to Operations Research I - Deterministic Systems
- MATH 3302 - Operations Research II
- MATH 4387 - Regression Analysis, Modeling and Time Series
- MATH 4733 - Partial Differential Equations
- MATH 4791 - Continuous Modeling
- MATH 4792 - Probabilistic Modeling
- MATH 4793 - Discrete Math Modeling
- MATH 4794 - Optimization Modeling

Electives:
Two approved math electives (at least 6 semester hours) above 3000, excluding 3040, 3511, 4012, 4013, 4014 and 4015. (Note: Students cannot use MATH 3195 to satisfy this requirement if both MATH 3191 and MATH 3200 are being applied toward this degree.)
Applied Mathematics Option Total: 48-49 Hours

PROBABILITY AND STATISTICS OPTION

All core courses (21 semester hours), plus the following:

- MATH 3200 - Elementary Differential Equations
- MATH 4650 - Numerical Analysis I
- MATH 4779 - Math Clinic
- MATH 4810 - Probability
- MATH 4820 - Statistics

One course chosen from:

- MATH 4387 - Regression Analysis, Modeling and Time Series
- MATH 4792 - Probabilistic Modeling

One course chosen from:

- MATH 4110 - Theory of Numbers
- MATH 4140 - Introduction to Modern Algebra
- MATH 4201 - Topology
- MATH 4220 - Higher Geometry II
- MATH 4320 - Introduction to Real Analysis II
- MATH 4408 - Applied Graph Theory

Electives:
Two approved math electives (at least 6 semester hours) above 3000, excluding 3040, 3511, 4012, 4013, 4014 and 4015. (Note: Students cannot use MATH 3195 to satisfy this requirement if both MATH 3191 and MATH 3200 are being applied toward this degree.)
Probability and Statistics Option Total: 48-49 Hours

ACTUARIAL SCIENCE OPTION

All core courses (21 semester hours), plus the following:

- MATH 3200 - Elementary Differential Equations
- MATH 4650 - Numerical Analysis I
- MATH 4779 - Math Clinic
- MATH 4810 - Probability
- MATH 4820 - Statistics

One course chosen from:

- MATH 3301 - Introduction to Operations Research I - Deterministic Systems
- MATH 3302 - Operations Research II
- MATH 4387 - Regression Analysis, Modeling and Time Series
- MATH 4409 - Applied Combinatorics
- MATH 4733 - Partial Differential Equations
- MATH 4791 - Continuous Modeling
- MATH 4793 - Discrete Math Modeling
- MATH 4794 - Optimization Modeling

One course chosen from:

- MATH 4110 - Theory of Numbers
- MATH 4140 - Introduction to Modern Algebra
- MATH 4201 - Topology
- MATH 4220 - Higher Geometry II
- MATH 4320 - Introduction to Real Analysis II
- MATH 4408 - Applied Graph Theory

One course chosen from:

- MATH 4792 - Probabilistic Modeling
- MATH 5350 - Mathematical Theory of Interest
  (MATH 5350 strongly recommended)

Elective:
One approved math elective (at least 3 semester hours) above 3000, excluding 3040, 3511, 4012, 4013, 4014 and 4015. (Note: Students cannot use MATH 3195 to satisfy this requirement if both MATH 3191 and MATH 3200 are being applied toward this degree.)
Actuarial Science Option Total: 48-49 Hours

Suggested minor for acturial science major option:

Actuaries need a background in business, particularly accounting, economics and finance. You are strongly advised to do a minor in one of these areas. Recommended classes are:

- ACCT 2200 - Financial Accounting and Financial Statement Analysis
- ECON 2012 - Principles of Economics: Macroeconomics
- ECON 2022 - Principles of Economics: Microeconomics
- FNCE 3000 - Principles of Finance

MATHEMATICS EDUCATION OPTION

All core courses (21 semester hours), plus the following:

- MATH 3210 - Higher Geometry I
- MATH 4010 - History of Mathematics
- MATH 4012 - An Advanced Perspective on Number and Operation
- MATH 4013 - An Inquiry-based Approach to Geometry
- MATH 4014 - Statistical Knowledge for Teaching
- MATH 4015 - Capstone Course for Secondary Teachers
- MATH 4140 - Introduction to Modern Algebra
- MATH 4409 - Applied Combinatorics

One course chosen from:

- MATH 3250 - Problem Solving Tools
- MATH 4650 - Numerical Analysis I

One course chosen from:

- MATH 3800 - Probability and Statistics for Engineers
- MATH 4820 - Statistics

One course chosen from:

- MATH 3200 - Elementary Differential Equations
- MATH 3301 - Introduction to Operations Research I - Deterministic Systems
- MATH 3302 - Operations Research II
- MATH 4779 - Math Clinic
- MATH 4791 - Continuous Modeling
- MATH 4792 - Probabilistic Modeling
- MATH 4794 - Optimization Modeling

Mathematics Education Option Total: 49 Hours

NOTE:

Certification by the School of Education & Human Development (SEHD) is required for public school teaching. See the description of Undergraduate Teacher Licensure on the School of Education & Human Development (SEHD) Urban Community Teacher Education program page for more information.

Portfolio, Interview, Survey

In the semester of graduation, students must:

- submit a portfolio consisting of two papers, typically written for previous courses, that demonstrate mathematical and writing proficiency
- participate in an exit interview, which may be scheduled by the department administrative assistant

- complete a senior survey, available from the department administrative assistant

Math Majors Considering Graduate Study

Mathematics majors who are considering graduate study in mathematics should plan to take the following courses as part of their major:

- MATH 4310 - Introduction to Real Analysis I
- MATH 4320 - Introduction to Real Analysis II

Mechanical Engineering BS

Typical Curriculum for BS (Mechanical Engineering—see note 1)

Freshman Year

First Semester

- CHEM 1130 - Engineering General Chemistry
- ENGL 1020 - Core Composition I (*see note 2*)
- MECH 1025 - CAD and Graphics for Mechanical Engineering
- MATH 1401 - Calculus I

Total: 15 Hours

Second Semester

- MATH 2411 - Calculus II
- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I
  Core Curriculum Electives (*see note 3*) (6 semester hours)

Total: 15 Hours

Sophomore Year

First Semester

- MATH 2421 - Calculus III
- MECH 2023 - Statics *(see note 4)*
- PHYS 2331 - General Physics II: Calculus-Based
- PHYS 2341 - General Physics Lab II
  Core Curriculum Electives *(see note 3)* (6 semester hours)

Total: 18 Hours

Second Semester

- ENGL 2030 - Core Composition II
- MECH 3012 - Thermodynamics
- MATH 3195 - Linear Algebra and Differential Equations
- MECH 2033 - Dynamics (*see note 4)*
- MECH 3030 - Electric Circuits and Systems
- MECH 3032 - Electric Circuits and Systems Lab

Total: 17 Hours

Junior Year

First Semester

- MECH 3010 - Elementary Numerical Methods and Programming
- MECH 3021 - Introduction to Fluid Mechanics
- MECH 3022 - Thermodynamics II
- MECH 3027 - Measurements
- MECH 3028 - Laboratory of Mechanical Measurements
- MECH 3043 - Strength of Materials

Total: 16 Hours

Second Semester

- MECH 3023 - System Dynamics I: Vibrations
- MECH 3024 - Introduction to Materials Science
- MECH 3031 - Fluids/Thermal Laboratory
- MECH 3034 - Properties of Engineering Materials
- MECH 3035 - Design of Mechanical Elements
- MECH 3042 - Heat Transfer
- MECH 3065 - Intermediate Dynamics

Total: 17 Hours

Senior Year

First Semester

- MECH 3145 - Manufacturing Processes Design
- MECH 4023 - System Dynamics II: Controls
- MECH 4035 - Senior Design I
  MECH Technical Electives *(see note 5)* (6 semester hours)

Total: 15 Hours

Second Semester

- MECH 4045 - Senior Design II
  MECH Technical Electives (6 semester hours)
  Core Curriculum Electives (*see note 3*) (6 semester hours)

Total: 15 Hours

Notes

1. Students enrolled prior to fall 2006 may choose either the new core curriculum or the old core curriculum.
2. The communication requirements include ENGL 1020 and ENGL 2030.
3. Common core requirements of the College of Engineering and Applied Science. Refer to the "Undergraduate Core Curriculum in Engineering " in this catalog or to the "Common Core Requirements" guide available from your advisor for further information.
4. CVEN 2121 and CVEN 3111 may be substituted for MECH 2023 and MECH 2033 respectively.
5. Not all courses may be offered every semester.

Program Total: 128 Hours

Students should check with departmental advisors to determine their degree requirements. The particular curriculum to be satisfied by each student is the one published in the catalog *current* at the time of their matriculation. For additional information, see the departmental advisor.

Students should refer to the section in this chapter on "Academic Policies" of the College of Engineering and Applied Science. In addition to planning for sequences of courses based on prerequisites, students should plan to complete sophomore-level courses before taking junior level courses and should have completed their junior-level mechanical engineering courses before starting their senior-level mechanical engineering electives. All students should see their advisors at least once each semester.

Music BS — Performance, Singer/Songwriter, Music Business, Recording Arts Emphases

CAM General Course Requirements

General Music Information

Performance Emphasis

Singer/Songwriter Emphasis

Music Business Emphasis, Audition Track

Music Business Emphasis, Non-Audition Track

Recording Arts Emphasis, Audition Track

Recording Arts Emphasis, Non-Audition Track

Undergraduate Degree Requirements

The bachelor of science (BS) in music has a competitive application process. Please refer to the Music and Entertainment Industry Studies Department (MEIS) website for additional guidelines and information. To be eligible for a BS in music, students must complete music foundation courses, MEIS core courses and requirements from one of the four emphasis areas: performance, singer/songwriter, music business, or recording arts. Students must complete each major course with a grade of C (2.0) or better.

Performance Emphasis Requirements

Students who wish to pursue the performance emphasis are required to pass an entrance audition on their primary instrument or voice as part of the application process and pass varying levels of performance proficiency as part of the curricula. Each student must also successfully pass a Sophomore Proficiency on his or her primary instrument or voice in order to be accepted into the performance emphasis. Each student is also required to successfully complete a Junior Recital in addition to the 2-credit PMUS 4200 Senior Recital Project. Contact the CAM Office for more information at 303-556-2279.

Music Foundation Courses

- PMUS 1023 - Piano Class I
- PMUS 1024 - Piano Class II
- PMUS 1025 - Piano Class III
- PMUS 1026 - Piano Class IV
- PMUS 1100 - Music Theory I
- PMUS 1110 - Ear Training and Sight Singing I

- PMUS 1200 - Music Theory II
- PMUS 1210 - Ear Training and Sight Singing II
- PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  2 semesters of 1000-level lessons (2 semester hours)
  2 semesters of 2000-level lessons (2 semester hours)
  4 semesters of ensembles (4 semester hours)
- PMUS 2100 - Music Theory III
- PMUS 2110 - Ear Training and Sight Singing III
- PMUS 2200 - Jazz Theory
- PMUS 3830 - History and Literature of Music I
- PMUS 3831 - History and Literature of Music II
  PMUS ____ - 3000/4000 level Music History Elective (3 semester hours)

Total: 40 Hours

MEIS Core Courses

- MUSC 2700 - Introduction to Music Business
- MUSC 3210 - Music and Entertainment Marketing
  or
- MUSC 3220 - Artist Management
- MUSC 2540 - Audio Production I
- MUSC 2560 - Audio Production II

Total: 12 Hours

Performance Emphasis Courses

- PMUS 1500 - General Recital
  PMUS 1500 - General Recital l
  PMUS 1500 - General Recital l
  PMUS 1500 - General Recital
  2 semesters of 3000-level lessons (4 semester hours)
  4 semesters of ensembles (4 semester hours)
- PMUS 3210 - Introduction to Teaching Private Music Lessons
- PMUS 3300 - Advanced Jazz Improvisation
  or
- PMUS 3330 - Advanced Vocal Improvisation (for Voice students)
  2 semesters of 4000-level lessons (4 semester hours)
- PMUS 4060 - Music Theory Analysis
- PMUS 4200 - Senior Recital Project
  PMUS ____ - Music Performance Electives ** (5 semester hours)
  **Specific elective courses may be required depending upon student's primary instrument. Consult CAM Advising at CAMadvising@ucdenver.edu for more details.

Total: 31 Hours

Singer/Songwriter Emphasis Requirements

Students who wish to pursue the singer/songwriter emphasis are required to pass an audition on their accompanying instrument AND voice as part of the application process, and pass varying levels of performance proficiency as part of the curricula. Each student must also successfully pass a Sophomore Proficiency in order to be accepted into the singer/songwriter emphasis. Each student is also required to successfully complete a Junior Recital in addition to the 2-credit PMUS 4200 Senior Recital Project. Contact the CAM Office for more information at 303-556-2279.

Music Foundation Courses

- PMUS 1023 - Piano Class I
- PMUS 1024 - Piano Class II
- PMUS 1025 - Piano Class III
- PMUS 1026 - Piano Class IV (for Piano/Voice students)
  or
- PMUS 2750 - Functional Guitar Skills: Acoustic Guitar Styles (for Guitar/Voice students)
  or
- PMUS 2751 - Functional Guitar Skills: Electric Guitar Styles (for Guitar/Voice students)
- PMUS 1100 - Music Theory I
- PMUS 1110 - Ear Training and Sight Singing I
- PMUS 1200 - Music Theory II
- PMUS 1210 - Ear Training and Sight Singing II
- PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  2 semesters of 1000-level lessons for voice (2 semester hours)
  2 semesters of 1000-level lessons for accompanying instrument (2 semester hours)
  4 semesters of ensembles (4 semester hours)
- PMUS 2100 - Music Theory III
- PMUS 2110 - Ear Training and Sight Singing III
- PMUS 3830 - History and Literature of Music I
- PMUS 3831 - History and Literature of Music II
  PMUS ____ - 3000/4000 level Music History Elective (3 semester hours)
- PMUS 4060 - Music Theory Analysis

Total: 40-41 Hours

MEIS Core Courses

- MUSC 2700 - Introduction to Music Business
- MUSC 3210 - Music and Entertainment Marketing
  or
- MUSC 3220 - Artist Management

or

- MUSC 3755 - Music Publishing
- MUSC 2540 - Audio Production I
- MUSC 2560 - Audio Production II

Total: 12 Hours

Singer/Songwriter Emphasis Courses

- PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
- PMUS 3772 - Applied Singer/Songwriter (2 semesters; 4 semester hours)
  4 semesters of ensembles (4 semester hours)
- PMUS 3200 - Popular Music Performance Skills
- PMUS 3310 - Intermediate Songwriting
- PMUS 3320 - Popular Music Arranging
- PMUS 4200 - Senior Recital Project
- PMUS 4310 - Advanced Songwriting
- PMUS 4772 - Applied Singer/Songwriter (2 semesters; 4 semester hours)

Total: 29 Hours

Music Business Emphasis, Audition Track Requirements

Students who wish to pursue the music business emphasis, audition track, are required to pass an entrance audition on their primary instrument or voice as part of the application process and pass varying levels of performance proficiency as part of the curricula.

Music Foundation Courses

- PMUS 1023 - Piano Class I
- PMUS 1024 - Piano Class II
- PMUS 1025 - Piano Class III
- PMUS 1026 - Piano Class IV
- PMUS 1100 - Music Theory I
- PMUS 1110 - Ear Training and Sight Singing I
- PMUS 1200 - Music Theory II
- PMUS 1210 - Ear Training and Sight Singing II
- PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  2 semesters of 1000-level lessons (2 semester hours)
  2 semesters of 2000-level lessons (2 semester hours)
  6 semesters of ensembles (6 semester hours)

- PMUS 2100 - Music Theory III
- PMUS 2110 - Ear Training and Sight Singing III
- PMUS 2200 - Jazz Theory
- PMUS 3830 - History and Literature of Music I
- PMUS 3831 - History and Literature of Music II
  PMUS ____ - 3000/4000 level Music History Elective (3 semester hours)

Total: 42 Hours

MEIS Core Courses

- MUSC 2700 - Introduction to Music Business
- MUSC 2540 - Audio Production I
- MUSC 2560 - Audio Production II

Total: 9 Hours

Music Business Emphasis Courses

- MUSC 3210 - Music and Entertainment Marketing
- MUSC 3220 - Artist Management
- MUSC 3690 - Concert Promotion, Tour, and Venue Management
- MUSC 3700 - Music and Entertainment Business in the Digital Age
- MUSC 3710 - CAM Records
- MUSC 3720 - Law and the Music Industry
- MUSC 3755 - Music Publishing
- MUSC 4740 - Music Business Analysis
- MUSC 4890 - Music Business Senior Seminar
  Music Business Elective (3 semester hours)

Total: 30 Hours

Music Business Emphasis, Non-Audition Track Requirements

Students who wish to pursue the music business emphasis, non-audition track, are required to complete the Non-Audition Application Form as part of the application process. Students will be assessed for varying levels of performance proficiency as part of the curricula.

Music Foundation Courses

- PMUS 1023 - Piano Class I
- PMUS 1024 - Piano Class II
- PMUS 1025 - Piano Class III
  or
- PMUS 1040 - Class Guitar
  or

- PMUS 1050 - Voice Class I
- PMUS 1026 - Piano Class IV
  or
- PMUS 1041 - Class Guitar II
  or
- PMUS 1060 - Voice Class II
- PMUS 1100 - Music Theory I
- PMUS 1110 - Ear Training and Sight Singing I
- PMUS 1200 - Music Theory II
- PMUS 1210 - Ear Training and Sight Singing II
- PMUS 1310 - Sight Reading and Improvisation
- PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  2 semesters of applied lessons (2 semester hours)
  2 semesters of ensembles (2 semester hours)
- PMUS 2310 - Introduction to Songwriting
- PMUS 2200 - Jazz Theory
  or
- PMUS 2220 - Commercial Electronic Music Composition
  or
- PMUS 3310 - Intermediate Songwriting
- PMUS 3830 - History and Literature of Music I
- PMUS 3831 - History and Literature of Music II
  PMUS ____ - 3000/4000 level Music History Elective (3 semester hours)
  Electives in Performance (3 semester hours)

Total: 38 Hours

MEIS Core Courses

- MUSC 2700 - Introduction to Music Business
- MUSC 2540 - Audio Production I
- MUSC 2560 - Audio Production II

Total: 9 Hours

Music Business Emphasis Courses

- MUSC 3210 - Music and Entertainment Marketing
- MUSC 3220 - Artist Management
- MUSC 3690 - Concert Promotion, Tour, and Venue Management
- MUSC 3700 - Music and Entertainment Business in the Digital Age
- MUSC 3710 - CAM Records
- MUSC 3720 - Law and the Music Industry
- MUSC 3755 - Music Publishing
- MUSC 4740 - Music Business Analysis
- MUSC 4890 - Music Business Senior Seminar
  Music Business Electives (6 semester hours)

Total: 33 Hours

Recording Arts Emphasis, Audition Track Requirements

Students who wish to pursue the recording arts emphasis, audition track, are required to pass an entrance audition on their primary instrument or voice as part of the application process, and pass varying levels of performance proficiency as part of the curricula. Students must be accepted into the recording arts emphasis before being able to take any of the upper-division (3000/4000 level) recording arts course work. Please contact an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for further information.

Music Foundation Courses

- PMUS 1023 - Piano Class I
- PMUS 1024 - Piano Class II
- PMUS 1025 - Piano Class III
- PMUS 1026 - Piano Class IV
- PMUS 1100 - Music Theory I
- PMUS 1110 - Ear Training and Sight Singing I
- PMUS 1200 - Music Theory II
- PMUS 1210 - Ear Training and Sight Singing II
- PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  2 semesters of 1000-level lessons (2 semester hours)
  2 semesters of 2000-level lessons (2 semester hours)
  6 semesters of ensembles (6 semester hours)
- PMUS 2100 - Music Theory III
- PMUS 2110 - Ear Training and Sight Singing III
- PMUS 2200 - Jazz Theory
- PMUS 3830 - History and Literature of Music I
- PMUS 3831 - History and Literature of Music II
  PMUS ____ - 3000/4000 level Music History Elective (3 semester hours)

Total: 42 Hours

MEIS Core Courses

- MUSC 2700 - Introduction to Music Business
- MUSC 3210 - Music and Entertainment Marketing
  or
- MUSC 3220 - Artist Management
- MUSC 2540 - Audio Production I
- MUSC 2560 - Audio Production II

Total: 12 Hours

Other Course Requirements

- PHYS 3620 - Sound and Music **Must be completed or in progress while applying for the recording arts emphasis**

Total: 3 Hours

Recording Arts Emphasis Courses

- MUSC 3550 - Critical Listening for Recording Arts
- MUSC 4505 - Audio Post Production I
- MUSC 4550 - Audio Production III
- MUSC 4560 - Mastering & Advanced Digital Audio
- MUSC 4580 - Audio Production Seminar I
- MUSC 4581 - Audio Production Seminar II
  Recording Arts Electives (7 semester hours)

Total: 25 Hours

Recording Arts Emphasis, Non-Audition Track Requirements

Students who wish to pursue the recording arts emphasis, non-audition track, are required to complete the Non-Audition Application Form as part of the application process. Students will be assessed for varying levels of performance proficiency as part of the curricula. Students must be accepted into the recording arts emphasis before being able to take any of the upper-division (3000/4000 level) recording arts course work. Please contact an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for further information.

Music Foundation Courses

- PMUS 1023 - Piano Class I
- PMUS 1024 - Piano Class II
- PMUS 1025 - Piano Class III
  or
- PMUS 1040 - Class Guitar
  or
- PMUS 1050 - Voice Class I
- PMUS 1026 - Piano Class IV
  or
- PMUS 1041 - Class Guitar II
  or
- PMUS 1060 - Voice Class II
- PMUS 1100 - Music Theory I
- PMUS 1110 - Ear Training and Sight Singing I
- PMUS 1200 - Music Theory II
- PMUS 1210 - Ear Training and Sight Singing II

- PMUS 1310 - Sight Reading and Improvisation
- PMUS 1500 - General Recital
  PMUS 1500 - General Recital
  2 semesters of applied lessons (2 semester hours)
  2 semesters of ensembles (2 semester hours
- PMUS 2310 - Introduction to Songwriting
- PMUS 2200 - Jazz Theory
  or
- PMUS 2220 - Commercial Electronic Music Composition
  or
- PMUS 3310 - Intermediate Songwriting
- PMUS 3830 - History and Literature of Music I
- PMUS 3831 - History and Literature of Music II
  PMUS _____ - 3000/4000 level Music History Elective (3 semester hours)
  Electives in Performance (3 semester hours)

Total: 38 Hours

MEIS Core Courses

- MUSC 2700 - Introduction to Music Business
- MUSC 3210 - Music and Entertainment Marketing
  or
- MUSC 3220 - Artist Management
- MUSC 2540 - Audio Production I
- MUSC 2560 - Audio Production II

Total: 12 Hours

Other Course Requirements

- PHYS 3620 - Sound and Music **Must be completed or in progress while applying for the recording arts emphasis**

Total: 3 Hours

Recording Arts Emphasis Courses

- MUSC 3550 - Critical Listening for Recording Arts
- MUSC 4505 - Audio Post Production I
- MUSC 4550 - Audio Production III
- MUSC 4560 - Mastering & Advanced Digital Audio
- MUSC 4580 - Audio Production Seminar I
- MUSC 4581 - Audio Production Seminar II
  Recording Arts Electives (9 semester hours)

Total: 27 Hours

Philosophy BA

Students must declare a major by the time they have completed 60 semester hours of course work. A total of 36 semester hours must be completed for the philosophy major, at least 18 of which must be taken at CU Denver. A minimum grade of *C* (2.0) is required in each course. For those students who qualify for and fulfill the requirements for graduation with honors, a total of at least 39 hours is required.

A total of 18 upper-division semester hours are required for the major, and no more than 6 hours below the 3000 level may be counted toward the major. Courses taken at other institutions must be approved by an advisor in the Department of Philosophy to be applied toward the major.

Unless otherwise noted, registration for 4000-level courses in philosophy require a minimum grade of *C* (2.0) in every prior philosophy course and completion of at least PHIL 3002 or PHIL 3022 or permission of instructor.

Program Requirements

Required Courses

- PHIL 3002 - Ancient Greek Philosophy
- PHIL 3022 - Modern Philosophy
  (It is recommended, but not required, that PHIL 3002 be taken before PHIL 3022)
- PHIL 3440 - Introduction to Symbolic Logic
- PHIL 4760 - Kant

Total: 12 Hours

Additional distribution requirements

(All are upper-division courses)

One course in social/political philosophy
One course in ethics
One course in Continental philosophy
One course in EITHER American or analytic philosophy
One course with specific focus in the history of philosophy (may be fulfilled by a course in a single figure)

Total: 15 Hours

Electives

Choose three:

One upper-division elective (may include courses from previous lists that are not counted toward those requirements)
Two electives at any level

Total: 9 Hours

Major Total: 36 Hours

Course work required for graduation with honors:

3-6 semester hours taken over two semesters of:

- PHIL 4950 - Honors Thesis

Physics BS

Program Requirements

Students must declare their intention to major in physics by the time they have completed 60 semester hours and complete between 47 and 51 semester hours (depending on the track chosen) in physics and related topics. Additionally, all tracks require 16 semester hours in math ancillary courses. No grade below a *C* (2.0) can be used to meet the requirements for the major. At least 12 semester hours of the requirements for the major must be completed at CU Denver.

A senior thesis, usually from participation in research, is required for all students wishing to graduate with departmental honors. All other students are encouraged to do research leading to a project report or senior thesis.

Required Courses Common to All Tracks

Required Physics Courses

- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I
- PHYS 2331 - General Physics II: Calculus-Based
- PHYS 2341 - General Physics Lab II
- PHYS 2711 - Vibrations and Waves
- PHYS 2811 - Modern Physics I
- PHYS 3120 - Methods of Mathematical Physics
- PHYS 3711 - Junior Laboratory I
- PHYS 3811 - Quantum Mechanics

Total physics courses required for all tracks: 25 Hours

Required Ancillary Courses

- MATH 1401 - Calculus I
- MATH 2411 - Calculus II
- MATH 2421 - Calculus III
- MATH 3195 - Linear Algebra and Differential Equations

Note: The department will accept the following combination of math courses in place of MATH 3195:

- MATH 3191 - Applied Linear Algebra
- MATH 3200 - Elementary Differential Equations

Total ancillary math courses required for all tracks: 16 Hours

Total required semester hours for all physics major tracks: 41 Hours

^Top

Pure and Applied Physics (Track 1)

Take in addition to the courses common to all tracks:

- PHYS 3211 - Analytical Mechanics
- PHYS 3411 - Thermal Physics
- PHYS 3721 - Junior Laboratory II
- * PHYS 4331 - Principles of Electricity and Magnetism
- PHYS 4711 - Senior Laboratory I
  (or a course in computational physics approved by advisor)

* *Note:* Students who must *retake* PHYS 4331 may fulfill this requirement by obtaining a *C* or better in

- PHYS 4351 - Bioelectromagnetism

Elective Physics Courses

Six semester hours of physics-related electives at 3000-level or above approved by advisor, including up to 3 hours of independent study

Total Track 1 Specific Courses: 21 Hours

Plus total required courses for all physics majors: 41 hours

TRACK ONE TOTAL: 62 HOURS

Biophysics and Medical Physics (Track 2)

Take in addition to the courses common to all tracks:

- PHYS 3251 - Biophysics of the Body
- PHYS 3451 - Biophysics of the Cell
- PHYS 4351 - Bioelectromagnetism
  (recommended option)
- -OR- PHYS 4331 - Principles of Electricity and Magnetism

Biophysics electives

Biophysics electives at the 3000-level or above approved by advisor (including up to 3 semester hours independent study and/or two courses, PHYS 3151 and PHYS 3161, listed below)
-OR-
The following four courses (an option primarily for pre-med physics majors):

- * BIOL 2051 - General Biology I
- * BIOL 2061 - General Biology II
- PHYS 3151 - Biophysics Outlook I

- PHYS 3161 - Biophysics Outlook II

Plus a laboratory:

- PHYS 3721 - Junior Laboratory II

-OR-

The following two courses (an option primarily for pre-med physics majors):

- * BIOL 2071 - General Biology Laboratory I
- * BIOL 2081 - General Biology Laboratory II

AND

Numerical modeling *or* probability and statistics course approved by advisor: **3 semester hours**

Total Track 2 Specific Courses: 24 Hours

Plus total required courses for all physics majors: 41 hours

TRACK TWO TOTAL: 65 HOURS

Major Total: 62-65 Hours

PRE-MED STUDENTS

Note: courses above marked * are generally required for medical school admissions. In addition, the following are generally required for medical school admissions, but NOT for the biophysics and medical physics track:

- CHEM 2031 - General Chemistry I
- CHEM 2038 - General Chemistry Laboratory I
- CHEM 2061 - General Chemistry II
- CHEM 2068 - General Chemistry Laboratory II
- CHEM 3411 - Organic Chemistry I
- CHEM 3418 - Organic Chemistry Laboratory I
- CHEM 3421 - Organic Chemistry II
- CHEM 3428 - Organic Chemistry Laboratory II

Total additional pre-med (but not required for Track 2): 19 Hours

Political Science BA

Undergraduate students must declare their intention to major in political science by the time they have completed 60 semester hours, and must complete a minimum of 36 semester hours in political science, of which at least 21 must be upper-division courses. Fifteen of the 36 hours must be taken from CU Denver faculty. Courses are distributed among the primary fields as listed in this section, i.e., American politics, comparative politics, international relations, political theory and public policy and administration. To count for the major, all course work must be completed with a grade of *C* (2.0) or better. Two cognate courses (which don't count toward the 36 hours) from the list below must also be completed.

Traditional Option

Required Core

- PSCI 1001 - Introduction to Political Science: The Quest for Freedom and Justice
- PSCI 1101 - American Political System
- PSCI 3011 - Research Methods
- -OR- PSCI 4011 - GIS in Political Science

Total: 9 Hours

Choose two:

- PSCI 4207 - Theories of Social and Political Change
- PSCI 4407 - Early Political Thought
- PSCI 4417 - Modern Political Thought
- PSCI 4427 - Law, Politics and Justice
- PSCI 4437 - Coercion and the State
- PSCI 4457 - American Political Thought

Total: 6 Hours

One 4000-level course in each of three fields:

American politics, comparative politics, and international relations

Total: 9 Hours

Experiential-Learning Requirement *

Choose one:

- PSCI 3914 - The Urban Citizen
- PSCI 3939 - Internship
- PSCI 4934 - CU at the Capitol
  Experiential learning project in any P SC class: **3 semester hours**

* Students with significant volunteer experience in the community or for whom the experiential-learning requirement poses a hardship may petition the chair to waive the requirement (36 hours still required).

Total: 3 Hours

Electives

Three political science elective courses

Total: 9 Hours

Political Science Total: 36 Hours

Required Cognate Courses

In addition to the 36 hours above, choose two of the following cognate courses:

- ECON 2012 - Principles of Economics: Macroeconomics
- ECON 2022 - Principles of Economics: Microeconomics
- HIST 1016 - World History to 1500
- HIST 1026 - World History Since 1500
- HIST 1211 - Western Civilization I
- HIST 1212 - Western Civilization II
- HIST 1361 - U.S. History to 1876
- HIST 1362 - U.S. History Since 1876

Total: 6 Hours

Major Total: 42 Hours

Public Policy Option

This option was designed for students who specifically desire to pursue careers in public policy and/or public administration in the public or nonprofit sectors. Grounded in basic political science theory and familiarity with American, comparative and international politics, this BA track emphasizes the specifically political aspects of public policy processes and settings. Cases will emphasize key policy issues confronting U.S. local, state and national decision makers and citizens. A focus on politics and the policy-making process will prepare students conceptually and methodologically to move beyond partisan politics to address how leaders can best mobilize resources to achieve constituent goals consistent with the public interest.

Required Core

- PSCI 1001 - Introduction to Political Science: The Quest for Freedom and Justice
- PSCI 1101 - American Political System
- PSCI 3011 - Research Methods

Total: 9 Hours

One 4000-level course in each of the following three fields:

American Politics

- PSCI 4002 - Topics in Political Science
- PSCI 4014 - Media and Politics
- PSCI 4024 - Legislatures and Legislation
- PSCI 4025 - Local Governance and Globalization
- PSCI 4044 - The Presidency
- PSCI 4094 - Seminar: American Politics
- PSCI 4124 - Denver Politics
- PSCI 4324 - Politics, Public Policy and Leadership
- PSCI 4354 - Environmental Politics
- PSCI 4374 - Public Priorities for the 21st Century
- PSCI 4477 - Constitutional Law I
- PSCI 4487 - Constitutional Law II
- PSCI 4545 - Immigration Politics

Comparative Politics and International Relations

- PSCI 4085 - Comparative Public Policy
- PSCI 4124 - Denver Politics
- PSCI 4185 - Corruption in the U.S. and Abroad
- PSCI 4226 - The United Nations in World Affairs
- PSCI 4236 - American Foreign Policy
- PSCI 4266 - International Law
- PSCI 4326 - Advanced International Political Economy: Globalization
- PSCI 4645 - Comparative Political Leadership

Public Policy and Administration

- PSCI 4009 - Politics of the Budgetary Process
- PSCI 4024 - Legislatures and Legislation
- PSCI 4084 - Local Government and Administration
- PSCI 4274 - Conflict Resolution and Public Consent Building
- PSCI 4414 - Organizational Change Agents
- PSCI 4644 - Ethical Responsibilities of Leaders

Total: 9 Hours

Elective courses

Choose any two additional courses from the list above, plus choose one other upper or lower division PSCI course.

Total: 9 Hours

Two political theory courses

- PSCI 4427 - Law, Politics and Justice
- PSCI 4437 - Coercion and the State

Total: 6 Hours

Experiential-Learning Requirement *

Choose one:

- PSCI 3939 - Internship
- PSCI 4934 - CU at the Capitol

* Students with significant volunteer experience in the community or for whom the experiential-learning requirement poses a hardship may petition the chair to waive the requirement (36 hours still required).

Total: 3 Hours

Two cognate courses

- ECON 2012 - Principles of Economics: Macroeconomics
- ECON 2022 - Principles of Economics: Microeconomics

Total: 6 Hours

Public Policy Option Total: 42 Hours

Psychology BA

Students should consult with the advisor when they declare a psychology major, which must be done once they have completed 60 semester hours of course work. Psychology BA major requirements include at least 37 and not more than 48 semester hours in psychology. Of these, at least 15 hours must be in upper-division courses taught by CU Denver faculty. No grade below *C* (2.0) will be accepted toward the major requirements. Note that a prior college-level algebra course is strongly recommended for PSYC 2090.

PSYC 3939, Internship/Cooperative Education, does NOT count toward the 37-hour minimum or the 15-hour upper-division requirement, but it does count as elective psychology credit.

Program Requirements

Required Courses

- PSYC 1000 - Introduction to Psychology I
- PSYC 1005 - Introduction to Psychology II
- PSYC 2090 - Statistics and Research Methods
- PSYC 2220 - Biological Basis of Behavior

Total: 13 Hours

Group A: Choose three, including one or both PSYC 3222 and PSYC 4144:

- PSYC 3104 - Behavioral Genetics
- PSYC 3222 - Principles of Learning and Behavior
- PSYC 3254 - Introduction to Animal Behavior
- PSYC 3262 - Health Psychology
- PSYC 3263 - Hormones and Behavior
- PSYC 3265 - Drugs, Brain and Behavior
- PSYC 3724 - Developmental Psychobiology
- PSYC 3810 - Neuropsychology
- PSYC 3822 - Aging, Brain and Behavior
- PSYC 4054 - Behavioral Neuroscience
- PSYC 4144 - Human Cognition
- PSYC 4164 - Psychology of Perception

Total: 9 Hours

Group B: Choose four, including at least two or all three of PSYC 3205, PSYC 3305, and PSYC 4415:

- PSYC 3090 - Research Methods in Psychology
- PSYC 3205 - Human Development I: Child Psychology
- PSYC 3215 - Human Development II: Adolescence and Adulthood
- PSYC 3235 - Human Sexuality

- PSYC 3305 - Abnormal Psychology
- PSYC 3405 - Family Psychology
- PSYC 3505 - Psychology and the Law
- PSYC 3610 - Psychological Trauma
- PSYC 3611 - Psychology of Women
- PSYC 3612 - Domestic Abuse
- PSYC 4415 - Experimental Social Psychology
- PSYC 4455 - Theories of Personality
- PSYC 4485 - Psychology of Cultural Diversity
- PSYC 4500 - Psychotherapy
- PSYC 4730 - Clinical Psychology: Ethics and Issues

Total: 12-13 Hours

One integrative course:

- PSYC 4511 - History of Psychology

Total: 3 Hours

BA Major Total: 37-38 Hours

PSYCHOLOGY BS REQUIREMENTS

Psychology BS

Students must declare a major by the time they have completed 60 semester hours of course work. To be admitted to the BS major, students must have sophomore standing and have received grades of *B* or better in General Biology I and II for majors with laboratory, or the equivalent. Students must take at least 48 hours and a maximum of 56 semester hours in psychology, biology and chemistry that will count toward graduation. A minimum of 15 upper-division semester hours must be taken from CU Denver faculty. No grade below *C* is acceptable toward the major requirements; i.e., psychology, biology or chemistry courses in which a student earns a *C*- or below will not count toward the major.

Psychology Requirements

Required Psychology Courses

- PSYC 1000 - Introduction to Psychology I
- PSYC 1005 - Introduction to Psychology II
- PSYC 2090 - Statistics and Research Methods
- PSYC 2220 - Biological Basis of Behavior
- PSYC 4054 - Behavioral Neuroscience

Total: 16 Hours

Choose two:

- PSYC 3090 - Research Methods in Psychology
- PSYC 3104 - Behavioral Genetics
- PSYC 3222 - Principles of Learning and Behavior
- PSYC 3254 - Introduction to Animal Behavior
- PSYC 3263 - Hormones and Behavior
- PSYC 3265 - Drugs, Brain and Behavior
- PSYC 3724 - Developmental Psychobiology
- PSYC 3810 - Neuropsychology
- PSYC 3822 - Aging, Brain and Behavior
- PSYC 4164 - Psychology of Perception

Total: 6-7 Hours

Experiential Learning Requirement

Students must complete at least one of the following (all require consultation with BS advisor AND permission of instructor):

- PSYC 3939 - Internship (2.75 GPA required)
- PSYC 4840 - Independent Study: PSYC
  Honors Project in Psychology (3.5 GPA required): **3 Semester Hours**

Total: 3 Hours

Physical and Biological Science Requirements

Required Courses

- BIOL 2051 - General Biology I
- BIOL 2061 - General Biology II
- BIOL 2071 - General Biology Laboratory I
- BIOL 2081 - General Biology Laboratory II
- CHEM 2031 - General Chemistry I
- CHEM 2038 - General Chemistry Laboratory I
- CHEM 2061 - General Chemistry II
- CHEM 2068 - General Chemistry Laboratory II

Total: 17 Hours

Choose two:

- BIOL 3225 - Human Physiology
- BIOL 3244 - Human Anatomy
- BIOL 3611 - General Cell Biology
- BIOL 3654 - General Microbiology
- BIOL 3832 - General Genetics
- BIOL 4134 - Human Genetics
- BIOL 4165 - Neurobiology
- CHEM 4810 - General Biochemistry I

Total: 6-8 Hours

BS Major Total: 48-51 Hours

Additional elective courses in psychology, biology and chemistry may be taken up to the maximum of 56 hours.

PSYCHOLOGY BA REQUIREMENTS

Public Health BA

Director: Karen Lutfey, Professor of Public Health
Office: Administration Building, 280
Telephone: 303-556-4301
Fax: 303-556-8501
E-mail: Karen.Lutfey@ucdenver.edu

Website:
http://www.ucdenver.edu/academics/colleges/CLAS/Departments/hbsc/Programs/Bachelors/Pages/Bachelors.aspx

The Bachelor of Arts in Public Health consists of 43 credit hours in required classes. Each class must be completed with a grade of *C* (2.0) or higher to count for the major. The major classes for the BA degree are organized into four categories: (1) public health core, (2) quantitative methods, (3) biological sciences and (4) electives.

FOR BS IN PUBLIC HEALTH, CLICK HERE

Program Requirements

Public Health Required Courses

Seven courses:

- PBHL 2000 - Introduction To Public Health
- PBHL 2020 - Introduction to Environmental Health
- PBHL 3001 - Introduction to Epidemiology
- PBHL 3030 - Health Policy
- PBHL 3070 - Perspectives in Global Health
- PBHL 4040 - Social Determinants of Health
- PBHL 4099 - Capstone Experience in Public Health

Total: 23 Hours

Quantitative Methods

This one-course requirement may be fulfilled with a wide array of statistics courses offered in a number of disciplines. Examples include:

ANTH 4050, MATH 2830, PSYC 3090, SOCY 3121

The particular class chosen to fulfill the quantitative methods requirement should be cleared with the undergraduate program director/advisor in advance.

Total: 3 Hours

Electives

The three-course electives requirement may be fulfilled from a wide array of over 100 courses offered in the College of Liberal Arts and Sciences. A listing of pre-approved classes is available online. Other classes may be chosen to fulfill the electives requirement, but must be cleared with the undergraduate program director/advisor in advance.

Total: 9 Hours

Public Health Core Total: 35 Hours

Biological Sciences Ancillary Courses

Choose two of the following (also fulfill the campuswide core requirement in biological and physical sciences):

- BIOL 1550 - Basic Biology: Ecology and the Diversity of Life
- -OR- BIOL 2051 - General Biology I
- **with** BIOL 2071 - General Biology Laboratory I
- BIOL 1560 - Basic Biology: From Cells to Organisms
- -OR- ANTH 1303 - Introduction to Biological Anthropology

Total: 8 Hours

Major Total: 43 Hours

Public Health BS

Director: Karen Lutfey, Professor of Public Health

Office: Administration Building, 280

Telephone: 303-556-4301

Fax: 303-556-8501
E-mail: Karen.Lutfey@ucdenver.edu

Website:
http://www.ucdenver.edu/academics/colleges/CLAS/Departments/hbsc/Programs/Bachelors/Pages/Bachelors.aspx

The Bachelor of Science in Public Health consists of 71 credit hours in required classes. Each class must be completed with a grade of *C* (2.0) or higher to count for the major. The major classes for the BS degree are organized into five categories: (1) public health core, (2) quantitative methods, (3) biological sciences, (4) additional math and science and (5) electives.

FOR BA IN PUBLIC HEALTH, CLICK HERE

Program Requirements

Public Health Required Courses

Seven courses (two still in development):

- PBHL 2000 - Introduction To Public Health
- PBHL 2020 - Introduction to Environmental Health
- PBHL 3001 - Introduction to Epidemiology
- PBHL 3030 - Health Policy
- PBHL 3070 - Perspectives in Global Health
- PBHL 4040 - Social Determinants of Health
- PBHL 4099 - Capstone Experience in Public Health

Total: 23 Hours

Quantitative Methods

This one-course requirement may be fulfilled with a wide array of statistics courses offered in a number of disciplines. Examples include:

ANTH 4050, MATH 2830, PSYC 3090, SOCY 3121

The particular class chosen to fulfill the quantitative methods requirement should be cleared with the undergraduate program director/advisor in advance.

Total: 3 Hours

Electives

The two-course electives requirement may be fulfilled from a wide array of over 100 courses offered in the College of Liberal Arts and Sciences. A listing of pre-approved classes is available online. Other classes may be chosen to fulfill the electives requirement, but must be cleared with the undergraduate program director/advisor in advance.

Total: 6 Hours

Public Health Core Total: 32 Hours

Biological Sciences Ancillary Courses

Take all of the following lecture/lab courses (also fulfill the campuswide core requirement in biological and physical sciences):

- BIOL 2051 - General Biology I
- BIOL 2071 - General Biology Laboratory I
- BIOL 2061 - General Biology II
- BIOL 2081 - General Biology Laboratory II

Total: 8 Hours

Additional Math and Science Ancillary Courses

Take all of the following:

- CHEM 2031 - General Chemistry I
- CHEM 2038 - General Chemistry Laboratory I
- CHEM 2061 - General Chemistry II
- CHEM 2068 - General Chemistry Laboratory II
- CHEM 3411 - Organic Chemistry I
- CHEM 3421 - Organic Chemistry II
- MATH 1401 - Calculus I
  (fulfills the math requirement for the campuswide core)
- PHYS 2010 - College Physics I
- PHYS 2030 - College Physics Lab I
- PHYS 2020 - College Physics II
- PHYS 2040 - College Physics Lab II

Total: 31 Hours

Major Total: 71 Hours

Sociology BA

Students must declare a major by the time they have completed 60 semester hours of course work. The major requires a total of 34 hours with an average grade of *C* (2.0) in all courses. At least 16 of the 34 hours must be upper-division (3000-4000 level) courses. The maximum number of hours allowed in sociology is 48.

Course Requirements

Core Courses

The core consists of the following group of courses, all of which must be completed with a grade of *C* (2.0) or better:

- SOCY 1001 - Introduction to Sociology
- SOCY 3001 - Urban Sociology
- * SOCY 3111 - Research Methods
- * SOCY 3121 - Statistics
- * SOCY 3150 - History of Sociological Theory
- * SOCY 3160 - Contemporary Sociological Theory

Total: 19 Hours

*Must be taken from Downtown Campus faculty

Electives: 15 Hours

Choose a minimum of 15 hours and a maximum of 29 hours of electives in sociology, with an average grade of *C* (2.0) in all courses.

Major Total: 34 Hours

All prospective majors should contact the department as early in their academic careers as possible for information and for assignment to a major advisor. Transfer or returning students should consult with the department chairman concerning completion of the core courses.

The department requires that at least 13 hours of sociology be taken from Downtown Campus faculty, including the following courses: SOC 3111, 3121, 3150 and 3160.

Spanish BA

The Spanish program studies the language, linguistics, literature, culture and civilization of Spain, Spanish America and the Spanish-speaking areas of the United States.

Admission and Grade Requirements

To be admitted to major status in Spanish, students must have an overall GPA of *C*+ (2.3). The minimum grade acceptable in any course applied to a Spanish major or minor is a *C* (2.0). The GPA in all courses applied to a Spanish major or minor at UC Denver must be 2.5. No courses taken on a pass/fail basis may be credited toward a Spanish major or minor.

Residency Requirement

The BA in Spanish requires 30 semester hours of upper-division course work in Spanish and 6 additional hours in related fields. A minimum of 18 semester hours of Spanish course work for the major, and 9 hours for the minor, must be taken from Spanish faculty at CU Denver. Courses taken at other institutions while a student is enrolled at CU Denver may be applied to the major only with departmental approval before enrollment in those courses.

Proficiency Requirement

Before enrolling in their final semester in the language, Spanish majors must be evaluated by the faculty in oral and written skills. Students must see their Spanish advisor for specific information.

Course Requirements for the Major

Students majoring in Spanish for the BA degree must complete 30 semester hours of upper-division course work, at least 12 of which must be at the 4000 level. All course work applied to the 30-semester-hour minimum must be taught in Spanish. In addition, students must complete 6 semester hours in courses in related fields outside the curriculum in Spanish.

Program Requirements

Language, Literature and Culture Track

LITERATURE

- SPAN 3252 - Introduction to the Study of Literature
  At least one course on the literature of Spain: **3 semester hours**
  At least one course on the literature of Spanish America: **3 semester hours**

Total: 9 Hours

LANGUAGE SKILLS AND THEORY

- SPAN 3060 - Hispanic Phonetics: Theory and Practice
  6 additional hours in language skills and theory

Total: 9 Hours

CULTURE AND CIVILIZATION OF SPAIN OR SPANISH AMERICA

Choose two:

- SPAN 3070 - Bilingual Communities: Spanish as a Language of Contact
- SPAN 3212 - Spanish American Culture and Civilization
- SPAN 3213 - Contemporary Latin American Culture and Institutions
- SPAN 3221 - Culture and Civilization of Spain I
- SPAN 3222 - Culture and Civilization of Spain II
- SPAN 3223 - Contemporary Spanish Culture and Institutions
- SPAN 3230 - Ibero-American Cultures through Film
- SPAN 4230 - Modern Culture of Spain through Film and Narrative

Total: 6 Hours

ELECTIVES

Two SPAN electives, to be taken at the 4000 level

Total: 6 Hours

RELATED FIELDS

Choose 2 courses from the following fields of study (see Modern Languages departmental web site for a list of pre-approved courses):

Latin American studies (from fields such as history, geography, political science, art history)
Hispanic American studies
Linguistics (in the fields of anthropology or English)
Comparative literature
Upper-division courses in another foreign language

Total: 6 Hours

MAJOR TOTAL: 36 Hours

International Language and Culture for the Professions Track

This option in the Spanish major offers career possibilities, both in government and private industry, at home and abroad. Languages are useful in business, industry, commerce, civil service, law, library science, media, science, economics, health and social sciences. Students who follow this course of study could also qualify as teachers of general business subjects in bilingual as well as traditional school systems. (However, students who wish to be certified to teach Spanish in the public schools should consult the department for information concerning the undergraduate language licensure program.)

International Spanish for the professions is a controlled-enrollment major that takes two years to complete. Interested students should contact the Spanish advisor in the Department of Modern Languages to declare the major. This should be done as early as possible in the student's academic career, but not later than the second semester of the sophomore year.

PREREQUISITES

(These courses do not count toward the major total of 45 semester hours)

- ECON 2012 - Principles of Economics: Macroeconomics
- ECON 2022 - Principles of Economics: Microeconomics
- MATH 1070 - Algebra for Social Sciences and Business
- -OR- MATH 1110 - College Algebra
  (or higher level math course)
- SPAN 2110 - Second Year Spanish I
- -OR- SPAN 2120 - Second Year Spanish II

REQUIRED SPANISH COURSES

- SPAN 3082 - Introduction to Translation I
- SPAN 3252 - Introduction to the Study of Literature
- SPAN 3700 - Spanish for International Business I
- SPAN 3710 - Spanish for International Business II

Total: 12 Hours

Two of the following language skills and theory courses:

- SPAN 3010 - Advanced Conversation and Composition I
- SPAN 3020 - Advanced Conversation and Composition II
- SPAN 3060 - Hispanic Phonetics: Theory and Practice
- SPAN 3310 - Spanish Writing and Grammar I

Total: 6 Hours

One of these must be either SPAN 3213 or 3223, while the other may be any of the following:

- SPAN 3070 - Bilingual Communities: Spanish as a Language of Contact
- SPAN 3212 - Spanish American Culture and Civilization
- SPAN 3213 - Contemporary Latin American Culture and Institutions
- SPAN 3222 - Culture and Civilization of Spain II
- SPAN 3223 - Contemporary Spanish Culture and Institutions
- SPAN 3230 - Ibero-American Cultures through Film

Total: 6 Hours

Electives

Two SPAN electives, to be taken at the 4000 level.

Total: 6 Hours

SPANISH TOTAL: 30 Hours

BUSINESS COURSES

(please be aware of prerequisites in business course descriptions)

- ACCT 2200 - Financial Accounting and Financial Statement Analysis
- MGMT 1000 - Introduction to Business
- MGMT 3000 - Managing Individuals and Teams
- MGMT 4400 - Environments of International Business
- MKTG 3000 - Principles of Marketing

Business Total: 15 Hours

SPANISH BUSINESS OPTION TOTAL: 45 Hours

RECOMMENDED:

- Language study abroad / international travel or field study
- Internship in target language
- Official proficiency exam

Undergraduate Licensure Program in Spanish

With this option, students complete a major in Spanish along with additional course work required for certification to teach Spanish in the public schools. This program should be chosen early in the students' careers. See the description of Undergraduate Teacher Licensure on the School of Education & Human Development (SEHD) Urban Community Teacher Education program page for more information. You may also contact the CLAS Advising Office (phone 303-556-2555 or visit North Classroom, 4002) and the Spanish advisor for more information.

Honors in Spanish

Students who complete all the requirements for the Spanish major (as outlined above) and meet the following criteria are encouraged to talk with the Spanish faculty about participation in the honors program. Successful completion of this program by students majoring in Spanish leads to graduation with the distinction of *cum laude, magna cum laude* or *summa cum laude.*

Cum laude

Overall GPA of 3.5 or better and Spanish GPA of 3.8 or better

Magna cum laude or summa cum laude

1. Overall GPA of 3.5 or better and Spanish GPA of 3.8 or better
   —and—
2. *6 semester hours of Spanish 4840, Independent Study*, spread over two semesters. The candidate must present the independent study topic for approval by the faculty honors committee by the end of the semester preceding the independent study. At the end of the independent study project, and at least one month before the end of the second semester, the candidate shall submit a **written thesis** to the faculty honors committee.
3. The designation of *magna* or *summa* will be the decision of the faculty honors committee.

Theatre, Film and Television BA — Theatre Emphasis

The Department of Theatre, Film and Video Production offers a BA with an emphasis in theatre designed for students who are interested in exploring their vision and world through stories and performance. The emphasis, which is rooted in the liberal arts, gives lifelong skills for success in the rapidly changing world. Through writing, performance, analytical and communication work in theatre and media, students will have a foundation to pursure their goals. This BA provides a solid preparation for graduate school or careers in a range of areas. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

All students pursuing this emphasis complete a total of at least 49 semester hours for the major. Each course must be completed with a grade of C (2.0) or better. At least 24 of the major semester hours must be earned at CU Denver. Students must also follow the College of Arts and Media's general degree requirements.

Admissions Procedures

Students must apply and be accepted to the university with a declared major of BA Theater, Film and Television. No separate application to the department or portfolio submission is required for admission into the degree program and emphasis.

Transfer Students

Transfer students should contact CAMadvising@ucdenver.edu for information about applying prior semester hours toward the BA.

Required Emphasis Courses

- THTR 1000 - Visual Culture
- THTR 1001 - Introduction to Theatre & Arts in the Community
- THTR 1110 - Production Design: Theatre, Film and Video
- THTR 1220 - Acting Skills Module I
- THTR 1890 - Production Crafts I
- THTR 1891 - Production Crafts Lab
- THTR 2220 - Acting: Performance for Film,Theatre, and TV
- THTR 2900 - Dramatic Writing for Stage and Screen
- THTR 3115 - Critical Perspectives on Performance
- THTR 3300 - Studio I: Dynamics of Content Creation
- THTR 3500 - Elements of Directing
- THTR 3520 - Acting/Directing Studio
- THTR 3610 - Performance: Theory/History/Criticism I
- THTR 3620 - Performance: Theory/History/Criticism II
- THTR 3725 - Arts in Action
- THTR 3735 - Career Creation
- THTR 4090 - Senior Seminar & Project
  or
- THTR 4200 - Capstone: Theatre Practice

Total: 49 Hours

Theatre, Film and Television BFA — Film and TV Emphasis

The Department of Theatre, Film and Video Production offers a bachelor of fine arts (BFA) in theatre, film and television with an emphasis in film and television. This BFA emphasis provides training at a professional skil level, culminating in a comprehensive review that requires successful completion of a portfolio and/or thesis project. The emphasis is designed so that students will progress through the semesters as a cohort group. Students will not only work on their own projects but will assist on group projects similar to our episodic web series, a television pilot and also our department's sponsored film profect (all written by students). Students will graduate with theoretical and historical perspectives, and hands-on experiences in film and television production. This prepares students to begin their careers with entry-level positions in film or television, start their personal creative work or continue their studies in a graduate program. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

All students pursuing this emphasis complete a total of at least 69 semester hours for the major: see detailed course requirements below. Each course must be completed with a grade of C (2.0) or better. At least 24 of the major semester hours must be earned at CU Denver. Students must also follow the College of Arts & Media's general degree requirements.

Admission Procedures

Students seeking this BFA emphasis should apply to the university and be accepted under the Theatre, Film, and Television BFA program. No separate application to the department or portfolio submission is required. Given the cohort nature of the program, students should be aware that failing to take courses in order may delay their graduation date.

Transfer Students

Transfer students should contact CAMadvising@ucdenver.edu for information about applying prior semester hours toward the BFA.

Student Handbook

All students in the film and television emphasis are required to know and abide by the policies and procedures regarding the use of departmental equipment and facilities, outlined on the Equipment Checkout Agreement Form, and available by contacting CAMadvising@ucdenver.edu or the department.

Required Emphasis Courses:

- FITV 1000 - Introduction to Visual Culture
- FITV 1040 - Lighting, Grip, and Sound Introductory Workshop
- FITV 1050 - Production I Basics of Film and Television
- FITV 1200 - Aesthetics of Television
- FITV 1550 - Scriptwriting 1 - Fiction
- FITV 1600 - Writing Short Film:Non Fiction
- FITV 2040 - Introduction to Digital Effects
- FITV 2050 - Production II Film and Television Techniques
- FITV 2090 - Production Management for Film and Television

- FITV 2220 - Acting for Film and Television
- FITV 2570 - Directing for Film and Television
- FITV 2670 - Cinematography for Directors
- FITV 3040 - TV Studio Production
  or
- FITV 3090 - Producing Episodic Television
- FITV 3050 - Production III: Junior Project
- FITV 3060 - Editing for Film and Television
- FITV 3200 - History of Film to 1937
- FITV 3300 - History of Film from 1938
- FITV 3500 - Writing for Episodic Television
- FITV 4000 - Senior Thesis Production
- FITV 4010 - Senior Thesis Post-Production
- FITV 4050 - Shooting Action
- FITV 4055 - Documentary Production
- THTR 1110 - Production Design: Theatre, Film and Video

Total: 69 Hours

Undergraduate Minors

Anthropology Minor

A minimum of 18 semester hours in anthropology must be completed with an average of *C* (2.0) or better. Nine of the 18 hours must be upper division and 9 hours must be taken from CU Denver faculty.

Program Requirements

Required Courses

Choose a minimum of three courses from the following:

- ANTH 1302 - Introduction to Archaeology
- ANTH 1303 - Introduction to Biological Anthropology
- ANTH 2102 - Culture and the Human Experience
- ANTH 3101 - Foundations of Cultural Anthropology
- ANTH 3301 - World Prehistory
- ANTH 3512 - Human Evolution

Total: 9-11 Hours

Elective Courses

Total: 7-9 Hours

Minor total: 18 Hours

Art History Minor

To declare a CAM minor, please see the College of Arts & Media's Office of Advising and Student Services in Arts Building, 177.

Students may transfer up to 6 semester hours of non-CU Denver courses toward a minor. All other courses must be taken at CU Denver. Each course must be completed with a grade of C (2.0) or better. Students may use up to 6 semester hours to fulfill both major and minor requirements; the remaining semester hours for the minor must be taken in addition to the major requirements. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

Program Requirements

- FINE 2600 - Art History Survey I
- FINE 2610 - Art History Survey II

____ - Upper-division Art History Electives (9 semester hours)
____ - Studio Arts Elective (3 semester hours)

Total: 18 Hours

Astrophysics Minor

Astrophysics is an important and well-represented subdiscipline of physics. It includes the study of the solar system, galactic and extra-galactic astrophysics, as well as cosmology. A minor in this field combines a theoretical approach with observational analysis. There is also opportunity to do research in this field.

While the Department of Physics offers minors in both physics and astrophysics, it is not possible to receive minors in both fields. A physics minor is not an option for physics majors.

The astrophysics minor requires a total of 17 semester hours, in which no grade below a *C* (2.0) may be used to meet the requirements for the minor. At least 6 semester hours taken for the minor must be completed at the Denver Campus. Requirements for the minor in astrophysics may be used to fulfill the requirements of the major in physics. However, a student majoring in physics who wants to minor in astrophysics needs to take 15 semester hours in astrophysics that do not overlap with the major.

Program Requirements

Required Physics Courses:

- PHYS 1052 - General Astronomy I

Either of the following two sequences:

- PHYS 2010 - College Physics I
- PHYS 2020 - College Physics II
- PHYS 2030 - College Physics Lab I
- PHYS 2040 - College Physics Lab II
  Sequence Total: 10 Hours
  -OR-
- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I
- PHYS 2331 - General Physics II: Calculus-Based
- PHYS 2341 - General Physics Lab II
  Sequence Total: 10 Hours

Total Required Courses: 14 Hours

Elective Physics Courses

Choose one:

- PHYS 3040 - Modern Cosmology
- PHYS 3050 - General Astronomy II
- PHYS 3082 - Energy and the Environment
- PHYS 3411 - Thermal Physics

- PHYS 3820 - Subatomic Physics
- * PHYS 3840 - Independent Study: PHYS
- PHYS 3939 - Internship
- PHYS 4510 - Optics
- PHYS 4550 - Astrophysics
- * PHYS 4840 - Independent Study: PHYS
- * PHYS 4920 - Advanced Undergraduate Seminar
- * PHYS 4931 - Internship in Applied Physics
- * PHYS 4980 - Advanced Physics Topics

Total Electives: 3 Hours

Minor Total: 17 Hours

*Topics in these classes vary, as do the number of credits which can be earned. See departmental advisor for approval.

Biology Minor

For a biology minor, students must complete all biology core requirements (20-23 hours), of which a minimum of 9 hours must be completed in residence at CU Denver. The minimum grade in each CU Denver course is *C*- (1.7). In addition, students must complete one year of general chemistry including laboratory with a grade of *C*- (1.7) or higher.

Minor Requirements

Required Biology Courses

- BIOL 2051 - General Biology I
- BIOL 2061 - General Biology II
- BIOL 2071 - General Biology Laboratory I
- BIOL 2081 - General Biology Laboratory II
- BIOL 3411 - Principles of Ecology
- OR BIOL 3412 - Fundamentals of Applied Ecology
- BIOL 3611 - General Cell Biology
- BIOL 3832 - General Genetics

One upper division biology lab course. Choose one of the following:

- BIOL 3225 - Human Physiology
- BIOL 3244 - Human Anatomy
- BIOL 3654 - General Microbiology
- BIOL 4335 - Plant Science
- BIOL 3413 - Ecology Laboratory
- BIOL 3612 - Cell Biology Laboratory
- BIOL 4125 - Molecular Biology Laboratory
- BIOL 4345 - Flora of Colorado
- BIOL 4640 - Mammalogy
- BIOL 4910 - Field Studies
- BIOL 4644 - Advanced Human Anatomy Laboratory

Ancillary chemistry courses:

- CHEM 2031 - General Chemistry I
- CHEM 2038 - General Chemistry Laboratory I
- CHEM 2061 - General Chemistry II
- CHEM 2068 - General Chemistry Laboratory II

Minor Total: 20-23 Biology Hours and 9 Chemistry Hours

Business Administration Minor

Students in other undergraduate schools and colleges at the Denver campus wishing to take a minor in business administration must have a 2.0 GPA to enter as a business minor plus a 2.0 GPA in business courses.

Prerequisites

- ISMG 2050 - Introduction to Business Problem Solving
- MATH 1070 - Algebra for Social Sciences and Business or
- MATH 1110 - College Algebra and
- MATH 1080 - Polynomial Calculus
- DSCI 2010 - Business Statistics or
  a statistics class approved by the Business School and
- ECON 2022 - Principles of Economics: Microeconomics

Required Courses

Business Administration Minor

- ACCT 2200 - Financial Accounting and Financial Statement Analysis
- BLAW 3000 - Legal and Ethical Environments of Business I
- FNCE 3000 - Principles of Finance
- MKTG 3000 - Principles of Marketing
- MGMT 1000 - Introduction to Business
- MGMT 3000 - Managing Individuals and Teams

Twelve of these 18 hours must be taken while in residence at the Denver campus. If the student has already taken the equivalent of one or more of these courses, other higher-level business courses may be substituted with Business School approval. Up to 6 hours of the 18 required business courses may be taken at another institution. Transfer credit will be granted on the same basis that transfer credit is granted for courses taken by business majors.

Chemistry Minor

The objective of the chemistry minor is to provide broad introductory course work and laboratory experience to science majors without the more technical mathematical and chemical prerequisites required of the chemistry major. The chemistry minor is open to all CLAS students and should prove beneficial for science majors, pre-professional health science majors and students seeking science education certification.

Course work and grade requirements that must be satisfied to obtain a chemistry minor include:

- a minimum of 20 semester hours of chemistry courses, including at least 10 at the upper division level
- upper-division course work must include three of the six subdisciplines that comprise chemistry: analytical, biochemistry, inorganic, organic, physical and environmental chemistry
- a minimum 2.0 GPA for chemistry courses taken at CU Denver
- all chemistry minor courses must be taken for a letter grade rather than with the pass/fail grading option
- to satisfy the department residency requirement, a minimum of 7 upper-division hours of chemistry must be taken at the Denver campus

Course Requirements

All upper division chemistry courses at CU Denver will satisfy course work requirements for the minor. Furthermore, the Department of Chemistry offers courses that have minimum chemistry and mathematics prerequisites and should be considered for the chemistry minor degree. Choose from the following suggested courses, or other electives approved by your chemistry minor advisor.

Analytical

- CHEM 3111 - Analytical Chemistry
- CHEM 3118 - Analytical Chemistry Laboratory

Biochemistry

- CHEM 3810 - Biochemistry

Organic

- CHEM 3411 - Organic Chemistry I
- CHEM 3418 - Organic Chemistry Laboratory I
- CHEM 3421 - Organic Chemistry II
- CHEM 3428 - Organic Chemistry Laboratory II
- CHEM 3498 - Honors Organic Chemistry Laboratory II

Inorganic

- CHEM 3011 - Inorganic Chemistry

Physical

Course selections to be announced.

Environmental

- CHEM 4700 - Environmental Chemistry

MINOR TOTAL: 20 HOURS (minimum)

To register your minor in chemistry, please visit the CLAS advising office in NC 4002. After establishing your minor status, you are encouraged to meet with the chemistry minor advisor, Professor Mark Anderson in NC 3002C.

Chinese Studies Minor

Director: Kuan-Yi Rose Chang
Faculty Advisors:
Kuan-Yi Rose Chang, Plaza 118X, 303-556-2434
Ji Chen, Lawrence Street Center 390K, 303-556-6611
Xiaojia Hou, King Center 560, 303-556-8315
Stephen C. Thomas, King Center 520, 303-556-5259
Office: Modern Languages, Plaza 118X
Telephone: 303-556-2434
Website:
http://www.ucdenver.edu/academics/colleges/CLAS/Departments/ModernLanguages/Programs/Pages/Minors.aspx

This innovative program offers specialized study of China through course work in the related disciplines of language, anthropology, history, geography, literature, political science and business. China's economic and political presence is increasingly prominent in the United States. According to a recent national survey, Chinese is the fastest-growing foreign language in American colleges and universities. CU Denver is uniquely positioned to make use of its location as the cultural, economic and political center of the Rocky Mountain region and of its diverse, well-trained and highly qualified faculty to offer a course of interdisciplinary studies related to China.

The increasing prominence of China in world affairs has made knowledge of Chinese language and cultures a valuable asset in numerous fields. Today, career opportunities abound for Chinese studies graduates in government, international business, banking and financial services, law, medicine, journalism and graduate study in sinology. The breadth of the program's course offerings, coupled with the resources of the faculty, ensures that its graduates will be especially well prepared for any of these professional pursuits.

The program in Chinese studies offers a host of study abroad opportunities throughout the academic year and every summer. CU Denver has on-going programs at the China Agricultural University in Beijing. Study abroad programs of two weeks to one year in length may be arranged, and program faculty can help students enroll in intensive Chinese language programs. Students pursuing the minor in Chinese language and area studies are encouraged to complete the program with a period of residence and study in a Chinese-speaking region.

Requirements for the Minor

The minor requires a total of 21 semester hours. A minimum of 15 semester hours must be taken from Denver campus faculty. All courses must be completed with a grade of *C* (2.0) or better.

Required Courses

- * CHIN 1000 - China and the Chinese
- CHIN 1010 - Beginning Chinese I

- CHIN 1020 - Beginning Chinese II

Total: 13 Hours

**Note:* CHIN 1000 should be taken toward the beginning of the minor.

Additional Courses

An additional 8 hours of course work should be selected from the following list of courses:

- ANTH 4000 - Special Topics in Anthropology
- CHIN 2110 - Second Year Chinese I
- CHIN 2120 - Second Year Chinese II
- CHIN 3200 - Contemporary Chinese Society and Culture
- FINE 4750 - Arts of China
- GEOG 3160 - Geography of China
- HIST 4420 - Traditional China: China to 1600
- HIST 4421 - Modern China
- PSCI 4186 - East Asia in World Affairs
- PSCI 4615 - Politics and Government of China
- PSCI 4726 - Russian and Chinese Foreign Policy
- PHIL 3666 - Asian Philosophies and Religions
- PHIL 3981 - Chinese Philosophy and Culture

China-related travel study, taken under the following course numbers:

- ANTH 4995 - Travel Study
- CHIN 3995 - Travel Study
- COMM 4995 - Travel Study
- PSCI 4995 - Travel Study

Total: 8 Hours

Minor Total: 21 Hours

Note: New courses may not appear in the course description section of this catalog. Contact the department for further information.

Communication Minor

Knowledge in any area of study, whether in business, politics, biology or sociology, means little unless it can be communicated effectively. The minor in communication is designed to provide students who are not communication majors with knowledge and skills in communication that are useful in any discipline or profession.

The minor in communication requires 18 semester hours, with 12 hours of required courses and 6 hours of electives.

Requirements

Core Courses

- COMM 1011 - Fundamentals of Communication
- COMM 1021 - Introduction to Media Studies
- COMM 2020 - Communication, Citizenship, and Social Justice
- COMM 1001 - Presentational Speaking
- -OR- COMM 2050 - Business and Professional Speaking

Total: 12 Hours

Elective Courses

In addition to the four courses specified above, students must take two upper-division courses (3000 level or above) to be selected with the aid of the undergraduate advisor in communication.

Total: 6 Hours

Minor Total: 18 Hours

Grade and Residency Requirements for Minors

A grade of *C* (2.0) or better must be earned in each course completed as part of the minor. No more than 6 of the semester hours for the minor may be transferred from another university.

Computer Science Minor

The Department of Computer Science and Engineering offers a minor in computer science. The requirements for the minor are listed below.

Program Requirements

1. Any undergraduate student currently enrolled in a CU Denver degree program with a major other than computer science and engineering may earn a minor in computer science. This includes students from the College of Engineering and Applied Science, the College of Liberal Arts and Sciences, the Business School, the College of Arts & Media and the School of Public Affairs.

2. The student must complete the following classes with a grade of *C*- or better:

MATH 1401 - Calculus I

MATH 2411 - Calculus II

CSCI 1410 - Fundamentals of Computing

CSCI 1411 - Fundamentals of Computing Laboratory

CSCI 2312 - Intermediate Programming

CSCI 2421 - Data Structures and Program Design

CSCI 2511 - Discrete Structures

3. The student must complete (with a *C*- or better) three additional computer science courses at the 3000-level or higher with the approval of an undergraduate advisor.

Note: Some courses at the 3000-level and above require additional prerequisites. A student must fulfill all prerequisites for the courses he/she selects. See the catalog course descriptions for prerequisite information for each course.

4. All computer science courses 3000 level and above must be taken at the Denver campus.

5. At the time of graduation, the student must have a CU Denver cumulative GPA of 2.0 and must have a 2.0 GPA for the eight classes taken for the minor.

6. The student must file a minor declaration form with the Engineering Student Services office in North Classroom, 2605. For more information or an advising appointment, contact the Department of Computer Science and Engineering in the Lawrence Street Center, 8th floor, or by phone at 303-315-1411.

Creative Writing Minor

The creative writing minor gives students the opportunity to complement their area of major study with experience writing and reading poetry or fiction.

Students minoring in creative writing must complete a total of 15 hours. None of the required courses may be taken pass/fail. Only courses completed with a grade of *C* (2.0) or better may be counted toward the minor. All upper-division courses must be taken with CU Denver English faculty. Students should take ENGL 1020 before beginning the minor. Courses in a minor cannot be counted toward the English major or English Writing major; consult an English advisor for substitutions.

Courses

Required Courses

- ENGL 2154 - Introduction to Creative Writing
- ENGL 2450 - Introduction to Literature
- ENGL 3020 - Poetry Workshop
- -OR- ENGL 3050 - Fiction Workshop

Total: 9 Hours

Area Requirements

Choose one corresponding poetry or fiction course:

- ENGL 4025 - Advanced Poetry Workshop
- ENGL 4055 - Advanced Fiction Workshop
  ENGL 3____ Writing Workshop (3000-level not previously taken)

Total: 3 Hours

Elective in Genre of Specialization

Poetry

Students who have taken ENGL 3020, choose one from the following:

- ENGL 4160 - Poetics
- ENGL 4166 - History of American Poetry
- ENGL 4320 - History of Poetry in English
- ENGL 4800 - Special Topics in Creative Writing (poetry emphasis)

Fiction

Students who have taken ENGL 3050, choose one from the following:

- ENGL 4200 - History of the English Novel I
- ENGL 4210 - History of the English Novel II
- ENGL 4230 - The American Novel
- ENGL 4236 - The American Short Story
- ENGL 4800 - Special Topics in Creative Writing (fiction emphasis)

Total: 3 Hours

Minor Total: 15 Hours

Criminal Justice Minor

Program Requirements

A minor in criminal justice requires 18 semester hours of course work.

Required Courses:

- CRJU 1000 - Introduction to Criminal Justice
- CRJU 2041 - Crime Theory and Causes

Plus at least one of the following:

- CRJU 4042 - Corrections
- CRJU 4043 - Law Enforcement
- CRJU 4044 - Courts and Judicial Process

One to three additional elective courses in criminal justice or ancillary fields.
A maximum of 9 transfer credits may be applied to the minor. Electives must be taken from outside the student's major. No lower division courses may be counted for the minor.

Demography Minor

Demography is the scientific study of human populations. It is an interdisciplinary field that examines the causes and consequences of health and mortality, population aging, migration, fertility, maternal and child health, interactions between human populations and the environment and population growth and decline.

Students working toward a minor in demography within the Department of Health and Behavioral Sciences (HBS) will acquire focused training in theories and methods of demography. The minor will help students develop important skills in critical thinking and quantitative reasoning, and will prepare them for graduate-level training in demography or related fields and for jobs requiring an understanding of population dynamics. Demographers are frequently employed in occupations including academia, risk assessment, marketing, consulting, non-profits and various local, state and federal government agencies.

For more information, email demographyminor@ucdenver.edu.

Program Requirements for the Minor

All students must complete a **minimum of 18 credits drawn from the approved course list** (see below). Although students may count courses taken for other majors or minors toward the requirements for the demography minor, they must still take at least **18 credits that count exclusively toward the demography minor**.

All undergraduate CU Denver students are eligible to take this minor, and must achieve a *C* (2.0) or above in all the courses for them to be counted toward the minor. A minimum of 15 credit hours, at least 12 of which must be upper division courses, must be taken in residence at CU Denver.

Note: Students should check for prerequisites when enrolling in courses.

Survey Courses

Students must choose at least one of the following; both may be counted toward the minor:

- PBHL 2051 - Introduction To Population Studies
- SOCY 4220 - Population Change and Analysis

Quantitative Methods

Must choose at least one of the following; additional courses may not count toward the minor:

- MATH 2830 - Introductory Statistics
- HBSC 3001 - Introduction to Epidemiology
- PBHL 3001 - Introduction to Epidemiology

Strong Demographic Themes

Must choose at least one of the following; more may count toward the minor:

- ANTH 4260 - Human Reproductive Ecology
- PBHL 3071 - Global Topics In Sexual and Reproductive Health
- PBHL 4020 - Global Health: Comparative Public Health Systems
- PBHL 4040 - Social Determinants of Health
- SOCY 3520 - Topics in Sociology (when offered as Medical Sociology topic)
- SOCY 4440 - Social Inequality

Other Electives

These courses may be used to fulfill remaining credits:

- BIOL 3412 - Fundamentals of Applied Ecology
- ECON 3100 - Economics of Race and Gender
- ECON 3400 - Economics of Sex and Drugs
- GEOG 1602 - Introduction to Urban Studies
- GEOG 3300 - Population and Resources in the World Environment
- GEOG 3501 - Geography of Health
- PBHL 3002 - Ethnicity, Health and Social Justice
- PBHL 3031 - Health, Human Biology and Behavior
- PBHL 3200 - Human Migration: Nomads, Sojourners, and Settlers
- -OR- ANTH 3200 - Human Migration: Nomads, Sojourners, and Settlers
- PBHL 4200 - The Global HIV/AIDS Epidemic
- -OR- HBSC 5200 - The Global HIV/AIDS Epidemic
- PSCI 4545 - Immigration Politics
- SOCY 3700 - Sociology of the Family
- SOCY 4772 - Advanced Topics in Sociology (when offered as Crime and Inequality Over the Life Course topic)

Total: 18 Hours

Digital Design Minor

Digital design integrates aesthetic, creative and critical thought with expertise in advanced electronic media. Configured as an interdisciplinary arts and design laboratory, digital design offers a hands-on education combining new art technologies and design concepts in a concentrated theoretical framework that promotes an understanding of the cultural impact and uses of digital technologies. Through this interdisciplinary approach combining arts and communication, digital design strives to produce artists and designers who will use technology in innovative ways in both commercial and artistic spheres.

Students who are applying for an entrance into the digital design minor are required to submit a written statement, a designed portfolio, and transcript(s) from CU Denver and all previous post-secondary educational institutions. The digital design course sequence starts in the fall semester. Students who meet the following requirements can apply. Upon acceptance students can register for upper-division digital design courses.

ELIGIBILITY

University of Colorado Denver Students

- The student has completed, or is in the process of completing, the following foundation studio courses: FINE 2405 and FINE 2415 (both courses are only offered fall semester).
- A minimum cumulative fine arts/art history GPA of 2.75.

Transfer Students

- The student has completed and is transferring a minimum of 24 credit hours from a previous institution.
- The student has completed, or is in the process of completing, the equivalents of the following foundation studio courses: FINE 2405 and FINE 2415.
- A minimum cumulative fine arts/art history GPA of 2.75.

APPLICATION PORTFOLIO REQUIREMENTS

To properly prepare your application, refer to http://designucd.com/index.php/portfolio/ for detailed instructions. Applications are due by 5 p.m. on November 1 or on the following business day if the deadline falls on a weekend or holiday. Students should register and create a page two weeks prior to uploading so that they understand how to format and prepare work.

Applications are only accepted online and must be formatted to the specifications listed on http://designucd.com/index.php/portfolio/. The portfolio samples should consist of images (JPGs) and embedded video. Written work should be integrated into the submission. **It is VERY important for students to visit the submission page early and begin uploads one week before the due date.** Late submissions due to technical difficulties on the part of the applicant will NOT be accepted.

Portfolio of Images

- The portfolio must include 10-12 electronic examples of your creative work. At least four portfolio works must be taken from Intro to Digital Design or Typography. Additional works may comprise design, drawing, sculpture, photography, installation, painting, video, etc.
- All artwork must include a corresponding brief explanation of the concept and creative process behind each piece.

GPA

- The applicant must compile a list of all fine arts/art history courses taken, categorized by each college/university attended.
- The applicant must clearly calculate his or her fine arts/art history GPA.

Written Statement

The written statement should address all of the following in a clear, detailed and accurate essay no more than two pages in length. The content of the answers has significant impact on the committee's decision whether to offer admission to the digital design minor.

- The applicant describes why he or she would like to be a designer and what goals and expectations the applicant has regarding design as a career. Include any special considerations that would be useful for the committee in making a decision, such as a high GPA, art-related extracurricular activities or relevant professional experience.
- The applicant reflects on the artists and designers who have influenced his or her artistic interests. Use at least two examples of each artist's work, discussing both form and content.
- The applicant identifies his or her creative strengths and areas that need further development. How will the applicant best utilize strengths? How does the applicant plan to resolve any deficiencies in work and performance?

Course Transcripts

These may be official or unofficial transcripts from CU Denver and previous post-secondary institutions.

The Evaluation Process

- A committee of design faculty members reviews the application packet. The decision for admission into the digital design minor is based on the portfolio images, written statement and grades/GPA. For acceptance, the committee looks for a high level of skill and sophistication in studio, written and presentation skills.
- If not admitted into the digital design minor, a student has the choice of attempting the review process again the following year or selecting another minor. Students not admitted into the digital design minor are encouraged to schedule a meeting with a

digital design faculty member to learn of ways to improve portfolios for future submissions.

The application is evaluated on the following criteria:

- **Presentation** - Is the portfolio well crafted and well organized in content and presentation? Are all of the required components included?
- **Visual Literacy** - Does the portfolio reflect sensitivity to design concepts and visual logic, and does it demonstrate fundamental understanding of composition? Does the work communicate effectively?
- **Technical Skill** - Does the portfolio reflect a strong knowledge of tools and materials and a strong aptitude for digital design skills?
- **Conceptual Skills** - Do the portfolio and written statement demonstrate analytical thinking as it applies to visual art and design? Is there a developing conceptual exploration of the digital medium?
- **Written Statement** - Does the statement reflect an understanding of digital design and explain your goals as a student in the digital design minor? Are potential strengths and weaknesses addressed clearly?
- **Academic Performance** - Do your grades reflect a commitment to learning and growth?

Questions

Please contact CAMadvising@ucdenver.edu for minor and portfolio information, or contact digital design area head Brian DeLevie at brian.delevie@ucdenver.edu.

Those applying to the minor (and not the digital design emphasis) are not required to complete the following courses or their college-level equivalents:

- FINE 1100 - Drawing I
- FINE 1400 - Two Dimensional Design

However, students must show equivalent studio work in their application portfolios.

Additional Information about the Minor

All courses for the minor must be taken at CU Denver unless approved otherwise by the digital design faculty advisor. Each course must be completed with a grade of C (2.0) or better. Students may use up to 6 semester hours to fulfill both major and minor requirements; the remaining semester hours for the minor must be taken in addition to major requirements. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

Minor Course Requirements

- FINE 2405 - Introduction to Digital Design
- FINE 2415 - Typography Studio
- FINE 3414 - Motion Design I

- FINE 3415 - Design Studio I
- FINE 3424 - Interactive Media
- FINE 3434 - 3D Motion Design
- FINE 4632 - Media History and Aesthetics

Total: 21 Hours

Economics Minor

Students minoring in economics must complete a minimum of 15 semester hours in economics. All course work must be completed at CU Denver or the Department of Economics reserves the right to test the student's competence in the material covered. No grade below *C*- will be counted toward the minor requirements.

Courses

- ECON 2012 - Principles of Economics: Macroeconomics
- ECON 2022 - Principles of Economics: Microeconomics
  —plus—
  Three upper-division electives in economics: **9 semester hours**
  (ECON 3100 - Economics of Race and Gender is acceptable)

Total: 15 Hours

At least two upper-division courses must not overlap with courses required in the student's major program.

Environmental Sciences Minor

The environmental sciences minor offers students exposure to the breadth of environmental issues. Students may emphasize the natural/physical sciences, the social sciences and humanities or structure their own mixed emphasis.

Program Requirements

Lecture/Laboratory Courses

Choose two lecture/laboratory courses (see Note 2):

- BIOL 2051 - General Biology I
- *and* BIOL 2071 - General Biology Laboratory I
- BIOL 2061 - General Biology II
- *and* BIOL 2081 - General Biology Laboratory II
- CHEM 2031 - General Chemistry I
- *and* CHEM 2038 - General Chemistry Laboratory I
- CHEM 2061 - General Chemistry II
- *and* CHEM 2068 - General Chemistry Laboratory II
- ENVS 1042 - Introduction to Environmental Sciences
- GEOL 1072 - Physical Geology: Surface Processes
- GEOL 1082 - Physical Geology: Internal Processes
- PHYS 2010 - College Physics I
- *and* PHYS 2030 - College Physics Lab I
- PHYS 2020 - College Physics II
- *and* PHYS 2040 - College Physics Lab II

Total: 8-10 Hours

Upper-division Courses

Choose three upper-division courses outside of the student's major discipline from the following list (see Notes 5 and 6):

- ANTH 4010 - Medical Anthropology: Global Health
- BIOL 3411 - Principles of Ecology
- CHEM 4700 - Environmental Chemistry
  (see note 4)
- ECON 4540 - Environmental Economics
- ENVS 3082 - Energy and the Environment
- -OR- PHYS 3082 - Energy and the Environment
- GEOG 3232 - Weather and Climate
- GEOG 3240 - Colorado Climates
- GEOG 4020 - Earth Environments and Human Impacts
- GEOG 4060 - Remote Sensing I: Introduction to Environmental Remote Sensing
- GEOG 4080 - Introduction to GIS

- GEOG 4090 - Environmental Modeling with Geographic Information Systems
- GEOG 4220 - Environmental Impact Assessment
- GEOG 4230 - Hazard Mitigation and Vulnerability Assessment
- GEOG 4240 - Geomorphology
- GEOG 4265 - Sustainability in Resources Management
- GEOG 4270 - Glacial Geomorphology
- GEOG 4335 - Contemporary Environmental Issues
- GEOG 4350 - Environment and Society in the American Past
- GEOG 4420 - The Politics of Nature
- GEOL 4030 - Environmental Geology
- PSCI 4354 - Environmental Politics

Total: 9 Hours

Minor Total: 17-19 Hours

Notes:

1. All work submitted for an environmental sciences minor must have a grade of *C* (2.0) or above.
2. The lecture/laboratory sequence can be part of the requirements for the major, but not in the student's major department (i.e., a biology major cannot use the general biology sequence, but could use the general chemistry sequence, which is also required for the biology major).
3. Students must take a minimum of 9 hours of the upper-division courses at the Downtown Campus.
4. If the student plans to go on to the MS in environmental sciences program, he/she should choose courses other than CHEM 4700. This is a core course in the MS in environmental sciences program.
5. Many of the upper-division courses have prerequisites; the student must check the catalog for prerequisite requirements for these courses.
6. The four upper-division elective courses for the environmental sciences minor cannot be from the student's major discipline, even if the particular course is not counted toward the major.

Ethics Minor

A total of 15 semester hours is required for an ethics minor, with a minimum grade of *C* (2.0) in each course.

Required Courses

- PHIL 1020 - Introduction to Ethics and Society: The Person and the Community

Choose four:

- PHIL 3150 - History of Ethics
- PHIL 3200 - Social and Political Philosophy
- PHIL 3250 - Business Ethics
- PHIL 3280 - War and Morality
- PHIL 3500 - Ideology and Culture: Racism and Sexism
- PHIL 3939 - Internship
- PHIL 4150 - Twentieth Century Ethics
- PHIL 4242 - Bioethics
- PHIL 4250 - Environmental Ethics

Minor Total: 15 Hours

For those students who major in philosophy and minor in ethics, no course can satisfy the requirements for both. For example, if a student takes PHIL 4150, Twentieth Century Ethics, it cannot satisfy the requirement in the major for a course in 19th or 20th century philosophy.

Ethnic Studies Minor

Requirements for the Minor

The minor in ethnic studies offers students the opportunity to enhance and broaden the body of knowledge acquired in their chosen majors and to apply it in a variety of careers involving intercultural relations. Students are required to complete 18 semester hours (6 courses) in ethnic studies with a grade of *C* or better. These hours are to be taken with CU Denver faculty (any exception needs to be approved by the ethnic studies advisor). At least 9 of the required 18 hours must be in courses numbered 3000 or above.

The 18 hours required for the minor must be distributed as follows:

Core Courses

- ETST 2000 - Introduction to Ethnic Studies

Total: 3 Hours

Additional Courses

Select four upper- or lower-division ETST courses from the following four focal U.S. racial/ethnic groups

Asian-Americans
African-Americans
American Indians
Chicanos/as and Latinos/as

Total: 12 Hours

Elective

ETST elective course of your choice.

Total: 3 Hours

Minor Total: 18 Hours

Film Studies Minor

The film studies minor offers students the opportunity to gain an informed understanding of the sophisticated medium of film, its language and history. Courses cover critical writing about cinema, creative screenwriting, the evolution of Hollywood movies, international cinema and film in its cultural context. The film studies minor makes a valuable complement to a range of undergraduate majors.

Students must complete a total of 15 hours for the film studies minor. None of the required 15 hours may be taken pass/fail. Only courses completed with a grade of *C* (2.0) or better may be counted toward the minor. A minimum of 9 hours must be taken with CU Denver faculty. Students are also advised to fulfill the liberal arts and sciences core curriculum writing requirements before enrolling in upper-division topics in film courses. No more than two online film studies courses can be counted toward the minor. Courses in a minor cannot be counted toward the English major or English Writing major; consult an English advisor for substitutions. [Courses marked by an asterisk are repeatable if taken as a different genre/director/topic.]

Courses

Required Courses

- ENGL 2250 - Introduction to Film
- ENGL 2450 - Introduction to Literature
- ENGL 3070 - Film History I
- -OR- ENGL 3080 - Film History II

Total: 9 Hours

Electives

Choose two:

- ENGL 2415 - Introduction to Movie Writing
- ENGL 3070 - Film History I
- -OR- ENGL 3080 - Film History II
- * ENGL 3075 - Film Genres
- * ENGL 3085 - Film Directors
- ENGL 3200 - From Literature to Film
- * ENGL 3300 - Topics in Film
- ENGL 4420 - Film Theory and Criticism
- * ENGL 4770 - Topics in English: Film and Literature (film topics only)

Total: 6 Hours

Total: 15 Hours

French Minor

Students minoring in French must complete 15 semester hours of upper-division French courses (courses numbered 3000 and above). The minor in French must include at least one language skills class, chosen from the following:

Required Courses

Choose one:

- FREN 3010 - French Phonetics and Pronunciation
- FREN 3020 - Oral Practice
- FREN 3050 - Advanced Grammar and Composition
- FREN 3060 - Advanced French Language Skills

Total: 3 Hours

Electives

In addition, students minoring in French must complete four additional upper-division French courses

Total: 12 Hours

Minor Total: 15 Hours

Geography Minor

Students must complete 15 semester hours in geography, including at least 6 semester hours of upper-division courses. Students must achieve a grade of *C* (2.0) or above on required courses. At least 9 semester hours of upper-division geography courses must be completed at CU Denver.

Geology Minor

At least two of the upper-division requirements must be completed at CU Denver. Transfer students who have earned the equivalent of all these courses elsewhere must complete a minimum of two of the required upper-division courses at CU Denver. No grade below a *C* (2.0) will be counted toward the minor requirements.

Required Courses

- GEOL 1072 - Physical Geology: Surface Processes
- GEOL 1082 - Physical Geology: Internal Processes

Choose at least two of the following courses:

- GEOL 3011 - Mineralogy
- GEOL 3032 - Geology of Colorado
- GEOL 3421 - Sedimentation and Stratigraphy
- GEOL 4020 - Earth Environments and Human Impacts
- GEOL 4030 - Environmental Geology
- GEOL 4240 - Geomorphology
- GEOL 4270 - Glacial Geomorphology
- GEOL 4280 - Environmental Hydrology

Minor Total: 15-16 Hours

NOTE: Any upper division courses applied to the geography major, option 5 cannot also be applied to the geology minor.

German Studies Minor

The German Studies minor uses an interdisciplinary approach to learning language that also provides the opportunity to discover the culture of the speakers of German, which can include course work from outside the department. Students improve their German language skills as well as develop cultural knowledge in fields such as history, political science, philosophy, the arts and any of the multiple fields to which the German culture has so richly contributed.

Admission and Grade Requirements

Students minoring in German Studies must maintain a minimum overall GPA of 2.3, and a GPA of 2.5 in courses applied to the German Studies minor. The minimum grade acceptable in any course applied to the German Studies minor is a *C* (2.0). No courses taken on a pass/fail basis may be credited toward the German Studies minor.

Course Substitutions

With prior consent from a CU Denver German faculty advisor, students may apply substitute course work to fulfill the required areas of study. This would include, for example, courses taken outside the department, transfer credit, study abroad course work, etc. Please consult with a CU Denver German faculty advisor to receive permission for course substitution. GRMN 1010 and GRMN 1020 can NOT be applied toward this minor.

Residency Requirement

The German Studies minor requires 6 semester hours of upper-division course work. A minimum of 12 semester hours must be taken from German faculty at CU Denver. Courses taken at other institutions while a student is enrolled at CU Denver may be applied to the minor only with departmental approval before enrollment in those courses.

Students who have completed course work through an approved exchange program must also complete a residency requirement of a minimum of 6 credits of upper-division German courses. This residency requirement must include at least 3 semester hours of language skills courses at CU Denver.

Advising

Upon declaring a minor in German Studies, each student will be assigned to a faculty advisor with whom the student should consult at least once per semester thereafter. It is especially important that students have their transcripts reviewed by their advisor before enrolling in their final 30 credit hours at CU Denver. Failure to do so may result in delay of graduation.

Course Requirements for the Minor

Students must complete a minimum of 18 semester credit hours of course work pertinent to the study of German Language and Culture. No portion of these 18 credits may be applied to satisfy the requirement of any specific program outside the German Studies minor (such as satisfying core curriculum requirements) other than the total number of credits required for an undergraduate degree.

Required Courses in Language Proficiency

Students must complete at least 6 semester credits of upper division German skills courses. Skills courses are those taught in German with the goal of improving the student's abilities in spoken and written German. Any courses taught in German at the 3000 level or higher may be applied toward language proficiency (example courses: GRMN 3030, GRMN 3050, GRMN 3060). Only courses taught in German may apply toward the language proficiency minimum.

Total: 6 Hours

Required Courses in German Culture

Students must complete a minimum of 3 credit hours pertaining to German culture. Culture courses are those whose primary content focuses on the aspects of German society, current and/or historical issues. Students may complete this component in any language of instruction. (Examples of such courses include GRMN 1000, GRMN 3200, and may include courses outside the department.)

Total: 3 Hours

Electives

In addition to the minimum 9 credits of required skills and culture courses, students must complete at least 9 additional credits of elective course work pertinent to the study of German language and/or culture. These credits may be chosen from any course offerings with a GRMN prefix (such as GRMN 3200) and may also include GRMN 1000, GRMN 2110 and GRMN 2150 with permission from a German faculty advisor. Please note that GRMN 1010 and GRMN 1020 can NOT be applied toward the German minor.

Students may apply up to 6 semester credits toward the German minor from UCD courses outside the department provided that the content of the course work is pertinent to the study of German language and/or culture (such as courses in history, political science, philosophy, etc.). Students must receive prior approval from a German faculty advisor to apply credits from outside the department toward the German minor.

Total: 9 Hours

Minor Total: 18 Hours

Study Abroad

Students learning German are highly encouraged to study abroad in a German-speaking country. Please consult a faculty member in German about including study abroad in your curriculum and about the application of course work completed abroad as it applies to your program.

German Language Certificate

Students enrolled in a degree program, and who complete the Certificate in Applied German Language Skills, satisfy the requirements for a German Studies minor and can earn both upon graduation.

Health Humanities Minor

Program Requirements

Students declaring a minor in HEHM must have at least a 2.5 overall GPA. No grade lower than a C will count towards the minor. At least 12 credits for the minor must be taken with CU Denver faculty. Students may count ONE relevant transfer course toward their elective requirements for the minor.

Required Course

This is a multidisciplinary course, introducing students to the ways various disciplines approach health and medicine. As part of their introduction, students will be required to attend three events at the Anschutz Medical Campus – such as lectures in the "Arts and Humanities" series, Mini Med School, or special programming. We recommend that students take HEHM 3100 before or concurrently with other courses for the minor.

HEHM: Introduction to Health Humanities 3 credits

Electives

Electives include the courses on the back of this sheet (the list is not exhaustive). One elective course can be a service learning course or independent study approved by an HEHM advisor.

Electives must come from at least two different disciplines and must be at the 3000 or 4000 level.

- ANTH 4600 - Medical Anthropology
- COMM 4500 - Health Communication
- ETST 3002 - Ethnicity, Health and Social Justice
- GEOG 3501 - Geography of Health
- GEOG 4235 - GIS Applications in the Health Sciences
- GEOG 4710 - Disasters, Climate Change, and Health
- HIST 4307 - History of Sexuality
- HIST 4503 - Topics in History of Science
- PBHL 3030 - Health Policy
- PBHL 3070 - Perspectives in Global Health
- PBHL 3041 - Health, Culture and Society
- PBHL 4040 - Social Determinants of Health
- PHIL 4242 - Bioethics
- PSCI 4330 - U.S. Health Policy
- PSYC 3262 - Health Psychology
- SOCY 3440 - Medical Sociology

Total: 9 Hours

Capstone

Certain courses, designated with asterisks below, are appropriate for a capstone course. They incorporate substantial original writing or research projects designed to promote broad reflection about the role of culture, society, and ethics in medicine. Students should choose asterisk courses at the culmination of their minor course work.

- COMM 4550 - Rhetorics of Medicine & Health
- ENGL 4290 - Rhetoric and the Body
- HIST 4345 - Gender, Science, and Medicine: 1600 to the Present
- HIST 4346 - Medicine and Society: the Ancients to the Present

Total: 3 Hours

Minor Total: 15 Hours

History Minor

Students interested in a minor in history are required to complete 18 hours of course work. At least 12 semester hours must be completed at CU Denver. No grade below a *C* (2.0) will count toward the minor.

Students minoring in history must take at least 9 credit hours of upper division (3000- and 4000-level) courses.

Course Requirements

Required Course

- HIST 3031 - Theory and Practice of History: An Introduction to the Major

Total: 3 Hours

Distribution Requirement

A minimum of 3 semester hours must be taken in each of the following areas: United States, Europe and World.

Total: 9 Hours

Electives

Choose at least 6 hours of elective upper-division history credit.

Total: 6 Hours

Minor Total: 18 Hours

Law Studies Minor

Program Requirements

A total of 18 semester hours must be completed for the law studies minor. The courses must be taken in residence at CU Denver. A minimum grade of *C* is required in each course and students must maintain a GPA of 3.0 in courses taken toward the minor. Every course taken for the minor must be upper division. Courses taken for the minor cannot serve to fulfill requirements of the undergraduate core, and students should check with their major department to determine whether courses counted toward the law studies minor can fulfill major requirements. To apply for this minor, students must complete and submit a major/minor change declaration form to the CLAS Advising Office in North Classroom, 4002.

Required Courses

- HUMN 3250 - Introduction to Law Studies
  (offered every fall)
- PHIL 4260 - Philosophy of Law
  (offered every spring)
- COMM 4680 - Mass Media Law And Policy
  (offered fall and spring)
- COMM 4750 - Legal Reasoning and Writing
  (offered once a year)

Total: 12 Hours

Electives

Choose two:

- BLAW 3000 - Legal and Ethical Environments of Business I
- COMM 4681 - Communication Issues in Trial Court Practices and Processes
- COMM 4683 - Media in the Courtroom
- COMM 4710 - Topics in Communication
  (when offered as the topic, "Communication in Jury Decision Making")
- CRJU 4430 - Law and Society
- PSCI 4494 - Judicial Politics
- PSCI 4427 - Law, Politics and Justice
- PSYC 3505 - Psychology and the Law

Total: 6 Hours

Minor Total: 18 Hours

The law studies program also recommends a course in informal logic to aid in preparation for the LSAT (e.g., PHIL 2441).

Literature Minor

This program is designed for students who are interested in the study of English literature but who have elected to major in another area. The recommended series of courses allows students to become acquainted with some of the methods of literary study and with a number of the most important literary works.

The literature minor allows students to complement their area of major study with systematic experience in literature.

Students minoring in literature must complete a total of 15 hours (excluding ENGL 1010, 1020, 2030). None of the required 15 hours may be taken pass/fail. Only courses completed with a grade of *C* (2.0) or better may be counted toward the minor. A minimum of 9 upper-division hours of work in the minor must be taken with CU Denver English faculty. Courses in a minor cannot be counted toward the English major or English Writing major; consult an English advisor for substitutions.

Courses

Required Courses

- ENGL 2450 - Introduction to Literature
- ENGL 3001 - Critical Writing

Total: 6 Hours

Area Requirements

Any three upper division courses listed for the English major, Literature Option area requirements.

Total: 9 Hours

Minor Total: 15 Hours

Mathematics Minor

Program Requirements

- MATH 1401 - Calculus I
- MATH 2411 - Calculus II
- MATH 2421 - Calculus III

  Three additional upper-division math courses (3 or more semester hours each, excluding MATH 3040) — **9 semester hours**

Minor Total: 21 Hours

Minimum of 21 semester hours with a *C* average.

At least 6 of the upper-division semester hours must be taken at CU Denver. Students must receive a grade of *C* or better in order for the course to be counted toward the minor requirements.

Note: Engineering courses not cross-listed with a math course will not satisfy this requirement.

Philosophy Minor

A total of 15 semester hours is required for the minor in philosophy, with a minimum grade of *C* (2.0) in each course.

Program Requirements

Required Courses:

- PHIL 1012 - Introduction to Philosophy: Relationship of the Individual to the World
- PHIL 3002 - Ancient Greek Philosophy
- PHIL 3022 - Modern Philosophy
  (It is recommended but not required that PHIL 3002 be taken before PHIL 3022.)

Total: 9 Hours

Electives

Choose two additional philosophy courses, one of which must be at the upper-division level.

Total: 6 Hours

Minor Total: 15 Hours

Religious studies courses cannot be used to fulfill the requirements for the minor.

Photography Minor

Students in the photography minor develop technical skills in traditional and digital photographic practice while refining creative and conceptual approaches to the medium. The photography curriculum emphasizes individual artistic development while integrating the history of photography as well as contemporary work and critical theory. Through an exploration of a variety of photographic methods, students are given the tools to create visually compelling photographs that communicate their artistic ideas.

Students who apply for entrance into the photography minor must submit a written statement, a portfolio of images, and unofficial transcript(s) from CU Denver and all previous post-secondary educational institutions. Students who meet the following requirements and are accepted into the minor will be eligible to register for upper-division photography courses.

ELIGIBILITY

University of Colorado Denver students and transfer students must have a minimum cumulative GPA of 2.75 in fine art and art history courses. In order to apply to the photography minor, students must have completed, or be in the process of completing, the following courses::

- FINE 1150 - Introduction to Darkroom Photography
- FINE 2155 - Introduction to Digital Photography

PORTFOLIO REQUIREMENTS

Students applying to the minor should submit a CD or DVD to the area head of photography, Carol Golemboski, in room 815M of the CU Building. The CD or DVD is due by 5 p.m. on November 1, or on the following business day if the deadline falls on a weekend or holiday. The CD or DVD should include contact information and an email address for notification of the results of the portfolio review. Late submissions will not be accepted.
(NOTE: Portfolio submissions may switch to an online process; please consult Carol Golemboski (carol.golemboski@ucdenver.edu) for details and updates before submitting your portfolio.)

The CD or DVD must include the following:

Portfolio of Images

- The portfolio must include 10 examples of creative work. At least six portfolio images should be photographic (three images from Introduction to Darkroom Photography and three images from Introduction to Digital Photography). Additional examples may be in the form of design, drawing, sculpture, installation, painting and/or video.
- All portfolio images must include a brief explanation of the concept and creative process behind each piece.
- All images should be formatted as JPEGs.

Written Statement

The written statement must address the following in a clear, detailed essay no more than two pages in length.

- The applicant should describe why he or she would like to be in the photography minor and what goals and expectations the applicant has regarding photography as a career. Include any special considerations that would be useful for the committee in making a decision, such as a high GPA, art-related extracurricular activities or relevant professional experience.
- The applicant should reflect on the artists and photographers who have influenced his or her artistic interests. Reference at least two examples of their work, discussing both form and content.
- The applicant should identify his or her creative strengths and areas that need further development.

Course Transcripts

These may be official or unofficial transcripts from CU Denver and previous post-secondary institutions.

The Evaluation Process

- A committee of photography faculty members reviews the portfolio packets. Acceptance into the photography minor is based on the portfolio images, written statement and GPA.
- If not admitted into the photography minor, a student has the choice of attempting the review process again the following year or selecting another minor. Students not admitted into the photography minor are encouraged to schedule a meeting with the area head of photography to learn ways to improve their portfolios for future submissions.

The application is evaluated on the following criteria:

- **Presentation** - The portfolio should be well crafted and well organized in content and presentation.
- **Technical Skill** - The portfolio should demonstrate strong knowledge of the fundamental tools of photography including camera functions, analog film development and printing, and digital imaging, as well as an understanding of design, form, composition and color.
- **Creativity** – The portfolio should demonstrate creative choices in content and aesthetics.
- **Conceptual Skills** - The portfolio and written statements should reflect analytical thinking and conceptual exploration of the photography medium.
- **Written Statement** - The statement should outline academic and artistic goals, addressing any potential strengths and weaknesses.
- **Academic Performance** - The grades must reflect a commitment to learning and growth.

- All required documentation included (images, written statement and transcripts.)

Questions

Please contact CAMadvising@ucdenver.edu for minor and portfolio information, or contact photography area head Carol Golemboski at carol.golemboski@ucdenver.edu

To declare a CAM minor, see the College of Arts & Media's Office of Advising and Student Services in Arts Building, 177.

Additional Information about the Minor

Students may transfer up to 6 semester hours of non-CU Denver courses toward a minor. All other courses must be taken at CU Denver. Each course must be completed with a grade of C (2.0) or better. Students may use up to 6 semester hours to fulfill both major and minor requirements; the remaining semester hours for the minor must be taken in addition to the major requirements. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

Photography Minor Course Requirements

- FINE 1150 - Introduction to Darkroom Photography
- FINE 2155 - Introduction to Digital Photography
- FINE 3630 - History of Photography

Select three courses from the following:

- FINE 3160 - Color and Studio Lighting
- FINE 3161 - The Silver Fine Print
  Note: must be completed before 3171
- FINE 3162 - The Digital Fine Print
  Note: must be completed before 3172
- FINE 3171 - Concepts and Processes in Photography
- FINE 3172 - Digital Bookmaking
- FINE 3175 - Creative Commercial Applications

Total: 18 Hours

Physics Minor

A total of 16 semester hours is required for a minor in physics. No grade below a *C* (2.0) can be used to meet the requirements for the minor. At least 6 semester hours of the requirements for the minor must be completed at CU Denver.

Program Requirements

Required Physics Courses

Either of the following two sequences:

- PHYS 2010 - College Physics I
- PHYS 2020 - College Physics II
- PHYS 2030 - College Physics Lab I
- PHYS 2040 - College Physics Lab II

  Sequence Total: 10 Hours

  -OR-
- PHYS 2311 - General Physics I: Calculus-Based
- PHYS 2321 - General Physics Lab I
- PHYS 2331 - General Physics II: Calculus-Based
- PHYS 2341 - General Physics Lab II

  Sequence Total: 10 Hours

Elective Physics Courses

An additional 6 semester hours of electives: 3 at the 2000 level or above, and 3 at the 3000 level or above.

Total: 6 Hours

Minor Total: 16 Hours

Political Science Minor

A student can earn an undergraduate minor in political science by completing 15 semester hours distributed as shown below. At least 9 of the 15 hours must be taken from CU Denver faculty.

Course Requirements

One lower-division course

- PSCI 1001 - Introduction to Political Science: The Quest for Freedom and Justice
- -OR- PSCI 1101 - American Political System

Four 4000-level courses

Choose one 4000-level course in each of four fields: political theory, American politics, comparative politics and international relations.

Minor Total: 15 Hours

Psychology Minor

Program Requirements

A minor in psychology requires the completion of 15 semester hours with a grade of *C* (2.0) or better in each course, including the following courses:

Two introductory courses:

- PSYC 1000 - Introduction to Psychology I
- PSYC 1005 - Introduction to Psychology II

One of the following courses:

- PSYC 3222 - Principles of Learning and Behavior
- PSYC 4144 - Human Cognition

One of the following courses:

- PSYC 3205 - Human Development I: Child Psychology
- PSYC 3305 - Abnormal Psychology
- PSYC 4415 - Experimental Social Psychology

One capstone (final) course:

- PSYC 4511 - History of Psychology (Prereq: 12 credit hours in psychology)

At least 6 upper-division semester hours must be taken from CU Denver faculty. Further information about the department may be obtained from department advisors or by calling 303-556-8565.

Public Health Minor

To earn a minor in public health, a minimum of 24 semester hours are required, of which 12 must be upper-division and taken from CU Denver faculty. Students must achieve no less than a *C* (2.0) in each course applied toward minor requirements. Up to 6 credit hours completed toward a major or minor in another department may be counted toward the minor in public health.

Program Requirements

Tier 1: General Public Health

All students pursuing the public health minor are **required** to take the following two courses:

- PBHL 2000 - Introduction To Public Health
- PBHL 3010 - Human Sexuality and Public Health

Total: 8 Hours

Tier 2: Public Health Foci

Choose at least two of the following four courses:

- PBHL 2020 - Introduction to Environmental Health
- PBHL 3030 - Health Policy
- PBHL 3070 - Perspectives in Global Health
- PBHL 4040 - Social Determinants of Health

  Note: Students may elect to take all four of these courses in lieu of taking two of the elective courses listed in Tier 4 below.

Total: 6 Hours

Tier 3: Biological Background

Choose one of the following three courses:

- ANTH 1303 - Introduction to Biological Anthropology
- BIOL 1550 - Basic Biology: Ecology and the Diversity of Life
- BIOL 1560 - Basic Biology: From Cells to Organisms

Total: 4 Hours

Tier 4: Electives

Choose two of the following courses:

- PBHL 2051 - Introduction To Population Studies
- PBHL 3010 - Human Sexuality and Public Health
- PBHL 3021 - Fundamentals of Health Promotion
- PBHL 3031 - Health, Human Biology and Behavior
- PBHL 3041 - Health, Culture and Society
- PBHL 3071 - Global Topics In Sexual and Reproductive Health
- PBHL 4080 - Global Health Practice
- PBHL 4200 - The Global HIV/AIDS Epidemic
- ANTH 4090 - Political Economy of Drugs
- ANTH 4260 - Human Reproductive Ecology
- COMM 4500 - Health Communication
- COMM 4620 - Health Risk Communication
- GEOG 4235 - GIS Applications in the Health Sciences
- HBSC 4021 - Community Health Assessment
- PSYC 3235 - Human Sexuality
- PSYC 3262 - Health Psychology
- SOCY 3520 - Topics in Sociology
  (when Medical Sociology is the topic)

Total: 6 Hours

Total: 24 Hours

Check the department website for additional course offerings.

Religious Studies Minor

Eighteen semester hours, at least 9 of which must be upper division and at least 9 semester hours taken with CU Denver faculty. A minimum cumulative GPA of 2.0 for all CU Denver courses taken in the minor is required, with no individual course grade lower than a *C* (2.0).

Program Requirements

Required Courses (9 hours):

- RLST 1610 - Introduction to Religious Studies

One course in Western religions chosen from approved list:

- * RLST 2660 - World Religions
- RLST 2700 - The Bible as Literature
- -OR- ENGL 2520 - The Bible as Literature
- RLST 3000 - Judaism, Christianity and Islam: Affinity and Difference
- RLST 3060 - History of Early Christianity
- RLST 3740 - Biblical Traditions: Old Testament
- RLST 3760 - Biblical Studies: New Testament
- RLST 3770 - Archaeological Discoveries Relating to the Bible
- RLST 4070 - Western Religious Thought
- -OR- PHIL 4710 - Western Religious Thought
- RLST 4400 - Differing Concepts of God
- -OR- PHIL 4650 - Differing Concepts of God
- * RLST 4440 - Concepts of the Soul
- -OR- * PHIL 4470 - Concepts of the Soul
- * RLST 4460 - Death and Concepts of Afterlife

* Fulfills requirement for either Eastern or Western religion, but not both simultaneously

One course in Eastern religions chosen from approved list:

- * RLST 2660 - World Religions
- RLST 3400 - Asian Philosophies and Religions
- -OR- PHIL 3666 - Asian Philosophies and Religions
- RLST 3500 - Religions of India
- RLST 3660 - Chinese Philosophy and Culture
- -OR- PHIL 3981 - Chinese Philosophy and Culture
- RLST 4080 - Eastern Religious Thought
- -OR- PHIL 4720 - Eastern Religious Thought
- RLST 4160 - Mysticism
- * RLST 4440 - Concepts of the Soul
- -OR- * PHIL 4470 - Concepts of the Soul
- * RLST 4460 - Death and Concepts of Afterlife

* Fulfills requirement for either Eastern or Western religion, but not both simultaneously

Elective courses (9 hours):

The remaining 9 hours to equal the required 18 hours will count as electives, to be chosen from the full list of courses (below).

Other courses, such as certain special topics, art history courses featuring religious themes and others may count toward the minor at the discretion of the course instructor and the director.

- RLST 1610 - Introduction to Religious Studies
- * RLST 2660 - World Religions
- RLST 2680 - The American Indian Experience
- -OR- ETST 2606 - The American Indian Experience
- RLST 2700 - The Bible as Literature
- -OR- ENGL 2520 - The Bible as Literature
- RLST 3000 - Judaism, Christianity and Islam: Affinity and Difference
- RLST 3060 - History of Early Christianity
- RLST 3080 - Reformation Europe
- RLST 3100 - Islamic Politics and Culture
- -OR- PSCI 4165 - Islamic Politics and Culture
- RLST 3300 - Shamanic Traditions
- RLST 3400 - Asian Philosophies and Religions
- -OR- PHIL 3666 - Asian Philosophies and Religions
- RLST 3500 - Religions of India
- RLST 3660 - Chinese Philosophy and Culture
- -OR- PHIL 3981 - Chinese Philosophy and Culture
- RLST 3720 - Religious Narratives
- -OR- ENGL 3520 - Religious Narratives
- RLST 3740 - Biblical Traditions: Old Testament
- RLST 3760 - Biblical Studies: New Testament
- RLST 3770 - Archaeological Discoveries Relating to the Bible
- RLST 4000 - Religion and Cultural Diversity
- RLST 4010 - Comparative Religious Systems
- RLST 4020 - Sociology of Religion
- -OR- SOCY 4610 - Sociology of Religion
- RLST 4040 - Psychology of Religion
- RLST 4060 - Philosophy of Religion
- -OR- PHIL 4600 - Philosophy of Religion
- RLST 4070 - Western Religious Thought
- -OR- PHIL 4710 - Western Religious Thought
- RLST 4080 - Eastern Religious Thought
- -OR- PHIL 4720 - Eastern Religious Thought
- RLST 4100 - Special Topics in Religion
- RLST 4160 - Mysticism
- RLST 4260 - Kosmos: Theories of the Universe
- -OR- PHIL 3420 - Kosmos: Theories of the Universe
- RLST 4280 - Current Perspectives on the Evolution of Consciousness and Culture

- -OR- GEOL 3100 - Current Perspectives on the Evolution of Consciousness and Culture
- -OR- PHIL 3100 - Current Perspectives on the Evolution of Consciousness and Culture
- RLST 4300 - Myth and Symbol
- RLST 4320 - Spirituality in the Modern World
- RLST 4340 - The Hero's Journey
- RLST 4360 - Freudian and Jungian Perspectives in Dream Analysis
- RLST 4400 - Differing Concepts of God
- -OR- PHIL 4650 - Differing Concepts of God
- RLST 4420 - Goddess Traditions
- -OR- WGST 4420 - Goddess Traditions
- * RLST 4440 - Concepts of the Soul
- -OR- * PHIL 4470 - Concepts of the Soul
- * RLST 4460 - Death and Concepts of Afterlife
- RLST 4480 - Perspectives on Good and Evil
- -OR- PHIL 4480 - Perspectives on Good and Evil
- RLST 4500 - Religion and Politics
- -OR- PSCI 4057 - Religion and Politics
- RLST 4730 - Whores and Saints: Medieval Women
- -OR- ENGL 4510 - Whores and Saints: Medieval Women
- -OR- WGST 4510 - Whores and Saints: Medieval Women
- RLST 4840 - Independent Study: RLST

Minor Total: 18 Hours

Risk Management and Insurance Minor

Students in other undergraduate schools and colleges at CU Denver wishing to complete the risk management and insurance minor need to complete the following course work.

Required Courses

- FNCE 3000 - Principles of Finance
- FNCE 3500 - Management of Business Capital
- * FNCE 3809 - Introduction to Risk Management
- * FNCE 4809 - Property & Casualty Insurance
- FNCE 3700 - Investment and Portfolio Management **and**
- * FNCE 4909 - Coporate Risk Management

  -or-
- BLAW 3000 - Legal and Ethical Environments of Business I **and**
- * FNCE 4129 - Practical Enterprise Risk Mgmt

Total: 18 hours

*These courses are offered with a fixed tuition rate of $900 per course (in-state) and $2,400 per course (out-of-state). The courses are not eligible for COF.

Additional Prerequisites

- ACCT 2200 - Financial Accounting and Financial Statement Analysis
- DSCI 2010 - Business Statistics or a statistics course approved by the Business School
- ECON 2012 - Principles of Economics: Macroeconomics
- ECON 2022 - Principles of Economics: Microeconomics
- ISMG 2050 - Introduction to Business Problem Solving
- MATH 1070 - Algebra for Social Sciences and Business
- MATH 1080 - Polynomial Calculus

Other Requirements for Minor

To declare the RMI minor, students must have a 3.0 GPA, either cumulative or from their last 24 completed semester hours. Students must maintain or exceed a 2.0 GPA to graduate with the minor.

Up to 9 of the 18 semester hours required for the minor may be completed at another institution.

Students must have declared the risk management and insurance minor to register for FNCE 3500, FNCE 3700, FNCE 3809, FNCE 4809, FNCE 4909 and FNCE 4129. Otherwise students will have to petition separately to take each of these courses.

Sculpture Minor

To declare a CAM minor, please see the College of Arts & Media's Office of Advising and Student Services in Arts Building, 177.

Students may transfer up to 6 semester hours of non-CU Denver courses toward a minor. All other courses must be taken at CU Denver. Each course must be completed with a grade of C (2.0) or better. Students may use up to 6 semester hours to fulfill both major and minor requirements; the remaining semester hours for the minor must be taken in addition to the major requirements. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

Program Requirements

- FINE 1500 - Three-Dimensional Design
- FINE 2500 - Bronze Casting and Metal Sculpture
- FINE 2510 - Wood and Metal Sculpture

____ - Art History Elective (3 semester hours)

Select three courses from the following:

- FINE 3500 - Modeling and Casting the Figure
- FINE 3510 - Installation Art
- FINE 4500 - Kinetic Sculpture
- FINE 4510 - Advanced Sculpture

Total: 21 Hours

Social Justice Minor

Requirements for the Minor

The minor consists of 18 semester hours, structured as follows:

- A required introductory class (with either a social science or humanities focus); see below.
- An experiential learning component of 3 semester hours.
- Upper-division course work to be determined by individual students in consultation with the social justice minor director. At least two disciplines must be represented.
- A 3-semester-hour capstone seminar that will provide opportunity for further reflection on the experiential learning projects and student group projects.

Required course

Choose one:

- SJUS 2000 - Democratic Participation and Social Justice
- SJUS 2010 - Social Justice: Theories, Narratives, and Technologies

Total: 3 Hours

Internship

A 3-semester-hour internship in any discipline of the social sciences or humanities, involving community work and including a reflective component and public dissemination or report.

Total: 3 Hours

Upper-Division Courses

Choose three (below is a sample list of upper-division courses, but other courses may be considered):

- ANTH 3142 - Cultural Diversity in the Modern World
- ANTH 4070 - Culture of Development and Globalization
- COMM 2000 - Persuasion
- COMM 4022 - Critical Analysis of Communication
- COMM 4260 - Communication and Conflict
- ENGL 3795 - Race and Ethnicity in American Literature
- ENGL 4280 - Proposal and Grant Writing
- ETST 3108 - Chicano/a and Latino/a History
- ETST 3274 - Power, Poverty, Culture
- ETST 3396 - History of the American Indian
- ETST 3704 - Culture, Racism and Alienation

- GEOG 3411 - Globalization and Regional Development
- GEOG 4335 - Contemporary Environmental Issues
- GEOG 4640 - Urban Geography: Denver and the U.S.
- HBSC 3041 - Health, Culture and Society
- HBSC 4021 - Community Health Assessment
- HIST 3345 - Immigration and Ethnicity in American History
- HIST 4217 - Consumer Culture
- HIST 4219 - Depression, Affluence and Anxiety: U.S. History, 1929 to the Present
- PHIL 3200 - Social and Political Philosophy
- PHIL 3280 - War and Morality
- PHIL 3500 - Ideology and Culture: Racism and Sexism
- PHIL 4920 - Philosophy of Media and Technology
- -OR- PHIL 5920 - Philosophy of Media and Technology
- PSCI 3034 - Race, Gender, Law and Public Policy
- PSCI 4025 - Local Governance and Globalization
- PSCI 4207 - Theories of Social and Political Change
- RLST 4000 - Religion and Cultural Diversity
- SOCY 3001 - Urban Sociology
- SOCY 3030 - Social Change
- SOCY 4440 - Social Inequality

Total: 9 Hours

Capstone

Total: 3 Hours

Minor Total: 18 Hours

Sociology Minor

For an undergraduate minor in sociology, a minimum of 15 semester hours in sociology must be completed with a grade of *C* or better. Nine of these hours must be taken from CU Denver faculty.

Course Requirements

Required Courses

- SOCY 1001 - Introduction to Sociology
- SOCY 3150 - History of Sociological Theory

Total: 6 Hours

Electives

Nine hours of sociology elective courses, completed with a grade of *C* or better**.**

Total: 9 Hours

Minor Total: 15 Hours

Spanish Minor

Students minoring in Spanish for the BA degree must complete 15 semester hours of upper-division Spanish courses (courses numbered 3000 and higher). All course work must be taught in Spanish.

The minor in Spanish must include at least one culture and civilization class, chosen from the following:

Program Requirements

Required Courses

Choose one:

- SPAN 3070 - Bilingual Communities: Spanish as a Language of Contact
- SPAN 3212 - Spanish American Culture and Civilization
- SPAN 3213 - Contemporary Latin American Culture and Institutions
- SPAN 3221 - Culture and Civilization of Spain I
- SPAN 3222 - Culture and Civilization of Spain II
- SPAN 3223 - Contemporary Spanish Culture and Institutions
- SPAN 3230 - Ibero-American Cultures through Film
- SPAN 4230 - Modern Culture of Spain through Film and Narrative

Total: 3 Hours

Electives

In addition, students minoring in Spanish must complete four additional upper-division Spanish courses.

Total: 12 Hours

Minor Total: 15 Hours

Studio Art Minor

To declare a CAM minor, please see the College of Arts & Media's Office of Advising and Student Services in Arts Building, 177.

Students may transfer up to 6 semester hours of non-CU Denver courses toward a minor. All other courses must be taken at CU Denver. Each course must be completed with a grade of C (2.0) or better. Students may use up to 6 semester hours to fulfill both major and minor requirements; the remaining semester hours for the minor must be taken in addition to the major requirements. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

Program Requirements

Select two courses from the following:

- FINE 1100 - Drawing I
- FINE 1150 - Introduction to Darkroom Photography
- FINE 1400 - Two Dimensional Design
- FINE 1500 - Three-Dimensional Design
- FINE 2015 - Intermedia Foundations
- FINE 2200 - Painting I
- FINE 3015 - Interdisciplinary Practices

_____ - Art History Elective (3 semester hours)
_____ - Studio Arts Electives (6 semester hours)
_____ - Upper-division Studio Arts Elective (3 semester hours)

Total: 18 Hours

Sustainability Minor

The sustainability minor is interdisciplinary, drawing on the expertise across CLAS departments: anthropology, biology, chemistry, communication, economics, environmental sciences, geography, geology, history, economics, philosophy, physics and political science. The core courses are taught by a faculty team from natural sciences and social sciences, who will present the concepts from the empirical and humanistic perspectives. The teaching team changes each term so that faculty from any given CLAS department will rotate through the core courses every 3-4 years.

The minor comprises 18 hours, distributed as follows:

- two core courses that introduce students to the systems theories that document how living things affect and are affected by their environments
- two electives chosen from an approved list of CLAS courses
- students select either a field study, internship, service learning or related travel study course
- capstone course in sustainability

Requirements for the Minor

Core Courses

- SUST 3010 - The Non-Sustainable Past
- SUST 3011 - Toward a Sustainable Future

Total: 6 Hours

Electives

Choose two from the following list of approved electives:

Anthropology

- ANTH 1302 - Introduction to Archaeology
- ANTH 1303 - Introduction to Biological Anthropology
- ANTH 2102 - Culture and the Human Experience
- ANTH 3006 - Sustainable Development and Equity
- ANTH 3301 - World Prehistory
- ANTH 3512 - Human Evolution
- ANTH 4030 - Ethnobiology
- ANTH 4060 - Evolutionary Medicine
- ANTH 4070 - Culture of Development and Globalization
- ANTH 4170 - Culture and the Environment
- ANTH 4450 - Development and Conservation: Contemporary Issues
- ANTH 4460 - Development and Conservation: Theory and Practice
- ANTH 4560 - Human Ecology

Biology

- BIOL 1550 - Basic Biology: Ecology and the Diversity of Life
- BIOL 3330 - Plant Diversity
- BIOL 3411 - Principles of Ecology
- BIOL 3412 - Fundamentals of Applied Ecology
- BIOL 3521 - Vertebrate Biology
- BIOL 4154 - Conservation Biology

Business

- MGMT 4950 - Special Topics in Management
  when offered as Business and Sustainability
- MKTG 4950 - Special Topics
  when offered as Nonprofit and Social Marketing

Chemistry

- CHEM 1474 - Core Chemistry: Chemistry For the Consumer
- CHEM 4700 - Environmental Chemistry
- CHEM 5700 - Environmental Chemistry

Communication

- COMM 4282 - Environmental Communication
- COMM 5282 - Environmental Communication

Economics

- ECON 4530 - Economics of Natural Resources
- ECON 4540 - Environmental Economics
- ECON 4770 - Economic Development--Theory and Problems
- ECON 5530 - Economics of Natural Resources
- ECON 5540 - Environmental Economics

Geography / Geology / Environmental Science

- ENVS 1042 - Introduction to Environmental Sciences
- ENVS 1342 - Environment, Society and Sustainability
- ENVS 3082 - Energy and the Environment
- GEOG 1202 - Introduction to Physical Geography
- GEOG 3302 - Water Resources
- GEOG 3411 - Globalization and Regional Development
- GEOG 4010 - Landscape Geochemistry
- GEOG 4020 - Earth Environments and Human Impacts

- GEOL 4030 - Environmental Geology
- GEOG 4090 - Environmental Modeling with Geographic Information Systems
- GEOG 4230 - Hazard Mitigation and Vulnerability Assessment
- GEOG 4265 - Sustainability in Resources Management
- GEOG 4335 - Contemporary Environmental Issues
- GEOG 4350 - Environment and Society in the American Past
- GEOG 4640 - Urban Geography: Denver and the U.S.
- GEOG 5090 - Environmental Modeling with Geographic Information Systems
- GEOG 5230 - Hazard Mitigation and Vulnerability Assessment
- GEOG 5265 - Sustainability in Resources Management
- GEOG 5335 - Contemporary Environmental Issues
- GEOG 5350 - Environment and Society in the American Past
- GEOG 5640 - Urban Geography: Denver and the U.S.

History

- HIST 3350 - Colonial Latin America
- HIST 3360 - Denver History
- HIST 3366 - Environmental History of North America
- HIST 3451 - Introduction to African History
- HIST 3460 - Introduction to Latin American History
- HIST 3470 - Introduction to Asian History
- HIST 3606 - Science, Technology, and Society in the Modern World
- HIST 4217 - Consumer Culture
- HIST 4226 - U.S. Business History
- HIST 4227 - American West
- HIST 4236 - Colorado Mining and Railroads
- HIST 4411 - Modern Mexico
- HIST 4417 - Commodities and Globalization: Dessert in World History
- HIST 4421 - Modern China
- HIST 4431 - Modern Japan
- HIST 4451 - Southern Africa
- HIST 4461 - The Modern Middle East
- HIST 4501 - World History for Educators
- HIST 4503 - Topics in History of Science
- HIST 4504 - Animals in U.S. History

Physics

- PHYS 3082 - Energy and the Environment
- PHYS 4850 - Physics for Design and Innovation I
- PHYS 4852 - Physics for Design and Innovation II
  Note: PHYS 4850 is prerequisite for PHYS 4852
- PHYS 5850 - Physics for Design and Innovation I
- PHYS 5852 - Physics for Design and Innovation II
  Note: PHYS 5850 is prerequisite for PHYS 5852

Philosophy

- PHIL 4250 - Environmental Ethics
- PHIL 5250 - Environmental Ethics

Political Science

- PSCI 3034 - Race, Gender, Law and Public Policy
- PSCI 3035 - Political Movements: Race and Gender
- PSCI 3042 - Introduction to International Relations
- PSCI 3914 - The Urban Citizen
- PSCI 4009 - Politics of the Budgetary Process
- PSCI 4014 - Media and Politics
- PSCI 4025 - Local Governance and Globalization
- PSCI 4085 - Comparative Public Policy
- PSCI 4144 - Indigenous Political Systems
- PSCI 4206 - Social Movements, Democracy and Global Politics
- PSCI 4207 - Theories of Social and Political Change
- PSCI 4215 - Women's Rights, Human Rights: Global Perspectives
- PSCI 4226 - The United Nations in World Affairs
- PSCI 4248 - Gender, Globalization and Development
- PSCI 4324 - Politics, Public Policy and Leadership
- PSCI 4326 - Advanced International Political Economy: Globalization
- PSCI 4354 - Environmental Politics
- PSCI 4365 - Global Ecological Crises
- PSCI 4374 - Public Priorities for the 21st Century
- PSCI 4545 - Immigration Politics
- PSCI 4555 - International Women's Resistance
- PSCI 4645 - Comparative Political Leadership

Total: 6 Hours

Experiential learning course

Students choose a field study, internship, service learning or related travel study course.

Total: 3 Hours

Capstone

- SUST 4960 - Capstone in Sustainability

Total: 3 Hours

Total: 18 Hours

Theatre, Film and Television Minor

To declare a CAM minor, please see the College of Arts & Media's Office of Advising and Student Services in Arts Building, 177.

Students may transfer up to 6 semester hours of non-CU Denver courses toward a minor. All other courses must be taken at CU Denver. Each course must be completed with a grade of C (2.0) or better. Students may use up to 6 semester hours to fulfill both major and minor requirements; the remaining semester hours for the minor must be taken in addition to the major requirements. Consult an advisor in the College of Arts & Media at CAMadvising@ucdenver.edu for more information.

Program Requirements

- FITV 1200 - Aesthetics of Television
- THTR 1001 - Introduction to Theatre & Arts in the Community

____ - Theatre, Film and Video Production Electives (12 semester hours) *Chosen in consultation with a Theatre, Film and Video Production (TFVP) Department faculty advisor.*

Select two courses from the following (in consultation with TFVP faculty advisor):

- FITV 3200 - History of Film to 1937
- FITV 3300 - History of Film from 1938
- THTR 3610 - Performance: Theory/History/Criticism I
- THTR 3620 - Performance: Theory/History/Criticism II

Total: 24 Hours

Urban and Regional Planning Minor

The undergraduate planning minor in the Department of Geography and Environmental Sciences provides non-geography undergraduate students the opportunity to pursue studies in the professional field of planning. Geography majors can pursue the urban studies option, so this minor would not be available to these majors.

Geography and urban and regional planning share a common concern for the spatial configuration of the places that we inhabit and enjoy. In recognition of this close association, there is currently an articulation agreement between the Department of Geography and Environmental Sciences and the College of Architecture and Planning that provides students with a mechanism for acceleration through the master of urban and regional planning (MURP) degree program, if accepted into that graduate program. Those students completing the requirements for an undergraduate planning minor may also be eligible to pursue an accelerated MURP degree.

To meet the requirements for this minor, students must complete three core requirements and two electives, totaling 15 semester hours. Although the three core courses may be taken in any order, it is advisable to begin with GEOG 1602, since this course familiarize students with many key concepts used in other classes. All core courses are offered on a yearly basis.

Program Requirements

Required Core

- GEOG 1602 - Introduction to Urban Studies
- GEOG 4640 - Urban Geography: Denver and the U.S.
- GEOG 4680 - Urban Sustainability: Perspectives and Practice

Total: 9 Hours

Electives

Choose two of the following courses:

- GEOG 4000 - Planning Methods I
- GEOG 4060 - Remote Sensing I: Introduction to Environmental Remote Sensing
- GEOG 4080 - Introduction to GIS
- GEOG 4085 - GIS Applications for the Urban Environment
- GEOG 4090 - Environmental Modeling with Geographic Information Systems
- GEOG 4095 - Deploying GIS Functionality on the Web
- GEOG 4230 - Hazard Mitigation and Vulnerability Assessment
- GEOG 4235 - GIS Applications in the Health Sciences
- GEOG 4400 - Regional Economic Development
- GEOG 4450 - Urban Food and Agriculture: Perspectives and Research
- GEOG 4630 - Transportation Planning I: Transport Network Analysis
- GEOG 4990 - Special Topics

Total: 6 Hours

Minor Total: 15 Hours

Entrance Requirements

All undergraduate students, except geography majors, are eligible for this minor.

Performance Requirements

Students must complete 15 semester hours in geography and/or planning. Because of the professional nature of this minor and the potential for fast-tracking in the MURP program, 12 semester hours of upper-division courses are required. Students must achieve a grade of *C* (2.0) or higher in required courses. All upper-division courses must be completed at CU Denver and a minimum of 9 semester hours must be completed in CLAS (geography) to satisfy residency requirements.

Women's and Gender Studies Minor

The women's and gender studies minor gives students the opportunity to explore gender issues in the humanities and social sciences. To minor in WGST, a student must complete 18 semester hours in WGST courses with a grade of *C* or better. At least 12 semester hours for the WGST minor must be taken with CU Denver faculty, and all courses for the minor must be approved by a WGST advisor.

Requirements for the Minor

1. Required Course: WGST 1050 (3 semester hours)

This course provides an introduction to key concepts, themes and approaches to the interdisciplinary field of women's and gender studies. It helps students develop an overall framework for WGST in which to place their electives and internship.

- WGST 1050 - Introduction to Women's and Gender Studies

2. WGST-related courses at the 3000 level or above (12 semester hours)

These courses combine humanities and social science fields. Advisor approval is required for course selection. Students are strongly urged to take at least one course that focuses on women's and gender issues in international perspective. Courses which are eligible for WGST credit include (but are not limited to):

Humanities

- ENGL 3450 - Twentieth Century Women Writers
- ENGL 4510 - Whores and Saints: Medieval Women
- FREN 4510 - French Women Writers
- HIST 3343 - Women in U.S. History
- HIST 4230 - Women in the West
- HIST 4303 - Sex and Gender in Modern Britain
- HIST 4307 - History of Sexuality
- HIST 4345 - Gender, Science, and Medicine: 1600 to the Present
- PHIL 3500 - Ideology and Culture: Racism and Sexism
- PHIL 4933 - Philosophy of Eros
- RLST 4420 - Goddess Traditions
- SPAN 4540 - Race, Class, and Gender in Spanish Golden Age Literature
- WGST 4306 - Survey of Feminist Thought
- -OR- ENGL 4306 - Survey of Feminist Thought
- -OR- HIST 4306 - Survey of Feminist Thought

Social Sciences

- ANTH 4200 - Gender in Cross-Cultural Perspective

- ANTH 4260 - Human Reproductive Ecology
- COMM 3275 - Family Communication
- COMM 4020 - Feminist Perspectives on Communication
- COMM 4045 - Female-Male Friendships
- COMM 4265 - Gender and Communication
- COMM 4268 - Communication and Diversity in U.S. History
- ECON 3100 - Economics of Race and Gender
- ECON 3400 - Economics of Sex and Drugs
- HBSC 3010 - Human Sexuality and Public Health
- PSCI 3034 - Race, Gender, Law and Public Policy
- PSCI 3035 - Political Movements: Race and Gender
- PSCI 4215 - Women's Rights, Human Rights: Global Perspectives
- PSCI 4248 - Gender, Globalization and Development
- PSCI 4555 - International Women's Resistance
- PSCI 4564 - Gender and Politics
- PSCI 4827 - Women and the Law
- PSYC 3235 - Human Sexuality
- PSYC 3405 - Family Psychology
- PSYC 3611 - Psychology of Women
- PSYC 3612 - Domestic Abuse
- SOCY 3010 - Sociology of Human Sexuality
- SOCY 3080 - Sex and Gender
- SOCY 3700 - Sociology of the Family
- SOCY 4120 - Popular Culture and the American Family

See the WGST Web site for this semester's course offerings.

3. WGST Community Internship (3 semester hours)

An internship working in the community around issues related to women and gender. Working with a WGST advisor and the CU Denver Experiential Learning Center (ELC), students will choose an internship related to their interests in WGST. Through the ELC, students sign up for their internship under WGST 3939. Students will be required to complete a critical writing component comprising an ongoing log about the internship experience and an 8-10 page final paper discussing the interrelationships between the practical internship experience and the theoretical/scholarly insights of women's and gender studies. Students may also choose to use WGST 2900, Smart Girl Leadership Training, in lieu of their internship and must follow the requirements of that course and practicum. Students must have taken WGST 1050 before enrolling for their internship.

- WGST 3939 - Internship
- -OR- WGST 2900 - Smart Girl Leadership Training and Practicum

Total: 18 Hours

Writing Minor

The writing minor allows students to complement their area of major study with systematic experience in writing.

Students minoring in writing must complete a total of 15 hours (excluding ENGL 1010, 1020, 2030). None of the required 15 hours may be taken pass/fail. Only courses completed with a grade of *C* (2.0) or better may be counted toward the minor. A minimum of 9 upper-division hours of work in the minor must be taken with CU Denver English faculty.

Students are encouraged to take ENGL 1020 and ENGL 2030 before beginning the minor. Courses in a minor cannot be counted toward the English Major or English Writing major; consult an English advisor for substitutions.

Courses

Required Courses

- ENGL 2060 - Introduction to Writing Studies
- ENGL 3084 - Multimedia Composition
- ENGL 3160 - Language Theory
- -OR- ENGL 4080 - History of English Language

Total: 9 Hours

Area Requirements

Choose one course from the following:

- ENGL 3154 - Technical Writing
- ENGL 3170 - Business Writing
- ENGL 4190 - Special Topics in Rhetoric and Writing (non-repeatable)

Total: 3 Hours

Elective

One 3000- or 4000-level course.

Total: 3 Hours

Minor Total: 15 Hours

Undergraduate Experiences

First-Year Seminar Program

The Office of Undergraduate Experiences offers the optional First-Year Seminar (FYS) program, with courses designed to assist students in successfully transitioning from high school to college, improve student retention, and boost new student confidence. FYS courses integrate rigorous academic content with academic skills such as library usage, campus resources, information literacy, time management, communication skills, and career counseling. Class size is capped at 24 students to facilitate interaction between student and instructor, and to allow the instructor to serve as a mentor in the student's first semester of college.

The FYS program strives to both challenge and support students so that each can excel academically and personally at CU Denver. FYS classes engage students in active learning beyond the traditional classroom, laboratory, or studio setting. In FYS courses, students learn about themselves and their abilities. The experiences obtained from the FYS program aim to promote academic exploration and interdisciplinary learning, civic engagement, cultural awareness, leadership, problem solving, and other professional skills.

The strong academic component of FYS courses allows the course to count toward graduation requirements in the CU Denver Core curriculum, or general education program, which is required of all undergraduate students. Students are encouraged to use the FYS program to explore areas outside their major. Students should work with their academic advisor during orientation to select an appropriate FYS course. Requirements vary slightly, but students should expect weekly writing and reading, participation in events outside the classroom, and a final project.

The First-Year Seminar program is optional, but highly encouraged for new students transitioning from high school to college. Students may only take one FYS course.

WHY PARTICIPATE?

- higher first semester grades
- student engagement with campus activities
- higher student satisfaction facilitated by small class size and a faculty mentor
- knowledge and utilization of campus resources designed to assist students
- early exploration of career paths and a suitable major
- more likely to stay in college
- Core curriculum credit
- active learning pedagogy designed to improve writing and critical thinking skills

Please visit our website for the current FYS course offerings.

University Honors and Leadership Program

Director: Steven G. Medema
Program Coordinator: Phyllis Chaney
Office: 1047 Ninth Street Park
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E-mail: UHL@ucdenver.edu
Web site: www.ucdenver.edu/uhl

University Honors and Leadership (UHL) is a program of excellence designed for students who have demonstrated superior achievement in academic performance and/or outstanding leadership qualities. UHL is founded on the premise that the integration of rigorous programs of academic excellence and leadership education provides the ideal environment in which to develop the gifts of the next generation of leaders in academia, business, policy-making, and service to communities local, national, and global.

The UHL program is unique in integrating academic honors and leadership education within a highly selective learning community of outstanding students and faculty. UHL allows students to complement their major field of study with a traditional honors experience in the academic honors track or a program of leadership education in the leadership studies track. Students move through the UHL program in cohorts that simultaneously promote community, teamwork, and individual initiative. All UHL courses are multidisciplinary, reflecting the view that that the ability to effectively analyze the challenges faced in all sectors of society can be enhanced by the integration of appropriate information drawn from a broad base of perspectives and problem-solving skills. The UHL program complements this philosophy with an emphasis on the development of exceptional oral and written communication skills, projects that steep students in sophisticated research methods, and the opportunity to work in teams to solve practical problems in the community.

The Academic Program

UHL is a multidisciplinary cohort program consisting of 27 semester hours of coursework to be completed over four years. The UHL courses substitute for most of the CU Denver Core curriculum requirements.

UHL students are given the opportunity to pursue a traditional honors experience through the academic honors track of the program or to focus on leadership education through the leadership studies track. UHL students have a shared first-year experience, taking a core of coursework common to both tracks. The second and third years of the UHL program offer programs designed specifically for the academic honors and leadership studies tracks. The UHL students come together for a two-semester capstone research seminar in the fourth year.

UHL Core

The UHL Core is a body of courses, the completion of which is required of all UHL students. The UHL core includes:

- UNHL 1100 Introduction to University Honors and Leadership
- UNHL 2755 UHL Seminar
- ENGL 2030 - Core Composition II
- UNHL 4991 - Senior Research Seminar I
- UNHL 4992 - Senior Research Seminar II

Waiver of English 2030 requirement for UHL Students

All UHL students who have not previously received credit for English 2030 or its equivalent are required to complete a UHL section of English 2030. UHL students who have previously received credit for English 2030 or the equivalent will not receive additional CU Denver credit for English 2030 and so are not required to take the UHL section of this course. Students who believe that they are exempt from the English 2030 requirement should meet with the UHL advisor to confirm this exemption.

Credit Hour and Distribution Requirements for UHL Certification

UHL students are required to complete 27 credit hours of UHL courses, including two (2) one-semester-hour UHL seminars, in order to graduate with UHL certification. Students who have previously received credit for English 2030 or the equivalent must complete 24 hours of UHL courses. In addition, students are required to structure their UHL curricula so that they satisfy the CU Denver core curriculum requirements within their UHL programs of study. Students should meet regularly with the UHL advisor in order to ensure that their UHL coursework satisfies the necessary requirements for UHL certification and CU Denver graduation.

Academic Honors Track Requirements

The academic honors track provides a rigorous academic experience to complement the student's major, develops an environment for lifelong learning, and promotes self-discovery. Students are exposed to complex problems, competing perspectives, and differing approaches to important topics. Undergraduate research is emphasized in the academic honors track to prepare students for graduate school or a post-baccalaureate professional program.

The second and third year of the academic honors program develops students' core knowledge areas through the integration of humanities, arts, science, behavioral and social science, international perspectives, and cultural diversity by way of multidisciplinary courses where students are exposed to multidimensional issues. As they continue to build and broaden their communication, analytical, and critical thinking skills, students learn to apply knowledge to new areas, expand their view of the world, and develop sensitivity to and appreciation of the arts, diversity, and global society.

Minor in Multidisciplinary Research Methods

Students pursuing the academic honors track have the opportunity to earn a minor in "Multidisciplinary Research Methods."

Leadership Studies Track Requirements

The leadership studies track develops skills and experiences that prepare students for the challenges of leadership in corporate, institutional, and public life. Leadership studies students work together to develop their abilities to meet the challenges of a world characterized by the increasing globalization of leadership responsibilities and the rapid change in what leaders need to learn and know. They confront complex issues, individually and in teams, while taking responsibility for becoming lifelong learners.

Students develop their leadership potential through self-guided learning strategies, practical team projects, theory-based seminars, contact with outstanding leaders, and individualized

mentoring. The leadership studies track is designed to create a collaborative learning environment where students work in action-oriented teams on innovative solutions to practical issues.

Minor in Leadership Studies

Students pursuing the leadership studies track have the opportunity to earn a minor in "Leadership Studies."

UHL Graduation Requirements

In order to graduate with "University Honors," students are required to satisfy course and credit hour requirements and must have a GPA of 3.50 or higher in their UHL courses. No grade below B- (2.70) in a UHL course will count toward the UHL graduation requirements.

The UHL Admissions Process

Admission to the UHL program is competitive. In addition to meeting published requirements for admission to CU Denver, students must have a high school GPA, class ranking and SAT/ACT scores commensurate with an honors educational experience. For example, we expect that applicants would rank in the top 10 percent of their high school class and/or have scored in the 90th percentile or above on the SAT/ACT.

Students who wish to be considered for admission to the UHL program must submit the following application materials:

- A completed UHL application form
- A written essay
- Two letters of recommendation
- High school transcripts and transcripts for all college-level work completed to date
- SAT and/or ACT scores
- One photo (head-shot)

A personal interview is required with all students who are selected as finalists for admission.

Applicants for admission to the UHL program should show evidence of ability and desire to:

- Take responsibility for their own learning, for self-discovery, and for personal and intellectual growth.
- Learn about and understand diverse, competing perspectives, viewpoints, and values
- Profit from varied modes of learning
- Become responsible and contributing members of the UHL program, the university, and society.

Application information can be found on the UHL website: www.ucdenver.edu/UHL.

Transfer Student Admissions

Due to the cohort-based nature of the UHL program, transfer applications can generally only be considered for students who have completed less than 30 credit hours of university-level coursework. In addition, potential admission is contingent on the availability of slots in the current UHL cohort.

Please note that students who are admitted into the UHL program after the first semester of their freshman year will be required to complete the first-year UHL courses during their first two semesters in the program. No UHL credit can be granted for honors or leadership courses completed through other university honors programs.

Graduate Degree Programs

Accounting MS

Program Director: Michael Roberts
Telephone: 303-315-8460
E-mail: Michael.Roberts@ucdenver.edu

Faculty

Professors:

Bruce Neumann, PhD, University of Illinois

Associate Professors:

Gary Colbert, PhD, University of Oregon
Carol Dee, PhD, Louisiana State University
L. Ann Martin, PhD, University of Minnesota
Michael Roberts, PhD, Georgia State University

Assistant Professors:

Mary Malina, PhD, University of Colorado Boulder
Craig A. Sisneros, PhD, Arizona State University
Willilam R. Strawser, PhD, Texas A&M University

Senior Instructors:

Elizabeth Connor, MS, Colorado State University
Robert Hockenbury, MS, University of Houston

Instructors:

Emily Vera, MS, University of Colorado Denver
Hailey Ballew, MS, University of Kansas
Roger Stace, PhD-ABD, University of Western Australia

The master of science in accounting offers three specializations plus a flexible program which allows students to design individualized courses of study.

The program provides students the opportunity to acquire a thorough understanding of financial and managerial accounting, auditing and taxation in preparation for successful careers in public or private accounting, as well as government or nonprofit accounting.

Students completing the MS in accounting will complete:

- 12 semester hours of required accounting core coursework
- 6 semester hours of elective accounting coursework*
- 6 semester hours of accounting capstones
- 6 semester hours of free business electives

*The elective course work can be selected from graduate accounting courses or by selecting one of the three specializations offered within the program. Students who select the accounting and information systems audit and control (AISAAC) specialization have completely different requirements which are listed under that specialization.

A. Background Accounting Courses*

The MS in accounting also requires completion of the following accounting prerequisites. Prerequistes may be completed at the undergraduate or graduate level, with a grades of B- or higher and a cummulative GPA of 3.0. Students with grades below a B may be subject to probation.

Required Courses:

- BUSN 6550 - Analyzing and Interpreting Accounting Information
  undergraduate equivalent: ACCT 2200 and ACCT 2220
- ACCT 6030 - Financial Accounting
  undergraduate equivalent: ACCT 3220 and ACCT 3230
- ACCT 6070 - Management Accounting
  undergraduate equivalent: ACCT 3320

Total: 9-15 Hours

*Waived for students with appropriate background.

Accounting courses may be taken by nondegree or non-matriculated students.

B. Common Body of Knowledge (CBK)

Based on prior coursework, students may be required to take up to two background courses. The following are suggested:

- BUSN 6530 - Data Analysis for Managers
- BUSN 6620 - Applied Economics for Managers

C. MS Accounting

Accounting Core

(12 semester hours)

Students should not repeat any course successfully completed at the undergraduate level with a grade of B- or higher. An advisor will evaluate prior coursework to determine substitutions.

- BUSN 6540 - Legal and Ethical Environment of Business
- ACCT 6020 - Auditing Theory
- ACCT 6054 - Accounting Systems and Data Processing
- ACCT 6140 - Tax Planning for Managers

Accounting Electives

(6 semester hours)

ACCT courses numbered 6000 or higher excluding ACCT 6030 or ACCT 6070.

Or, courses contributing to one of the three following specializations may be used to meet this elective requirement.

D. Accounting Specializations

Students may use a combination of accounting and free electives to complete one of the three following specialization options:

Auditing and Forensic Accounting Specialization

- ACCT 6025 - Auditing Practice
- ACCT 6280 - Professional Judgment and Decision Making in Accounting
- ACCT 6340 - Financial Statement Analysis
- ACCT 6360 - Fraud Examination
- ACCT 6370 - International Accounting
- ACCT 6380 - Forensic Accounting
- ACCT 6470 - Internal Auditing
- ACCT 6510 - Accounting and Information Systems Processes and Controls
- ACCT 6620 - Advanced Auditing

Controllership and Financial Leadership Specialization

Choose four of the following courses:

- ACCT 6024 - Advanced Financial Accounting
- ACCT 6033 - Advanced Managerial Accounting
- ACCT 6080 - Accounting for Government and Nonprofit Organizations
- ACCT 6280 - Professional Judgment and Decision Making in Accounting
- ACCT 6285 - Accounting and Finance for Sustainability
- ACCT 6340 - Financial Statement Analysis
- ACCT 6350 - Current Issues in Professional Accounting
- ACCT 6370 - International Accounting
- ACCT 6520 - Issues in Oil and Gas Accounting

Taxation Specialization

- ACCT 6400 - Taxation of Corporations and Shareholders
- ACCT 6410 - Advanced Tax For Individuals
- ACCT 6420 - Taxation of Estates and Gifts
- ACCT 6430 - International Taxation
- ACCT 6440 - Tax Practice and Procedures

- ACCT 6450 - Research Problems In Taxation
- ACCT 6460 - Advance Topics in Taxation
- ACCT 6480 - Partnership Taxation
- ACCT 6482 - Advanced Partnership Taxation
- ACCT 6500 - Advanced Corporate Taxation

E. Accounting Capstone

(6 semester hours)

- ACCT 6250 - Seminar: Financial Accounting
- ACCT 6260 - Seminar: Managerial Accounting

F. Free Elective

(6 semester hours)

Accounting is increasingly diverse and linked to many business decisions. Accountants may eventually work as systems designers, chief financial officers, cost analysts, budget officers or chief executive officers. Students will be better prepared for their careers if they develop competencies in a related field, which may be chosen from a single discipline such as finance, information systems, decision sciences, entrepreneurship, international business, marketing, or management.

Free electives may consist of any course numbered 6800 or higher with BUSN prefix or any course numbered 6000 or higher with a prefix of ACCT, ENTP, FNCE, INTB, ISMG, MGMT, DSCI, or MKTG excluding ACCT 6030 and ACCT 6070

G. Total: 30 Hours

Accounting and Information Systems Audit and Control (AISAAC) Specialization

Recently, new regulatory environments have required companies to provide better documentation of their accounting and IT systems to improve the management and disclosure of their business processes for better financial and regulatory controls. Accounting and IT professionals have significant roles in audit and control activities, since they control the systems that monitor and report on finance, planning and operations. The courses within this specialization cover business-process management and financial controls; the emerging trends and practices in privacy and security; the strategies for integrating governance and compliance; and the IT organization's financial and business intelligence services. These courses will focus on how to leverage the existing IT infrastructure to establish quality in financial and internal audit processes and address the regulatory issues associated with reporting, consolidation and document/content management more effectively and completely.

As you will notice the complete 30 semester hour requirements for this specialization are listed below.

Accounting Core

(9 semester hours)

- ACCT 6620 - Advanced Auditing
- ACCT 6250 - Seminar: Financial Accounting
- ACCT 6260 - Seminar: Managerial Accounting

AISAAC Common Courses

(12 semester hours)

- ACCT 6020 - Auditing Theory
- ACCT 6510 - Accounting and Information Systems Processes and Controls
- ISMG 6040 - Business Process Management
- ISMG 6420 - Global Enterprise Systems

Choose three of the following courses:

(9 semester hours)

- ACCT 6340 - Financial Statement Analysis
- ACCT 6360 - Fraud Examination
- ISMG 6080 - Database Management Systems
- ISMG 6180 - Information Systems Management and Strategy
- ISMG 6220 - Business Intelligence Systems
- ISMG 6430 - Information Systems Security and Privacy
- ACCT 6470 - Internal Auditing

Total 30 hours

Administrative Leadership and Policy Studies EdS

Administrative Leadership and Policy Studies

Requirements for Principal Licensure, the MA and EdS degrees, and Executive Leadership Administrator Licensure Program

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/alps

Principal Licensure

Master of Arts Degree

Education Specialist Degree

Executive Leadership Administrator Licensure Program

Faculty

For information about faculty in this area, visit http://www.ucdenver.edu/education/alps.

The primary responsibility of the administrative leadership and policy studies (ALPS) faculty is to prepare leaders for public education in Colorado and the nation. Currently, the principal license is required for people seeking building-level administrative positions in Colorado.

Principal Licensure Program

ALPS offers course work that leads to the initial license for principal. Having earned an initial license, those who have obtained a master's degree and who go on to complete a district sponsored induction program may then be awarded a professional license by the Colorado Department of Education.

ALPS's 32 semester-hour principal licensure program is project-based, requiring students to present evidence of meeting both state and national standards through performance based assessments. A 400-hour clinical-practice experience is integrated throughout the four-semester program.

Students develop a portfolio during the principal licensure program. Portfolios not finalized by the end of the fourth semester must be completed within the two subsequent semesters (not including summer).

Note: Those already holding a master's degree and 5 years of leadership in education should also see the Executive Leadership Program (below) for pursuing administrator (superintendent) licensure.

Denver Metro-Area Cohorts

Denver metro-area cohorts are delivered in four 8-semester-hour courses over four consecutive semesters. Cohorts start at one or more locations each semester and involve a combination of regular in-person meetings (up to 15 times per semester) and online work.
EDUC 5751 - Principal/Administrator Licensing I Semester Hours: 5 to 9
EDUC 5752 - Principal Administrator Licensing II. Semester Hours: 5 to 9
EDUC 5753 - Principal/Administrator Licensing III. Semester Hours: 5 to 9
EDUC 5754 - Principal or Administrator Licensing IV. Semester Hours: 5 to 9

Total: 32 Hours

Distance-Learning Cohorts

Distance-learning cohorts start each summer in June with a weeklong boot camp in Denver, meet over several intensive weekends during the subsequent fall and spring semesters and end with a weekend the following summer. Online work is completed in between the in-person sessions. Distance-learning cohorts are delivered in **three 9-semester-hour courses and one 5-semester-hour course:**
EDUC 5751 - Principal/Administrator Licensing I. Semester Hours: 5 to 9
EDUC 5752 - Principal Administrator Licensing II. Semester Hours: 5 to 9
EDUC 5753 - Principal/Administrator Licensing III. Semester Hours: 5 to 9
EDUC 5754 - Principal or Administrator Licensing IV. Semester Hours: 5 to 9
Total: 32 Hours

MA Program

The MA is designed for those who do not already hold a graduate degree. Usually master's students will complete 9 semester hours beyond the 32 required in the licensure program, for a total of 41 semester hours of course work after the bachelor's degree.

For the MA degree, students must select at least one course in each of the following three areas:

Section A: Educational Research

RSEM 5100 - Basic Statistics Semester Hours: 3
RSEM 5120 - Introduction to Research Methods Semester Hours: 3
RSEM 5110 - Introduction to Measurement Semester Hours: 3

Section B: Educational Foundations/Multicultural Education

FNDS 5050 - Critical Issues in American Education. Semester Hours: 3
FNDS 5500 - Contemporary Philosophies of Education. Semester Hours: 3
FNDS 5410 - History and Philosophy of Modern Education. Semester Hours: 3
LCRT 5140 or CLDE 5140 - Multicultural Education Semester Hours: 3
LCRT 5150 or CLDE 5150 - Culture of the Classroom Semester Hours: 3
CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn Semester Hours: 3

Section C: Educational Psychology/Special Education

EDUC 5400 - Special Education Seminar for Principals. Semester Hours: 3
EPSY 5100 - Advanced Child Growth and Development. Semester Hours: 3

EPSY 5110 - Human Learning. Semester Hours: 3
EPSY 5140 - Advanced Adolescent Growth and Development. Semester Hours: 3
EPSY 5160 - Behavior Disorders in Exceptional Children. Semester Hours: 3
EPSY 5200 - Social Psychology of Learning. Semester Hours: 3
SPED 5140 - Advanced Assessment in Special Education. Semester Hours: 3
SPED 5180 - Curriculum Planning for Students with Special Needs. Semester Hours: 3
SPED 5400 - Advanced Seminar in Special Education. Semester Hours: 3
SPED 5600 - Special Education for School Professionals. Semester Hours: 3

Candidates must also successfully complete a comprehensive exam paper, reflecting on how the three MA classes will help them in the role of principal.

EdS Program

The EdS degree program affords the opportunity for advanced graduate study and is available to those who already hold a master's degree. Generally, for the specialist degree students will complete 9 semester hours that constitute an area of focus, in addition to the 32 required in the licensure program. Candidates must also successfully complete a comprehensive exam paper, reflecting on how the three EdS classes will help them in the role of principal.

Administrator Licensure - Executive Leadership Program

Designed for the professional educator who, already holding a master's degree and 5 years leadership experience in education, wishes to obtain an initial administrator license in Colorado and prepare for a career as a superintendent or other district leader. This one-year, 12-semester-hour certificate program combines weekend meetings with online work and hands-on clinical practice—usually completed in participants' home districts. Learn more at www.ucdenver.edu/education/elp.

Additional Program Information

Individuals interested in any of these programs are encouraged to contact ALPS faculty. Conferences prior to application are encouraged and welcomed. Following admission, students are expected to maintain frequent contact with assigned advisors to plan, develop and complete their programs of study.

Administrative Leadership and Policy Studies MA

Administrative Leadership and Policy Studies

Requirements for Principal Licensure, the MA and EdS degrees, and Executive Leadership Administrator Licensure Program

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
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Principal Licensure

Master of Arts Degree

Education Specialist Degree

Executive Leadership Administrator Licensure Program

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Additional Program Information

Individuals interested in any of these programs are encouraged to contact ALPS faculty. Conferences prior to application are encouraged and welcomed. Following admission, students are expected to maintain frequent contact with assigned advisors to plan, develop and complete their programs of study.

Anthropology, MA

► Graduate School Rules apply to this program.

Plans of Study

MA students may pursue the thesis or non-thesis option.

- **Thesis Option:** A thesis is characterized by three factors: 1) it is based in a research question or problem; 2) it involves original research; 3) there is a fully developed research proposal. A thesis can also encompass a range of format alternatives to the traditional thesis (e.g. article submitted for publication to a peer-reviewed journal, or a video production, internship or museum exhibit, each generally accompanied by a companion paper developing a theoretical or problem-oriented question). The thesis option requires 30 semester hours, including 4-6 hours of thesis.
- **Non-Thesis Option:** This track is defined by additional course work in lieu of a thesis. The non-thesis option requires 36 semester hours of course work.

Thesis Option

The thesis is a major requirement for those in the MA in anthropology thesis track. The thesis should demonstrate the student's ability to apply knowledge and skills gained from the anthropology department's curriculum. A desirable goal for an excellent thesis would be a work of sufficient rigor and quality that it could be considered for publication. Original data collection ("fieldwork") is recommended but not required for the thesis. Analysis of secondary data—whether quantitative, qualitative, visual or other formats—is perfectly acceptable as long as the research is informed by a clearly articulated research question and under-girded by a research proposal.

The traditional thesis is a single document that often incorporates a literature review, definition of a problem, discussion of methods to address the problem, the subsequent research activity and results. However, the student may design a thesis with different emphases, in consultation with their advisor. For example, the goal may instead be a more compact paper submitted to a peer-reviewed journal. Other thesis plans may combine some research activity such as a video production, museum exhibit or an internship, with an accompanying paper. Students pursuing the thesis option must develop a topic and research proposal that specifies their plans in the semester after their completion of 18 credit hours.

The thesis must be defended before a committee of three faculty, at least two of whom need to be on the Department of Anthropology faculty (which includes senior instructors and research faculty). The structure of the thesis is largely determined by the University of Colorado Denver Graduate School Rules; i.e., a thesis must conform to the rules.

1. For the thesis, students must prepare a full research proposal which must be approved by their thesis chair before beginning their research. This proposal must be completed by the semester after the student has completed 18 credit hours. Sections of the proposal should include, at a minimum:

a. Introduction and statement of the problem: Should include a one sentence statement of the problem on the first page, and a discussion of its significance (i.e., why is it important that this topic be researched).
b. Literature review covering theoretical and topical material.
c. Research design and methods including a data analysis plan.

Note: Wenner-Gren and National Science Foundation both provide good models and templates for the research proposal. Those in the medical anthropology track might want to consider following the NIH model, depending the nature of their research questions and career goals.

2. All students proposing to work with humans or data on modern humans must apply for and receive approval from the Human Subjects Research Committee before they begin their research. Note: most of the material for the application will be drawn from the research proposal.
3. The draft thesis must be reviewed and approved as "defensible" by the student's thesis committee faculty chair before a thesis defense date can be set. Defensible means the chair has reviewed the draft and suggested changes have been made.
    a. The draft sent to the student's committee must be substantively complete: All references must be in the text and properly formatted in a references cited section; there should be no "track changes" comments in the text; the text should be formatted according to Graduate School requirements.
    b. Given the complexity of faculty and student schedules, consultation on a defense date should be done as far in advance as possible.
    c. There must be a minimum of three weeks between the agreed-upon date for the defense and distribution of the draft thesis defined as defensible by the student's chair. If you would like feedback from your committee members before the defense, you should plan to distribute the thesis at least 4 weeks before the defense date.

    Note: If you intend to graduate the same semester you defend your thesis, you must schedule, successfully defend, and complete all recommended changes in accordance with CU Denver Thesis and Dissertation Guidelines. This effectively translates to having the thesis completed and "defensible" before the middle of the semester.

Non-Thesis Option

The non-thesis option allows students to pursue their own educational goals through the selection of additional courses that fit their interests. We strongly encourage students who choose this option to consider an internship position arranged around an area of expertise or the development of a skill-set. The internship may be in a governmental agency or non-governmental organization in Colorado, the U.S. or internationally. Successful completion of an internship will be acknowledged on the transcript of the MA program. The decision to pursue the non-thesis option should be made by the semester following the completion of 18 credit hours.

Additional Information

Students must maintain an overall GPA of 3.0 to remain in good standing and receive a grade of *B-* or better in a course to have it count toward graduation. The Graduate School on the Downtown Campus allows up to five years to complete a master's degree, but students are strongly discouraged from spending more than four years. While it is possible to finish the MA in two years, most of our students work part-time, which limits the time they can dedicate to the program; most finish within three years. Four semesters must be taken in residence at CU Denver. All students are required to pass a written comprehensive examination, taken after core course work has been completed.

Some students may benefit from adding a specific skills-based certificate program onto their graduate program. For example: archaeology students may wish to gain expertise in Geographic Information Systems through the GIS certificate offered through the Department of Geography and Environmental Sciences, while medical anthropology students may benefit from the certificate in public health offered through the School of Public Health or the environmental health certificate through the Master of Science in Environmental Sciences program. Graduate-level courses in certificate programs can often fulfill elective requirements in the anthropology program.

One doctoral program at the CU Denver campus that may be of particular interest to graduates of the anthropology MA program is the PhD in Health and Behavioral Sciences . It is highly interdisciplinary and a natural extension of a master's degree in medical anthropology.

Course Requirements

Your graduate anthropology education begins by taking ANTH 5810, Integrating Anthropology, plus two core courses each from two subdisciplines of Anthropology. After completing this core, you will select from among the specialized elective courses in the research concentrations described in more detail below. You will work closely with an advisor in selecting the range of courses appropriate both to a problem orientation and to your career objectives.

Required core courses (18 semester hours)

Required in fall of first year:

- ANTH 5810 - Integrating Anthropology

All students must complete or demonstrate competence in the following:

- ANTH 5053 - Quantitative Methods in Anthropology

Choose two of the following three sets of core courses (Students are not required to take these courses sequentially)

Archaeology

- ANTH 6307 - Contemporary Perspectives in Archaeology
- ANTH 6317 - Archaeological Research Design and Analysis

Biological

- ANTH 6503 - Biological Anthropology Core: The Fossil Record
- ANTH 6513 - Biological Anthropology Core: Modern Human Variation

Cultural

- ANTH 6063 - Qualitative Research Design and Methods
- ANTH 6103 - Current Theory in Ethnography

Research Concentrations (8-18 semester hours)

You will round out your program by selecting from the diverse range of courses offered in the department according to your particular interests in anthropology, your career goals and your plans for future graduate study. You may take courses in one or more concentrations. The courses listed are suggestions only; you must work closely with your advisor in constructing your particular program of study.

MEDICAL ANTHROPOLOGY

Medical anthropology is a subdiscipline of anthropology that includes the study of all aspects of health, illness and disease in human communities and populations. It draws on all of the perspectives that distinguish anthropology as a unique discipline: the analysis of human evolution and adaptation; cultural development, expressions and variability; and historical change and continuity. Medical anthropology takes as its subject a broad range of specific topics, including the study of health care systems, factors that affect the distribution and determinants of disease in populations, maternal and child health, nutrition and food habits, human development, political ecology, health policy and language and communication in health care contexts. Faculty in the department emphasize the applied dimensions of medical anthropology, preparing students for careers in public health, health care and health sciences research. Courses in the department are complemented by electives in other departments (sociology, biology, psychology, history, geography), programs on the Denver campus (health administration, public affairs, education) and programs at the Anschutz Medical Campus (Schools of Medicine, Public Health, Dental Medicine, Pharmacy and Nursing).

Courses

- ANTH 5014 - Medical Anthropology: Global Health
- ANTH 5030 - Ethnobiology
- ANTH 5040 - Anthropology of Food and Nutrition
- ANTH 5060 - Evolutionary Medicine
- ANTH 5090 - Political Economy of Drugs
- ANTH 5150 - Human Biocultural Adaptability
- ANTH 5230 - Anthropology and Community Based Participatory Research
- ANTH 5260 - Human Reproductive Ecology
- ANTH 5300 - Migrant Health
- ANTH 5560 - Human Ecology
- ANTH 5600 - Medical Anthropology
- HBSC 7310 - Environmental Epidemiology

Note: Students are also strongly encouraged to take elective courses in public health, epidemiology and biostatistics, which are available in the Department of Biometrics and Preventive Medicine on the Anschutz Medical Campus. See the Health Professions chapter of this catalog for further information.

ARCHAEOLOGY

The archaeological studies program concentrates on the study of past human societies using archaeological data collected in field and museum settings. While a quantitative and scientific approach is emphasized, the theoretical perspectives employed draw heavily from political economy and cultural ecology. The department offers a variety of theoretical, methodological and area courses, which may be supplemented by others in the geography and environmental sciences and history departments. Internships are available in local museums and historic preservation offices in the Denver metropolitan area.

Courses

- ANTH 5320 - Archaeology of Mexico and Central America
- ANTH 5330 - Lithic Analysis
- ANTH 5380 - Archaeology of Hunters-Gatherers
- ANTH 5400 - Archaeology of Power and Inequality
- ANTH 5570 - Landscape Archaeology
- ANTH 5580 - Neanderthals and the Origin of Modern Humans
- ANTH 5910 - Field Experience in Archaeology
- GEOG 5060 - Remote Sensing I: Introduction to Environmental Remote Sensing
- GEOG 5080 - Introduction to GIS
- GEOG 5220 - Environmental Impact Assessment
- HIST 5231 - History in Museums
- HIST 5232 - Historic Preservation
- HIST 5234 - Introduction to Public History

BIOLOGICAL ANTHROPOLOGY

The biological anthropology concentration is concerned with modern human biological diversity and the past evolutionary history that has led to such diversity. Students in this concentration develop a firm understanding of the evolutionary processes that lead to physical and behavioral variation in humans and nonhuman primates. The concentration also emphasizes the theoretical and quantitative methods used to explore and explain this variation. Students may take courses in diverse areas including evolutionary biology, genetics, ecology, ethnobiology, epidemiology, nutrition, medical anthropology, paleoanthropology, paleontology and primatology. Because biological anthropology is multidisciplinary in nature, students are encouraged to consider courses offered outside the department.

Courses

- ANTH 5014 - Medical Anthropology: Global Health
- ANTH 5030 - Ethnobiology
- ANTH 5040 - Anthropology of Food and Nutrition
- ANTH 5060 - Evolutionary Medicine
- ANTH 5150 - Human Biocultural Adaptability
- ANTH 5500 - Advanced Issues in Human Evolution
- ANTH 5530 - Anthropological Genetics
- ANTH 5550 - Primate Comparative Anatomy
- ANTH 5560 - Human Ecology
- ANTH 5580 - Neanderthals and the Origin of Modern Humans
- ANTH 5640 - Darwinian Approach to Human Behavior
- BIOL 5074 - Human Reproductive Biology
- BIOL 5134 - Human Genetics
- BIOL 5494 - Population and Evolutionary Genetics
- HBSC 7031 - Human Ecology and Environmental Adaptation
- HBSC 7310 - Environmental Epidemiology

SUSTAINABLE DEVELOPMENT AND POLITICAL ECOLOGY

This concentration provides a critical, multicultural and multidisciplinary perspective on issues of development and resource conservation, with a strong emphasis on the integration of theoretical knowledge with field-based training opportunities. Three major themes are addressed within this concentration:

1. the types of resource management systems present in the world and their relationship to particular ecosystems
2. the types of knowledge systems and ideas associated with this diverse array of resource management systems, environmental knowledge and theoretical perspectives
3. the culture of institutions—ranging from small-scale NGOs to the World Bank—that design and implement conservation and development

A central goal of this emphasis is to provide students with the information, opportunities and resources required for pursuing a wide variety of career options in conservation and/or

development. In addition to offering the following courses, the department encourages students to develop a specialized skill in conjunction with other departments and schools, including areas such as GIS mapping (geography), ecology (biology/anthropology), legal and policy issues (political science, School of Public Affairs), land use (geography, School of Public Affairs) and research/evaluation methodologies (anthropology).

Courses

- ANTH 5030 - Ethnobiology
- ANTH 5070 - Culture of Development and Globalization
- ANTH 5170 - Culture and the Environment
- ANTH 5180 - The Nature of Power
- ANTH 5230 - Anthropology and Community Based Participatory Research
- ANTH 5450 - Development and Conservation: Contemporary Issues
- ANTH 5460 - Development and Conservation: Theory and Practice
- ANTH 5570 - Landscape Archaeology
  Other courses in consultation with faculty advisor.

DEGREE TOTAL HOURS

Thesis Option: 30 Hours (including 4-6 hours of thesis)

Non-Thesis Option: 36 Hours

Applied Mathematics, MS

► Graduate School Rules apply to this program.

Program Requirements

Students must present 30 hours of course work and maintain a 3.0 GPA or above for the MS degree. At least 24 of these hours must consist of graduate-level (numbered 5000 or higher) mathematics courses. The remaining 6 hours must be either mathematics courses numbered 5000 or above or approved courses outside the department numbered 4000 or above.

Up to 9 semester hours of prior course work may be transferred in; these must be at the 5000 level or above with a *B*- or better grade. Courses already applied toward another degree (graduate or undergraduate) cannot be used toward the MS degree in applied mathematics. Additionally, the following MATH courses will NOT count toward a graduate degree: MATH 5000-5009, 5012, 5017, 5198 and 5250.

A student may devote from 4 to 6 hours (of the 30 required hours) to the writing of a thesis. Following completion of course work, all candidates must make a one-hour oral presentation before a committee consisting of three graduate faculty members.

Students must take either applied analysis or real analysis and applied linear algebra. Additionally, students must fulfill specific course work requirements for one of the following areas of specialization:

- Applied Probability
- Applied Statistics
- Computational Biology
- Discrete Mathematics
- Mathematics of Science and Engineering
- Numerical Analysis
- Operations Research

All master's degree students are encouraged to participate in the Math Clinic, a unique program in which students have an opportunity to work on real-world problems supplied by local businesses, research firms and government agencies.

For more detailed information about the applied mathematics MS, see the Mathematical & Statistical Sciences Graduate Handbook (July 2010) .

Architecture MArch

The MArch is the college's accredited professional degree for students intending to seek licensure as architects. It is a three-and-one-half-year plan of study on the Denver campus that has been fully accredited by the National Architectural Accrediting Board (NAAB).

Prerequisites

- Students must complete the prerequisites of college-level trigonometry and physics before enrolling in ARCH 5310, Introduction to Building Technology. Since this class should be taken in the first semester in order to stay on track for graduation, students are strongly encouraged to complete the trigonometry and physics requirements before beginning the MArch program.
- ARCH 5000, Math and Physics for Architects, is offered in the summer on a pass/fail basis. This class meets the prerequisite requirements. This class does not count toward the number of credits required for the MArch degree.
- A graphics workshop is recommended for students who do not have a background in architectural drawing and model building. This class is offered each year before the beginning of the fall semester.
- Students are also expected to have achieved a basic level of computer literacy and should be familiar with PC or Mac operating systems.

Program Requirements

Students with a bachelor's or master's degree unrelated to architecture must complete a seven- or eight-semester sequence of course work and accumulate a minimum of 114 semester hours of credit. Students who have completed the college's BSArch or other preprofessional degree in architecture, or foreign non-NAAB-accredited professional degree, will be evaluated individually for advanced standing. These students will be advised and provided with an individualized plan of study commensurate with their previous degrees and experience, and will have to complete at least 60 semester hours of credit in residence within the College of Architecture and Planning.

Course Sequence

The MArch program is divided into five major components:

- studio design studies, 45 semester hours
- cultural studies, 12 semester hours
- technology studies, 18 semester hours
- professional studies, 6 semester hours
- electives, 33 semester hours

A wide array of electives in these areas allows students to tailor their graduate studies to their own interests.

First Year

Fall

- ARCH 5110 - Design Studio I
- ARCH 5111 - Architectural Graphics I

- ARCH 5210 - Introduction to Architecture
- ARCH 5310 - Introduction to Building Technology

Total: 15 Hours

Spring

- ARCH 5120 - Design Studio II
- ARCH 5121 - Design Seminar II
- ARCH 5220 - History of Architecture I
- ARCH 5320 - Building Construction and Methods
- LDAR 6632 - Site Planning - Environment and Society
  Elective* (3 semester hours)

Total: 18 Hours

Second Year

Fall

- ARCH 5130 - Design Studio III
- ARCH 5131 - Design Seminar III
- ARCH 5230 - History of Architecture II
- ARCH 5240 - Human Factors in Design
- ARCH 5330 - Environmental Control Systems I
  Elective* (3 semester hours)

Total: 18 Hours

Spring

- ARCH 5140 - Design Studio IV
- ARCH 5141 - Design Seminar IV
- ARCH 5340 - Environmental Control Systems II
- ARCH 5350 - Structures I
  Electives* (6 semester hours)

Total: 18 Hours

Summer

- ARCH 6150 - Comprehensive Design Studio
- ARCH 6151 - Comprehensive Design Seminar
  Electives* (6 semester hours)

Total: 12 Hours

Third Year

Fall

- ARCH 5360 - Structures II
- ARCH 5410 - Professional Practice
- ARCH 6170 - Advanced Design Studio
- ARCH 6171 - Advanced Design Seminar
  Electives* (9 semester hours) or
- ARCH 6950 - Thesis Preparation and
  Electives (3 semester hours)

Total: 18 Hours

Spring

- ARCH 6170 - Advanced Design Studio
- ARCH 6171 - Advanced Design Seminar
  Electives* (9 semester hours) or
- ARCH 6951 - Architecture Thesis
  Electives* (9 semester hours)

Total: 15 Hours

* Students must take 9 elective semester hours in cultural studies, 9 elective semester hours in professional studies (3 semester hours of which must emphasize the computer), 6 elective semester hours in technology studies and 9 elective semester hours in any architecturally related electives on campus.

Bioengineering MS

► Graduate School Rules apply to this program.

Master of Science (MS) Degree Program

The master of science degree is offered to students with an undergraduate degree in the life sciences or engineering. Students complete the degree in 1-2 years with the choice of research thesis or industry internship. Program details are available on the Department of Bioengineering website.

The department also offers a dual MS degree for students who are already enrolled or accepted into another MS program in the University of Colorado system. Please contact us for advising.

Biology MS

► Graduate School Rules apply to this program.

Graduate MS Program Director: Timberley Roane
Office: Science, 4096
Telephone: 303-556-6592
E-mail: timberley.roane@ucdenver.edu
Website: clas.ucdenver.edu/biology/grad.html

Requirements for Admission

Applicants must hold a baccalaureate degree from an accredited college or university, awarded within the preceding ten years. Students whose biology degree was awarded more than 10 years prior to entrance to the CU Denver program will be expected to retake or show competence in the biology core courses. Successful applicants generally have earned an overall GPA of 3.0 or better. Most applicants have an undergraduate major in biology or a related field. Students entering the master's program in biology must have completed the equivalent of a minor in biology. Although a deficit of one course is allowed, this must be completed within the first semester of entering the master's program and will not apply toward the degree. The general GRE is required of all applicants, with scores above the 50th percentile required on each of the three sections (verbal, quantitative and analytical writing).

Applicants to the master's in biology program must have a declared area of specialization that aligns with the research focus of a biology graduate faculty member. Faculty expertise can be found under Graduate Faculty Profiles on the Department of Integrative Biology website. Students must contact prospective faculty advisors to determine if openings are available within the faculty member's program.

Application deadline is February 1 for domestic U.S. and international students. Applications submitted after the deadline date WILL NOT be considered. Before submitting an application, students must refer to the Biology MS Program website for additional application criteria. Application to the master's in biology program is through CU Denver Admissions.

Degree Requirements

All course work taken within the Department of Integrative Biology and applied toward the degree must be at the 5000 level or above. A course plan is developed jointly by the student and faculty advisor and is approved by the student's graduate committee. In addition to regular meetings throughout the semester, all students must meet with their faculty advisor at the beginning of each semester to determine course schedules and upcoming deadlines. A pre-registration agreement form is signed by the student and advisor, and then filed with the associate chair for graduate studies in biology to ensure that degree requirements are met, and that selected courses will be applicable toward the MS degree.

With the advisor's and/or graduate committee's approval, a maximum of 6 semester hours of course work at the 4000 level taken outside the department may be applied toward the degree. At least 18 semester hours must be taken from faculty in the Department of Integrative Biology

at CU Denver. Upon approval of the department, as many as 12 semester hours may be transferred into the program.

Students must form a three-person committee consisting of members of the graduate faculty, with at least two from the rostered CU Denver graduate faculty. Committee membership must be approved by the faculty advisor. The research track requires 30 semester hours, including a minimum of 4 and no more than 6 thesis hours. Students may also count a maximum of 7 hours (total) of graduate-level independent study and/or internship. Graduate internship or independent study projects must be research-based. In addition, two semesters of graduate seminar (BIOL 6655), one semester of Biological Data Analysis (BIOL 6764), and one semester of Principles of Biological Research (BIOL 5705) are required. The Biology MS also requires the preliminary exam, a research proposal defense and a research thesis defense.

- BIOL 6655 - Seminar

Financial Assistance

Financial aid for graduate students may be available from university and/or state fellowships, research assistantships sponsored by individual faculty members and teaching assistantships. Teaching assistantships are available on a competitive basis through application. Students should refer to the department web site for information on how to apply for a teaching assistantship.

Contact the Office of Financial Aid for information about fellowships, or the Graduate MS Program Director for information about research and teaching assistantships.

Business Administration -- Health Administration MBA

Program Director: Errol L. Biggs
Telephone: 303-315-8851
E-mail: errol.biggs@ucdenver.edu

Faculty

Professors:

Heidi Boerstler, PhD/JD, Yale University/University of Denver
Peter Bryant, PhD, Stanford University
C. Marlena Fiol, PhD, University of Illinois-Urbana-Champaign
Bruce Neumann, PhD, University of Illinois
Edward O'Connor, PhD, University of Akron

Associate Professors:

Deborah Kellogg, PhD, University of Southern California
Stephen Ross, MD, University of North Carolina

Instructors:

Errol Biggs, PhD, Pennsylvania State University

Admission Process

Requirements for Admission

Selection of students is a multi-step process. When making application to the program for the MBA-HA, candidates should send their applications to:

Graduate Admissions
Graduate School of Business Administration
University of Colorado Denver
Campus Box 165, P.O. Box 173364
Denver, CO 80217-3364

Application Requirements

- complete the application for graduate admission, parts I and II, and submit by published deadlines
- send two (2) letters of recommendation from professional or academic acquaintances who are familiar with the applicant's academic/professional competence
- send required GMAT scores directly to the graduate office from the Educational Testing Service. When registering for the GMAT, use code MPB-OG-78. GRE scores will also be considered.
- pay the appropriate application fee
- send two (2) official transcripts directly from each school, college or university previously attended past high school. A minimum baccalaureate degree is required.
- include answers to the four essay questions

- document any experience in the field of health services administration (preferred but not required)
- complete a personal interview with the health administration committee

Admission to the MBA-HA degree program is on a competitive basis. Therefore, these admission criteria represent minimum entrance qualifications expected of all students.

For further information, brochures and application materials, contact the Business School's Graduate Program in Health Administration, University of Colorado Denver, 303-315-8200.

Graduate Program in Health Administration

The graduate program in health administration is consistently ranked as a top program in the United States and attracts students with a variety of backgrounds and experience levels, which further enriches the classroom experience. The HA program is accredited by the Commission on Accreditation of Healthcare Management Education. The program is the only such program in the Rocky Mountain region and was started in 1968. Full-time faculty with distinguished research records and a select group of practicing managers provide students with the latest thinking on the most important health issues.

Degree Requirements

The curriculum of the MBA with an emphasis in Health Administration is a synthesis of management concepts and techniques that are applicable to any economic organization, and tools that can be specifically applied to health services systems. The program emphasizes skills that strengthen basic analytic and decision-making processes used by top level managers in selecting broad strategies and by junior managers in administering sub-units in healthcare organizations.

Students enrolled in the Master of Business Administration with an emphasis in Health Administration must complete a minimum of 51 semester hours of graduate-level course work to receive their degree. The curriculum is based on a series of structured learning sequences. Most of the courses are available in the evening to enable working students to pursue the degree on a part-time basis. The specific course requirements are as follows:

MBA Core (27 hours)

- BUSN 6521 - Managing Individuals and Teams (Health Section)
- BUSN 6530 - Data Analysis for Managers
- BUSN 6541 - Legal and Ethical Environment of Business (Health Section)
- BUSN 6550 - Analyzing and Interpreting Accounting Information
- BUSN 6560 - Marketing Management
- BUSN 6621 - Applied Economics for Managers (Health Section)
- BUSN 6630 - Management of Operations
- BUSN 6640 - Financial Management
- BUSN 6711 - Strategic Management (Health Section)

Health Administration Core (15 hours)

- HLTH 6010 - Health Care Systems
- HLTH 6040 - Health Care Financial Management
- HLTH 6070 - International Health Policy and Management
- HLTH 6911 - Health Field Studies
- DSCI 6440 - Quality and Process Improvement

Health Administration Information Technology Elective (3 hours)

Select 1of the following courses:

- HLTH 6071 - Introduction To Health Information Technology
- HLTH 6072 - Fundamentals of Health Information Technology Management

Health Adminstration Electives (6 hours)

Select 2 of the following courses:

- HLTH 6055 - Transformational Leadership/Transforming Organizations
- HLTH 6075 - International Health Travel Study
- HLTH 6740 - Profiles in Health Care
- MGMT 6803 - Visionary Leadership

Specialized Tracks in the MBA with an Emphasis in Health Administration

Each track carries its own specific course requirements. To provide a variety of perspectives and experiences within a specific area of health administration, each track includes courses that span various departments within the Business School, other schools at CU Denver, and other University of Colorado campuses.

- International Health Management and Policy Track
- Financial Management Track
- Health Information Technology Management Track

Notes and Restrictions

Students admitted into the MBA with an emphasis in Health Administration must meet with a graduate advisor before they register for their first semester. Call 303-315-8200 to schedule an appointment. This is important to increase awareness of the sequencing of course offerings.

Administrative Residency. An administrative residency is optional but recommended for students with limited healthcare experience. The program faculty provide assistance to students in securing the residency, as well as regular consultation during the residency period. The program has been very successful in placing graduates in administrative residencies.

Length of program. A maximum of five years and one semester is allowed to complete the Health Administration program.

Business Administration MBA

Program Director: Dennis Murray

Telephone: 303-315-8419
E-mail: Dennis.Murray@ucdenver.edu

Faculty

Professors:

Marcelle Arak, PhD, Massachusetts Institute of Technology
Heidi Boerstler, PhD/JD, Yale University/University of Denver
Jean-Claude Bosch, PhD, University of Washington
Wayne Cascio, PhD, University of Rochester
Elizabeth Cooperman, PhD, University of Georgia
Lawrence Cunningham, DBA, University of Tennessee
E. Woodrow Eckard, PhD, University of California-Los Angeles
C. Marlena Fiol, PhD, University of Illinois-Urbana-Champaign

James Gerlach, PhD, Purdue University
Blair Gifford, PhD, University of Chicago

Jahangir Karimi, PhD, University of Arizona
Susan Keaveney, PhD, University of Colorado
Gary Kochenberger, PhD, University of Colorado
Dennis Murray, PhD, University of Massachusetts-Amherst
Bruce Neumann, PhD, University of Illinois
Edward O'Connor, PhD, University of Akron
John Ruhnka, JD/LLM, Yale School of Law/Cambridge University
Dean Taylor, PhD, University of Chicago
Clifford Young, PhD, University of Utah

Associate Professors:

Ajeyo Banerjee, PhD, University of Massachusetts-Amherst
Kenneth Bettenhausen, PhD, University of Illinois-Urbana-Champaign
Kang Rae Cho, PhD, University of Washington
Gary Colbert, PhD, University of Oregon
Carol Dee, PhD, Louisiana State University
David Forlani, PhD, University of Minnesota
Dawn Gregg, PhD, Arizona State University
Deborah Kellogg, PhD, University of Southern California
Sarah Koovor-Misra, PhD, University of Southern California
Vick Lane, PhD, University of Washington
Michael Mannino, PhD, University of Arizona
L. Ann Martin, PhD, University of Minnesota
Madhavan Parthasarathy, PhD, University of Nebraska
Ronald Ramirez, PhD, University of California-Irvine

Michael Roberts, PhD, Georgia State University
Judy Scott, PhD, University of California-Irvine
Manuel Serapio, PhD, University of Illinois
Marlene Smith, PhD, University of Florida
Steven Walczak, PhD, University of Florida
Zhiping Walter, PhD, University of Rochester
Jian Yang, PhD, Texas A&M University

Assistant Professors:

David Chandler, PhD, University of Texas -- Austin
Vinit Desai, PhD, University of California at Berkeley
Yufeng Han, PhD, Washington University
Stephanie Johnson, PhD, Rice University
Mary Malina, PhD, University of Colorado
Takeshi Nishikawa, PhD, Texas Tech University
Reina Ray, PhD, Indiana University
Craig Sisneros, PhD, Arizona State University
Traci Sitzmann, PhD, University of Tulsa
William Strawser, PhD, Texas A&M University
Cheng Yong Tang, PhD, Iowa State University

Senior Instructors:

John Byrd, PhD, University of Oregon
Ji Chen, MS, University of Colorado
Elizabeth Connor, MS, Colorado State University
Michael Harper, PhD, Rensselaer Polytechnic Institute
Robert Hockenbury, MS, University of Houston
Barbara Pelter, PhD, University of California-Davis
Mary Lee Stansifer, PhD, Northwestern University
Eric Thompson, MS, University of Colorado

Instructors:

Halley Ballew, MS, University of Kansas
Joshua Bernhard, MS, Iowa State University
Errol Biggs, PhD, Pennsylvania State University
Francsisco Conejo, PhD, University of Otago New Zealand
John Daley, PhD, University of Washington
Linda Fried, JD/LLM, University of Miami
Wendy Guild, PhD, Massachusetts Institute of Technology
Barry McConnell, MBA, University of Colorado
Peter Max Miller, MA, Farleigh Dickenson University
Jeffrey Nystrom, MS, University of Colorado
Marie Owens, MBA, University of Montana
Eric Reiner, MBA, Louisiana State University
David Ruderman, MBA, University of Colorado
Roger Stace, MS, Curtin University of Technology, Australia

Cindy Sutfin, MS, University of Colorado
Emily Vera, MS, University of Colorado

The Master of Business Administration (MBA) program provides a general background in management and administration. This background enables the student to have the breadth of exposure and depth of knowledge required for an advanced-level management career. The program is devoted to developing the concepts, analytical tools and communication skills required for competent and responsible administration of an enterprise viewed in its entirety, within its social, political and economic environment.

The professional MBA program allows the scheduling of classes with maximum flexibility so students can progress through the program at their own pace, by taking as little as one class per semester or as many as five classes per semester, at times that are convenient with their work schedule. The program can be completed in as little as 16 months or as long as five years plus one semester.

Online courses add additional flexibility. Students may complete all degree requirements online, or combine online and campus courses to broaden the choice of electives or to fit a business travel schedule or personal learning style. Choice of online electives is limited.

The MBA program is also available in different configurations: 11-Month (full time, see relevant section), Health Administration and the Executive MBA (see relevant section). All MBAs have the same curriculum requirements; they differ only in their focus, the flexibility of course scheduling, and the time required to complete the program. The 11-Month and Executive MBAs are lockstep programs (no open electives, no specialized tracks), where students form a cohort and complete all program requirements together. No course transfers, waivers or substitutions are permitted.

Program Requirements

Core Requirements

- BUSN 6520 - Managing Individuals and Teams
- BUSN 6530 - Data Analysis for Managers
- BUSN 6540 - Legal and Ethical Environment of Business
- BUSN 6550 - Analyzing and Interpreting Accounting Information
- BUSN 6560 - Marketing Management
- BUSN 6610 - Information Systems Management and Strategy
- BUSN 6620 - Applied Economics for Managers
- BUSN 6630 - Management of Operations
- BUSN 6640 - Financial Management
- BUSN 6710 - Strategic Management

Electives

International Business elective (3 semester hours)
Free electives (15 semester hours)

Total: 48 Hours

Notes and Restrictions:

Core Substitution. Students with extensive and comparable course work in a particular core subject area may petition to substitute a higher-level graduate course on the basis of prior undergraduate or graduate course work taken at a regionally accredited college or university for the corresponding core class. This does not waive the 48-hour requirement. If a core course is substituted, another graduate level course in the same functional area must be used as a substitute so that the student completes a total of 48 semester hours.

International Elective. One 3-hour course with an international focus must be completed. Contact a graduate advisor or refer to a current MBA degree plan for a complete list of options.

Electives. The professional MBA curriculum allows for 15 semester hours of elective credit, which can be chosen from graduate-level courses offered by the Business School, except BUSN courses numbered below 6800. Additional graduate-level course work completed at the Denver campus outside the Business School may be applied to the MBA degree, but only with prior written approval of the MBA program director.

Note: Electives for the 11-Month and Executive MBA programs are pre-selected for all students.

MBA Specializations

Graduate students will have an opportunity to take specialized tracks within the professional MBA program by completing a pre-specified program of elective courses. The following 16 specializations are available:

Bioinnovation and Entrepreneurship
Business Intelligence
Business Strategy
Change Management
Decision Sciences
Enterprise Technology Management
Entrepreneurship
Finance
Human Resources Management
Leadership
Information Systems
International Business
Managing for Sustainability

Marketing
Risk Management and Insurance
Sports and Entertainment Management

For additional information about the professional MBA program, contact a graduate advisor at 303-315-8200.

Business Administration: 11-Month MBA

Program Director: Gary Colbert
Administrative Director: Debbie Follenweider
E-mail: 11-monthMBA@ucdenver.edu
Telephone: 303-315.8800
Website: www.business.ucdenver.edu/11-MonthMBA

The 11-Month MBA is an accelerated full-time program that brings academically superior students together with select research and teaching faculty. The program enables students to focus their energies in a concentrated, total-immersion program of study earning a nationally accredited, 48-semester-hour MBA degree in just under a year.

The 11-Month MBA consists of five eight-week terms, three courses per term, plus a two-week international business course abroad. In addition to a minimum of 18 hours of class time each week, the 11-Month MBA students spend an average of 30 hours a week on homework. Students should expect a minimum time commitment of 48 hours per week to successfully complete this program.

Admission and Application Process

The admissions committee considers each candidate's entire record of achievement demonstrated through academic transcripts, GMAT scores, essays, letters of recommendation, personal interviews (if needed, will be scheduled at the discretion of the admission committee), work experience and extracurricular and community activities.

Previous Education

Applicants' complete academic records, including GPAs and previous course work are considered. Undergraduate degrees do not have to be in business, but they must be from regionally accredited colleges or universities.

Testing

The GMAT is a requirement for application to the 11-Month MBA program and cannot be substituted with other standardized examinations. If you take the GMAT more than once, we will evaluate your application using the highest GMAT score. The GMAT score for students admitted into the 11-Month MBA program has averaged around 600. Students must score a minimum 500 to be considered for admission to the 11-Month MBA program.The GMAT website is www.mba.com.

The 11-Month MBA also requires a highly developed proficiency in written and oral English. International applicants whose first language is not English must take the TOEFL or IELTS exam and earn a minimum score of 575 (PBT)/ 232 (CBT)/ 90(IBT) TOEFL or 6.5 IELTS to be considered for admission to the 11-Month MBA program. Information on taking the TOEFL or IELTS can be obtained by visiting www.ets.org and www.ielts.org.

Work Experience

Students in the 11-Month MBA program have an average of six years of work experience. However, experience ranges from the recently graduated to more than 30 years in business. Professional experience strengthens the application, since it adds relevance and depth to the

learning process and enables candidates to contribute to and benefit from the knowledge of fellow classmates in the accelerated time frame of the program.

Applications

The following are required for consideration of admission to the program.

- completed application for graduate admission, parts I and II, submitted by published deadlines and fee (domestic or international as appropriate)
- two (2) letters of recommendation from professional or academic acquaintances who are familiar with the applicant's academic/professional competence
- GMAT scores taken in the last five years sent directly to the graduate admissions office from the Educational Testing Service. When registering for the GMAT, use code MPB-OG-65
- two (2) official transcripts from each school, college or university previously attended past high school, sent directly to the graduate admissions office. A minimum baccalaureate degree is required
- include answers to the four essay questions demonstrating commitment to an accelerated MBA program
- a resumé outlining work experience
- for international students, a minimum official score of 575/232/90 TOEFL (TOEFL school code: 4875) or 6.5 IELTS is required to apply -- test scores are valid for two years after test date

The priority date for domestic applications is June 15 (May 15 for international students). Applications (for domestic students) and current fee information are available at www.business.ucdenver.edu/11-monthMBA.

All of the required admission materials should be sent to:

University of Colorado Denver
The Business School
Graduate Admissions
Campus Box 165, P.O. Box 173364
Denver, CO 80127-3364

For further information, brochures and application materials, contact the 11-Month MBA program at 303-315-8800 or 11-monthMBA@ucdenver.edu.

The 11-Month MBA uses a rolling admission system. The committee reviews applications when they are complete in all respects, including transcripts, GMAT scores and letters of recommendation. Candidates are encouraged to submit their application as early in the process as possible. Completed applications are reviewed until early August; applications received after June 15 will be reviewed on a space-available basis. International applicants should have their completed applications in by May 15, to leave them sufficient time for visa and travel arrangements if they are admitted.

A personal interview may also be required for admission to the 11-Month MBA.

11-Month MBA Award/Loans

General financial assistance is available for qualified students. Students should apply directly to the Denver campus Office of Financial Aid. Call 303-556-2886 for information and forms. In addition, an 11-Month MBA merit-based award is available only to students in the 11-Month MBA. Other Business School scholarships are also available to all MBA students. Information available at www.business.ucdenver.edu/11-monthMBA.

Degree Requirements

Students in the 11-month MBA complete 10 MBA core courses, one international business course (conducted abroad) and five special topics courses. All courses require that students work in teams. Due to the program's cohort structure, individual elective options are not available to 11-month MBA students. **No courses may be waived, substituted or transferred into the program.** If a student finds it necessary to leave the accelerated program, credits already earned may be transferred to the professional MBA program on campus.

MBA Core Courses

- BUSN 6520 - Managing Individuals and Teams
- BUSN 6530 - Data Analysis for Managers
- BUSN 6540 - Legal and Ethical Environment of Business
- BUSN 6550 - Analyzing and Interpreting Accounting Information
- BUSN 6560 - Marketing Management
- BUSN 6610 - Information Systems Management and Strategy
- BUSN 6620 - Applied Economics for Managers
- BUSN 6630 - Management of Operations
- BUSN 6640 - Financial Management
- BUSN 6710 - Strategic Management

Total: 30 Hours

International Course Abroad

The international course, which involves travel abroad, is completed as an all-day, two-week intensive course.

Special Topics Courses

The special topics courses, revised each year, are selected to create a broad understanding of the most current business issues. These requirements are subject to change.

Chemistry MS

► Graduate School Rules apply to this program

Requirements for Admission

Students must meet the Downtown Campus Graduate School admission requirements with specific chemistry requirements as follows:

- Undergraduate GPA of at least 3.0.
- Undergraduate major in chemistry essentially equivalent to the one offered at CU Denver (see the undergraduate requirements), including two semesters of organic, analytical and physical chemistry with laboratories and one semester of inorganic chemistry. No student will be admitted to the graduate program who is not within two classes of meeting the undergraduate requirements.
- GRE examination is recommended, as is the advanced chemistry GRE examination.
- International students have additional admission requirements concerning immigration status, proof of financial responsibility and acceptable TOEFL scores.
- Failure to meet the full admission standards may lead to provisional admission.

Prospective students are encouraged to contact the graduate program director or visit the chemistry department website for additional details concerning the chemistry program, admission procedures, financial assistance and faculty research interests.

General Program Requirements

At the heart of the graduate program is a set of four core graduate courses in the fields of analytical, inorganic, organic and physical chemistry. A student must qualify in order to register for any core graduate class, either by passing a qualifying examination in that field or by passing the equivalent undergraduate class in that area at CU Denver with a grade of *B* (3.0) or better. All entering students are required to qualify in all four core fields. The qualifying requirements must be completed during the first year in the graduate program. Individual core classes may have additional prerequisites.

Depending on the program option that she/he selects, a student will be required to pass either three (Plan I) or all four (Plan II) of the graduate core courses with no grade in a core course below *B*- (2.7).

The remaining course work for the degree will consist of regular graduate offerings in chemistry, a limited number of which may be substituted by approved classes in related fields. In particular, students interested in interdisciplinary areas, such as biochemistry or environmental chemistry, are encouraged to take cognate courses outside the chemistry department. The chemistry graduate program director must approve in advance any graduate class taken outside the department that is to count toward the degree. All students are required to annually submit an updated program plan for approval and to have their progress evaluated by the graduate program director.

Specific Degree Requirements

There are two options for obtaining a master's degree from the Department of Chemistry: Plan I, the thesis option, and Plan II, the course work emphasis option. All students must complete at least 3 semester hours of master's report (CHEM 6960). A student is allowed to participate in the thesis option only after the successful completion of the master's report with the proposed advisor, and upon the mutual agreement of both the student and advisor that the student is prepared to work on a master's thesis. Students who select the course work emphasis option may petition to have up to 3 additional semester hours of master's report research substitute for an equivalent number of course work hours.

Plan I. Thesis Option

Plan I is a research-oriented program involving a minimum of 30 semester hours with the following requirements:

- 21-23 semester hours of formal course work, including three of the four graduate core courses
- 4-6 semester hours of CHEM 6950, Master's Thesis research; successful completion of the thesis research includes the presentation of the results at a departmental seminar
- 3 semester hours of CHEM 6960, Master's Report research
- a grade of *B*- (2.7) or better in all courses completed: *B*- (2.7) or better in all core courses
- a cumulative GPA of 3.0 or better in all courses taken as a graduate student
- an acceptable formal thesis consistent with the guidelines of the Graduate School
- successful oral defense of the master's thesis before a committee of at least three graduate faculty members, two of whom must be tenure track faculty members in the chemistry department
- compliance with all Graduate School Rules
- all work must be completed within five years of completion of the first graduate class in the department

Plan I thesis research must be conducted under the direct supervision of a tenure-track faculty member of the Downtown Campus Department of Chemistry. Plan I students must take a minimum of 15 semester hours of formal course work in chemistry at the 5000 level or above. Students may petition the graduate program director in advance for permission to take one or two courses at the graduate level outside of chemistry that would count toward the requirements for an MS in chemistry.

Plan II. Course Work Emphasis Option

Plan II is a course work-oriented program involving a minimum of 33 semester hours with the following requirements:

- 27-30 semester hours of formal course work, including all four graduate core courses
- at least 3 (but not more than 6) semester hours of CHEM 6960, Master's Report, research
- a grade of *B*- (2.7 or better in all courses completed; *B*- (2.7) or better in all core courses
- a cumulative GPA of 3.0 or better in all courses taken as a graduate student

- a final research report
- presentation of the research project in a final seminar
- successful defense of the project before a committee of at least three graduate faculty members, one of whom must be a tenure-track faculty member in the chemistry department
- compliance with all Graduate School Rules
- all work must be completed within five years of completion of the first graduate class in the department

A Plan II student may petition the graduate program director to substitute up to 3 semester hours of master's report (CHEM 6960) research, beyond the required minimum, for an equivalent number of semester hours of formal course work. Approval will be perfunctory for research performed with the support and under the direct supervision of a faculty member in the Department of Chemistry. Plan II students must take a minimum of 24 semester hours of formal course work in chemistry at the 5000 level or above. Students may petition the graduate program director in advance for permission to take up to two courses at the graduate level outside of chemistry that would count toward the requirements for an MS in chemistry.

Civil Engineering MS and MEng

► Graduate School Rules apply to these programs

Graduate

Degree Programs

The civil engineering graduate program is designed for both full-time and part-time students who want to advance their academic and professional skills in civil engineering and related areas. Many students are full time, while many also work full-time jobs and complete evening classes. Depending on a student's pace, the master's program takes 2-4 years to complete (on average). All graduate courses are offered in the afternoons, evenings or on Saturdays. Some courses, including all GIS classes, are offered online.

Specialty Areas:

Master of Science (MS)

- Environmental and Sustainability Engineering
- Geographic Information Systems (GIS)
- Geotechnical Engineering
- Hydrologic and Hydraulic Engineering
- Structural Engineering
- Transportation Engineering

Master of Engineering (MEng)

- Geographic Information Systems (GIS)
- Sustainable Infrastructure
- Transportation Systems

Degree Requirements

Two MS degree programs are available.

Plan I - Master's Thesis: This plan requires 24 semester hours of graduate-level course work and 6 semester hours of master's thesis credit.

Plan II - Master's Report: This plan requires 27 semester hours of graduate-level course work and 3 semester hours master's report credits.

Master of engineering students must follow Plan 2 above. Additionally, of those 30 semester hours, at least 15 hours must be completed with CE classes, including the master's report. The remaining hours may be completed in related disciplines that supplement the chosen area of study. Both the MS and MEng degrees require satisfactory completion of a written comprehensive exam and an oral defense of the master's thesis or master's report to a committee of at least three graduate faculty. Every graduate student must also satisfy the degree

requirements of the Graduate School on the Denver campus, specified in the Information for Graduate Students chapter of this catalog. Both the MS and the MEng degree programs must be completed within seven years of the date the student begins the degree program.

Courses for both the MS and MEng degree programs are selected by mutual agreement of the student and his/her faculty advisor after admission to the degree program. The advisor may also specify undergraduate courses that must be completed before starting graduate course work, but these will not count toward the semester hour requirements for the degree. The student's thesis or report topic must also be approved by the faculty advisor.

Requirements for Admission

GPA and GRE

Students with GPA's between 3.0 and 2.75 may be admitted provisionally, but are encouraged to submit official GRE scores to support their applications. Non-international applicants not wishing to take the GRE may gain admittance by registering as a nondegree student and completing three classes with a GPA of 3.25.

Transfer Credit:

Master's students may transfer up to 9 semester hours from another institution toward their master's degree, if approved by their advisor.

Program Prerequisites:

Prerequisite classes are in addition to the 30 semester hours needed to complete a master's degree, as they are necessary background information that is usually included in an engineering bachelor's program.

Students may complete prerequisite classes either before or after being admitted to a degree program. However, applicants with too many prerequisites may not gain admission. For applicants completing prerequisites after admission, all prerequisite courses must be completed before 12 of the 30 master's semester hours are complete.

Requests for applications for graduate study in civil engineering should be addressed to

CU Denver Department of Civil Engineering
Campus Box 113
P.O. Box 173364
Denver, CO 80217-3364.

Applicants who are not citizens or permanent residents of the United States must apply through the Office of International Admissions, Campus Box 185, P.O. Box 173364, Denver, CO 80217-3364. All applicants for admission must submit complete credentials as outlined in the instructions that accompany the application materials.

Communication MA

► Graduate School rules apply to this program

The master of arts in communication is a generalist degree designed to enhance students' intellectual and professional growth through the understanding and practice of effective communication. The degree is structured both to build a solid foundation and to allow students to blend research, theory and practice to meet the challenges of the twenty-first century.

Degree Requirements

The MA degree in communication requires the completion of 33-34 hours of graduate course work (5000 level or above). As explained below, students have the option of taking 6 hours of 4000-level courses. In this situation, a student will take 27 hours of graduate credit and 6 hours of 4000-level (undergraduate) course work. The requirements for course work are as follows:

Required Course

- COMM 6013 - Introduction to Graduate Work in Communication
  (recommended to be taken the first semester of graduate course work; offered only in the fall semester)

Total: 3 Hours

Methods Courses

Most methods courses are offered every other year. Students also wish to pursue a PhD may elect to take additional methods classes in or outside the department.

Choose one:

- COMM 5011 - Research Methods: Quantitative
- COMM 5022 - Critical Analysis of Communication
- COMM 5205 - Empirical Research Methods for Communication
- COMM 5221 - Research Methods: Qualitative
- COMM 5710 - Topics in Communication

Total: 3 Hours

Graduate Seminars

In addition to the above core requirements, students must take five graduate seminars from the Department of Communication. Graduate seminars are 5000- or 6000-level courses.

Total: 15 Hours

Electives

Students must complete four electives. A minimum of two of these electives must be at the 5000 or 6000 level; the remaining two may be at the 4000 level. At least two of the four electives must be communication courses; the remaining two electives may be taken from outside of the Department of Communication.

Total: 12 Hours

Thesis

Students wishing to complete a thesis must register for at least 4 semester hours of thesis work, and will need at least 34 credits to graduate. Credit for a thesis may substitute for one elective course requirement.

Total: 4 Hours

Students must receive a grade of *B* or higher in all courses that are applied to the MA degree.

All students must pass a comprehensive examination at the end of course work.

Degree Total: 33-34 Hours

Computer Science MS

► Graduate School Rules apply to this program

General MS Degree Requirements

In addition to the basic requirements of the university, the Department of Computer Science and Engineering requires master's degree candidates to complete a program of study consisting of at least 30 semester hours of graduate level computer science courses while maintaining a grade point average of at least 3.0. According to the Graduate School Rules, graduate courses with grades below B- cannot be applied toward the completion of the graduate degree. With prior approval by the Graduate Committee a student may substitute up to nine semester hours with graduate mathematics or other engineering courses.

Student need to submit an approved Plan of Study to the department during the first semester of their admission. An academic advisor will consult with students to develop a Plan of Study. Students may choose **Plan I** (Thesis), **Plan II** (MS Project), or **Plan III** (Course Only). Both Plan I and II require successful defense of thesis or project in student's graduating semester.

- **Plan I-Thesis:** Students take 24 hours of graduate course work, and additionally write and defend a thesis, which counts for 6 hours of graduate thesis work.
- **Plan II-MS Project:** Students take 27 hours of graduate course work, and additionally write and defend a MS project report, which counts for 3 hours of graduate MS project work.
- **Plan III-Course Only:** Students take 30 hours of graduate course work consisting of a minimum of four out of five Category A courses, and four category B courses. In the final semester, graduating students must submit a final written research report on a subject specified by the CSE Faculty Committee.

Students are allowed a maximum of 3 credit hours of CS Independent Study (except in Plan II, course-only option).

Students may only take graduate engineering or graduate mathematics courses that are offered toward an MS degree in a degree-granting department, while at least 21 hours must be CS. It is advisable that students get prior approval of a graduate CS advisor before taking any course that does not have a CSCI prefix. For example, courses offered through Continuing Education are not counted toward an MS degree in Computer Science.

The only exception for a student to take a graduate course from any other department is when the course satisfies all of the following conditions:

1. It appears in a graduate program.
2. It is taken instead of 3 hours of CS Independent Study.
3. It is approved by the CS Graduate Committee.

No more than 6 credit hours may be in the form of on-line courses.

Adequate Progress toward MS in Computer Science Degree

Students are expected to finish the MS degree program within five years. Candidates for the MS degree may not get credit for a course taken longer than five years before the date on which the degree is to be granted.

Students who do not enroll for any course work relevant to computer science in a given semester (summer semesters excluded) must supply the Department of Computer Science and Engineering with a written statement describing the reason for the inactivity. Students who are inactive for three consecutive semesters (summer semesters excluded) will be removed from the program, and must re-apply for admission.

Students may choose either Plan I (thesis) or Plan II (MS project) or Plan III (course only option).

For up-to-date information, please refer to the current graduate handbook from the CSE department website under Degree Programs.

Counseling MA

Program Leader: Faculty Lead
Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/counseling

Faculty

Information about faculty in the Counseling program is available online at www.ucdenver.edu/education/alps.

Degree

The master of arts degree in Counseling program prepares professionals for community/mental health agencies, private practice and public schools. Students should obtain faculty advising regarding professional requirements.

All programs consist of 63 semester hours (66 for the multicultural/diversity strand). Core requirements that are common to all areas of study are followed by courses specific to each program. All programs require a practicum (150 clock hours) and an internship (600 clock hours). For most students, the master's degree is a three-year program with course work for two years followed by a year of practicum and internship. All beginning students enroll in CPCE 5010 and CPCE 5810.

The clinical mental health counseling, school counseling and couple and family therapy programs are nationally accredited by CACREP, the Council for the Accreditation of Counseling and Related Educational Programs.

All students are expected to have online computer capability for communication and instructional purposes. For students in off-campus programs, some courses may be offered via computer technology.

Admission Requirements

Successful applicants to the Counseling program will have obtained a minimum 2.75 undergraduate GPA and will score at least 290 (combined) on the verbal and quantitative sections of the Graduate Record Exam (GRE) or at least 396 on the Miller Analogy Test (MAT). Also, applicants will submit a current resume, a letter of intent, three letters of recommendation (at least 2 academic letters are strongly advised) and additional required materials. Applicants meeting these minimum standards will be invited to a half-day group interview that involves program orientation, small group interviews, a writing assignment and a group exercise.

A prerequisite course in basic statistics (undergraduate level) is required prior to enrollment in the program.

Application materials are available at https://soa.prod.cu.edu/degreeprog/applyDEGREEPROG_CUDEN/login.action. All materials must be submitted online by the appropriate deadline: September 15 for spring semester; January 15 for summer and fall semesters. Application materials include the following:

- part I of the application for admission
- tuition classification form
- $50 application fee (make checks payable to the University of Colorado Denver)
- letter of intent
- three letters of recommendation - at least 2 academic letters strongly advised
- two official transcripts from each higher education institution attended (in original sealed envelope)
- official GRE or MAT scores sent directly to the University of Colorado Denver (if you do not already hold a graduate degree; see CPCE application checklist)
- oath and consent
- fingerprint affidavit

Matriculation Requirements

Counseling students must earn at least a B in skills-oriented courses (CPCE 5100, 5160, 6140, 7100, 5910, 5930) or must repeat these courses until they do so. In addition, all students must make a formal case presentation in CPCE 5930 (internship) to demonstrate their clinical knowledge. Students must also take a national comprehensive examination (after 30 semester hours). Students may choose to conduct research and submit a thesis (research conducted under faculty advisement) instead of taking the national comprehensive examination.

Program Areas

Students accepted into the Counseling program follow one of the three concentration areas. The clinical mental health counseling program follows state licensure requirements for licensed professional counselor; the couple and family therapy program follows licensure requirements designated by the state of Colorado of licensure as a marriage and family therapist; and the school program follows both the licensed professional counselor licensure and state department of education certificate as a school counselor requirements.

Program Areas

Counseling Core

(required in all program areas)

- CPCE 5010 - Counseling Theories
- CPCE 5100 - Techniques of Counseling
- CPCE 5110 - Group Counseling
- CPCE 5150 - Family Therapy Theory
- CPCE 5330 - Counseling Issues and Ethics
- CPCE 5400 - Career Development

- CPCE 5810 - Multicultural Counseling Issues for Individuals and Families
- EPSY 6200 - Human Development Over the Life Span
- RSEM 5110 - Introduction to Measurement
- RSEM 5120 - Introduction to Research Methods
  National Comprehensive Exam to be taken after the CPCE core classes are completed.

Total: 30 Hours

Additional Requirements for Program Area One: Clinical Mental Health Counseling (MA)

- CPCE 5160 - Techniques in Family Therapy
- CPCE 5280 - Addictions Counseling
- CPCE 5820 - Strategies of Agency Counseling
- CPCE 6250 - Mental Health Diagnosis
- CPCE 7100 - Advanced Theories and Techniques in Psychotherapy
  Two Additional Electives (6 semester hours)

Total: 21 Hours

Additional Requirements for Multicultural/Diversity Strand in Clinical Mental Health Counseling

- CPCE 5160 - Techniques in Family Therapy
- CPCE 5280 - Addictions Counseling
- CPCE 5820 - Strategies of Agency Counseling
- CPCE 5830 - Special Topics Gender & Sexual Orientation
- CPCE 6100 - Spiritual Dimensions of Counseling
- CPCE 6250 - Mental Health Diagnosis
- CPCE 6810 - Advanced Multicultural Counseling
- CPCE 7100 - Advanced Theories and Techniques in Psychotherapy

Total: 24 Hours

Additional Requirements for Program Area Two: Public School Counseling Certificate (MA)*

- CPCE 5280 - Addictions Counseling
- CPCE 5425 - Developing & Implementing a School Counseling Program: ASCA
- CPCE 5815 - Introduction to School Counseling
- CPCE 5915 - Practicum in School Counseling
- CPCE 6140 - Counseling Children, Adolescents and Their Parents
- CPCE 6230 - Developmental Counseling in Schools: Prevention & Intervention
- CPCE 6250 - Mental Health Diagnosis
  Place Test is required for the Colorado Department of Education Certification for school counselors.

Total: 21 Hours

* 100 hour practicum is required in the schools (CPCE 5915). Three hundred of the 600 hours of internship must be in a concentrated environment. Full time experience consisting of at least a four-hour block of time each day is required. Students may not do their internship in their primary employment (agency or school setting). For school counseling, three hundred (300) hours of internship are needed at the middle and secondary level for a K–12 program. CPCE 5150, 6140 and 7100 are necessary for students to work with school-related family issues, individual counseling and children's counseling in practicum and internship.

Additional Requirements for Program Area Three: Couple and Family Therapy (MA)

- CPCE 5160 - Techniques in Family Therapy
- CPCE 5170 - Issues In Family Studies
- CPCE 5180 - Counseling Couples
- CPCE 6000 - Introduction to Sex Therapy
- CPCE 6140 - Counseling Children, Adolescents and Their Parents
- CPCE 6160 - Advanced Assessment: Theory and Treatment in Family Systems
- CPCE 6250 - Mental Health Diagnosis

Total: 21 Hours

*CPCE 5160 is necessary prior to internship in couple and family therapy; this course requires 10 hours of laboratory experiences working with youth.

Counseling Clinical Experiences

- CPCE 5910 - Practicum in CPCE
- CPCE 5930 - Internship in Counseling

Total: 12 Hours

Criminal Justice MCJ

► Graduate School Rules apply to this program

Program Director: Mary Dodge, PhD

Faculty

Professors:

Mary Dodge, PhD, University of California Irvine
Angela Gover, PhD, University of Maryland
Mark Pogrebin, PhD, University of Iowa
Eric Poole, PhD, Washington State University
Paul Stretesky, PhD, Florida State University

Associate Professors:

Callie Rennison, PhD University of Houston

Assistant Professor:

Lonnie Schaible, PhD, Washingon State University

Senior Instructor:

Lucy Dwight, PhD, Pennsylvania State University

The master of criminal justice (MCJ) program is designed for students interested in comprehensive professional graduate education in the field of criminal justice. It is intended to develop in the student an in-depth understanding of the fields within criminal justice and of background material from supporting disciplines, which enables the student to adapt to many operational specializations.

As an academic and professional field of study, this program is dedicated to preparing men and women not only to administer the system as it presently exists—but also to evaluate, to analyze and to change—to become pioneers in accelerating the shaping of a rational and responsive criminal justice system.

To deal with this system effectively, research design capability must be developed along with the skills required for the ordering and analysis of empirical data. This course of study prepares the student to be an innovator in crime control and prevention through course work dealing with strategies and skills for promoting individual, organizational and social change.

MPA AND MCJ—General Information

Admission Requirements

1. Applicants must have a baccalaureate degree from a college or university of accredited standing, with a minimum GPA of 3.0. Two sets of official transcripts are required from all higher education institutions attended.
2. Applicants must provide three recommendations from qualified references. Recommendations may be from professors, employers and/or others acquainted with the prospective student's professional and/or academic work.
3. Applicants are required to take the GRE, the GMAT or the LSAT unless they meet the requirements for waiver. Standard graduate admission test scores are normally waived when the candidate already has a graduate degree in another field from an accredited institution. Other applicants may have test scores waived if they have an undergraduate GPA of 3.0 or better *and* they have *significant* post-baccalaureate professional employment in management or policymaking positions for a minimum of 10 years or the equivalent.
4. A current resume highlighting professional accomplishments and community involvement, a short essay stating educational and career goals, a declaration of program form, and an application fee are also required.
5. International applicants may have different admission requirements and should check with the Office of International Affairs. In particular, international students whose first language is not English are required to take the TOEFL or IELTS. A composite score of 6.5 on the IELTS, or a composite score of 80 on the TOEFL, with accompanying minimum IELTS or TOEFL subscore results, is required.

All application material and test scores should be sent to SPA, University of Colorado Denver, Campus Box 142, P.O. Box 173364, Denver, CO 80217-3364.

SPA will review applications as soon as they are complete. Master-level applicants generally receive notification of their admission status three weeks after all materials have been received in the office. The preferred deadlines listed below allow students to receive best consideration for scholarships, financial aid and course selection. *Students who do not meet the preferred deadline may still submit application materials until approximately one month before the start of classes and will be considered on a space-available basis.*

Semester	*Preferred Application Deadline*	*Final Deadline**
Fall	March 15	August 1
Spring	October 15	December 1
Summer	March 15	May 1

*Final deadline does not apply to international students who should contact the Office of International Affairs for deadline information.

Provisional Admission

In exceptional cases, a student who does not otherwise meet the minimum requirements for admission may be admitted on provisional status if elements of their application suggest they may be able to succeed in the program. Students admitted on a provisional basis take two core

courses in their first semester, and must earn at least a B in each course. MPA students may select two of the following: PUAD 5001 , 5003 or 5004. MCJ students may select two of the following: CRJU 5001, 5002 or 5005. Based on their performance in these courses, a formal decision will be made concerning their admission into the program. Provisionally-admitted students may not take any other courses at SPA until they have been formally admitted to the program.

Nondegree Admissions

Students may register as nondegree students while developing their application packet. However, students are discouraged from taking multiple courses as a nondegree student if they hope to pursue a degree. No more than nine semester hours taken in the program as a nondegree student may be applied to the master's degree programs, with approval of an advisor. Nondegree student application forms are available in the Office of Admissions or online.

Transfer of Credit to SPA

Up to 9 semester hours of appropriate graduate work from an accredited college or university may transfer, if such credit was not applied to a completed degree.

Limitation of Course Load

The normal course load for a full-time student is 9 semester hours. A student who is employed full time may not carry more than 9 hours unless an excess load has been approved in advance by the faculty advisor.

Financial Assistance

Students in the master's degree programs are eligible for several types of financial assistance. Educational loans require application to the CU Denver Office of Financial Aid and completion of the FAFSA. A number of students secure internships or other part-time positions with local, state and federal agencies in the Denver metropolitan area. Scholarship assistance is available on a limited basis.

The school receives announcements for fellowships from various government organizations and actively seeks additional funding for student support in the form of internship positions and research assistantships.

Persons interested in applying for financial assistance should inquire in the SPA office. The deadline for current students is March 15 for the fall term. Prospective students seeking scholarship funds should have complete scholarship applications on file at the SPA office by the preferred application deadline for the semester they are requesting funds.

The Internship Program

An internship for the MPA and MCJ programs is required for students who have not had significant public, nonprofit or private-sector experience. The purpose of the internship is to continue the linkage between theory and practice that is the philosophical basis of SPA. The internships generally involve part-time work. A maximum of three semester hours will be awarded for internship service. Great care is taken by the SPA to ensure that the internship experience meets the intellectual needs of the student. Placements have included the Governor's Office, Colorado General Assembly, Denver Mayor's Office, City of Denver, Denver Police

Department, Boulder Crime Lab, Western Governor's Association, the National Conference of State Legislatures, the Colorado Department of Public Health and Environment and the Denver Center for the Performing Arts.

Time Limit for Master's Degree

Master's degree students must complete all course work and degree requirements within six years of registration in their first course.

Degree Requirements

1. Graduate Study

The program leading to the MCJ degree requires a minimum of 36 semester hours of appropriate graduate study with an average of B (3.0) or better. No grade below C will be accepted for graduate credit. No more than 6 semester hours of independent study can be applied toward the degree.

2. Core Courses

The completion of the following core courses is required with a grade of B- or better:

- CRJU 5001 - CJ Systems, Policies/Practice
- CRJU 5002 - Criminological Theory
- CRJU 5003 - Research Methods
- CRJU 5004 - Statistics
- CRJU 5005 - Law & Society

Total: 15 Hours

3. Course Work

Students must complete a minimum of 27 semester hours of course work in criminal justice.

4. Criminal Justice Experience

Students who have not had criminal justice experience are required to complete CRJU 6910 (field study). A minimum of 240 hours of supervised work is required to earn 3 hours of credit. All required core courses must be completed before taking CRJU 6910.

5. Capstone

All MCJ students, except those pursing the thesis option, must complete the capstone course (CRJU 5361) during the last semester of their degree program. All core classes must be completed before taking the capstone. Students admitted before spring 2009 may opt to take a written comprehensive exam in lieu of CRJU 5361.

- CRJU 5361 - Capstone Seminar
  Students must receive the approval of both a faculty advisor and the director of the criminal justice program to complete a thesis for 3–6 semester hours in lieu of the advanced seminar.

Elective Courses

The courses listed below may be taken as electives for the MCJ degree:

- CRJU 5200 - Wrongful Convictions
- CRJU 5210 - Prisoner Reentry
- CRJU 5220 - The American Jury System
- CRJU 5250 - Criminal Offenders
- CRJU 5260 - Crime and Literature
- CRJU 5325 - Qualitative Methods for Criminal Justice
- CRJU 5410 - Victimology
- CRJU 5430 - Drugs, Alcohol and Crime
- CRJU 5510 - Contemporary Issues in Law Enforcement
- CRJU 5520 - Corrections
- CRJU 5530 - Community Corrections
- CRJU 5540 - Juvenile Justice Administration
- CRJU 5552 - Criminal Justice Ethics
- CRJU 5553 - Women and Crime
- CRJU 5571 - The Social Organization of Crime
- CRJU 5572 - Race, Crime and Justice
- CRJU 5574 - White Collar Crime
- CRJU 5575 - The Mentally Disordered Offender

MCJ Options

Domestic Violence Concentration/Graduate Certificate

A student may choose to complete a concentration in domestic violence as part of the MCJ or MPA degree, or the domestic violence program can be completed by non-degree students as a stand-alone graduate certificate. The program on domestic violence provides an interdisciplinary perspective on crime, the formulation of laws and codes, the criminal legal system and its intersection with women and violence. Students seeking a domestic violence concentration must complete 15 semester hours related to domestic violence, which are completed via intensive workshops that meet periodically throughout a two-year period.

For more information, contact Barbara Paradiso at barbara.paradiso@ucdenver.edu.

Requirements

Students take the four specified courses below and one elective.

- PUAD 5910 - Women and Violence: A Sociological Perspective
- PUAD 5920 - Psychology of Violence Against Women
- PUAD 5930 - Battered Women and the Legal System
- PUAD 5940 - Domestic Violence Social Change and Advocacy

Total: 15 Hours

Emergency Management and Homeland Security Concentration/Graduate Certificate

The graduate concentration in Emergency Management and Homeland Security is available as a concentration within the MPA and MCJ programs, or as a stand-alone certificate for non-degree students. This concentration, which requires 15 credit hours (5 courses) provides advanced education in the management of emergencies, hazards, disasters, and homeland security. For more information, contact Brian Gerber at brian.gerber@ucdenver.edu.

Requirements

Students take two of three required courses as well as three elective courses approved by their advisor. The emergency management and homeland security concentration/certificate allows students to choose electives organized in the following tracks: policy and management, spatial analysis and quantitative assessment, public safety, homeland security and justice or public and environmental health. Students may choose courses in one track to create a more focused concentration or pick from among the tracks to fulfill their elective course requirements.

- GEOG 5230 - Hazard Mitigation and Vulnerability Assessment
- PUAD 5650 - Disaster and Emergency Management Policies
- PUAD 5450 - Law of All-Hazards Management

Total: 15 Hours

The emergency management and homeland security certificate requires the completion of three electives chosen from a preapproved, multidisciplinary list of courses relevant to emergency management. Students may choose electives in one of three tracks: policy and management; spatial analysis, planning and quantitative assessment; or public safety, homeland security and justice.

Online Option

The master of criminal justice degree may be earned in the online format. Designed to serve students who are looking for a high-quality education, but who need an alternative to traditional classroom instruction, students may elect to do one or all of their courses online. This option allows students to complete the entire degree at a distance or to choose to come to campus for some courses while using an interactive online format for others.

Curriculum and Instruction MA

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/alps

Faculty

Information about faculty is available online at www.ucdenver.edu/education/alps

Areas of Study

Master of Arts in Curriculum and Instruction
Concentrations for Elementary Teachers: Science, Mathematics, or Mathematics/Science
Concentrations for Secondary Teachers: Science, Mathematics, and Social Studies

Curriculum and instruction (C&I) studies lead to an advanced master's degree in curriculum and instruction. All programs require 36 semester hours, including the C&I core or its equivalent. The core courses provide a sound basis in curriculum theory, teacher inquiry, appreciation of diversity and philosophical foundations. The various specializations allow teachers to focus in an area of interest.

Elementary teachers can select from concentrations in mathematics, science, or mathematics/science. Secondary teachers may choose concentrations in mathematics, science, or social studies.

Each of these programs is designed to prepare teachers to qualify for master certification from the National Board of Professional Teaching Standards, as well as prepare for licensure renewal with the Colorado Department of Education.

Education Core

- FNDS 5050 - Critical Issues in American Education
- RSEM 5080 - Research In Schools

Total: 6 Hours

Elementary Math and Science

24 semester hours of electives, chosen with advisor's approval (24 semester hours)

Elementary emphasis required course

- SECE 5500 - The Nature of Science

Total: 36 Hours

Science (Secondary)

- SECE 5340 - Multicultural Science Education
- SECE 5350 - Issues and Problems in Science Education
- SECE 5500 - The Nature of Science
- SECE 5650 - Environmental Education
  15 hours of electives in science or education chosen with advisor's approval

Total: 36 Hours

Mathematics (Secondary)

- SECE 5400 - Curriculum in Secondary Mathematics or
- SECE 5410 - Advanced Methods and Strategies in Secondary Mathematics
- SECE 5401 - Assessment in Mathematics Education

Choose three:

- ELED 5416 - Math-Science Connections: Outdoor
- SECE 5417 - Structure of Rational Numbers
- SECE 5418 - Mathematical Modeling
- SECE 5419 - Exploring the Structure of Geometry Using Technology
- SECE 5420 - Teaching Mathematics to Low Achievers
- SECE 5440 - Topics in Mathematics Education
  12 hours of electives from the School of Education & Human Development or the mathematics department, chosen with an advisor's approval

Total: 36 Hours

Social Studies (Secondary)

Please contact an advisor in the School of Education & Human Development for advising.

Total: 36 Hours

Comprehensive Experience (COMPS)

C&I programs require each student to complete a master's comprehensive experience, known as COMPS, that consists of a project or research thesis completed in consultation with their faculty advisor. Details may be obtained from your faculty advisor.

Decision Sciences MS

Program Director: Marlene A. Smith
Telephone: 303-315-8421
E-mail: Ma.Smith@ucdenver.edu

Faculty

Professors:
Gary A. Kochenberger, PhD, University of Colorado Boulder

Associate Professors:
Deborah L. Kellogg, PhD, University of Southern California
Marlene A. Smith, PhD, University of Florida

Assistant Professor:
Cheng Yong Tang, PhD, Iowa State University

Senior Instructor:
Michael D. Harper, PhD, Rensselaer Polytechnic Institute

Instructor:
Joshua Bernhard, MS, Iowa State University

The MS in Decision Sciences focuses on modeling and applications which prepares you for a career as a decision sciences specialist in industry or government. Today, companies in every conceivable industry are reaping the benefits of using formal mathematical models to assist them in addressing complex business problems. Decision Sciences graduates hold positions that bridge the gap between operations research/statistics specialists and management.

Learn to apply quantitative methods to real-world problems using modern methodologies adopted from statistics, operations research, and management science. The MS in Decision Sciences focuses on applications of mathematical models in the workplace rather than the development of new research techniques. The managerial emphasis of our degree is accomplished through a comprehensive set of elective and required coursework such as data analysis, operations management, forecasting, project management, simulation, data mining (predictive analytics), and supply chain management. A required practicum course provides students with the opportunity (under the direction of faculty) to solve a real, complex workplace problem for a local Denver organization.

Requirements for the MS degree in Decision Sciences are met by the following courses and options:

Prerequisite course work:

Useable knowledge of spreadsheets.

Required Courses (18 hours)

- BUSN 6530 - Data Analysis for Managers
- BUSN 6630 - Management of Operations
- DSCI 6230 - Business Forecasting
- DSCI 6460 - Decision Analysis
- DSCI 6820 - Project Management
- DSCI 6910 - Decision Sciences Practicum

Electives (12 hours)

Complete 4 courses. Decision Sciences electives must include at least 2 DSCI courses numbered 6000 or higher. Remaining Decision Sciences electives may be any of the following courses: DSCI 6000 or higher; ISMG 6480, Data Warehouses and Administration*; MKTG 6050, Marketing Research; or FNCE 6480, Financial Modeling.

*ISMG 6480, Data Warehouses and Administration has a prerequisite of ISMG 6080, Database Management Systems. This prerequisitie is not counted toward the MS Decision Sciences degree and must be taken in additon to the 30 credit MS.

Total: 30 Hours

Notes and Restrictions

Students are not required to take a comprehensive examination or complete a thesis in the major field.

Note: Business School MS degrees typically allow students to transfer in 9 semester hours from another university. However, the MS in DSCS allows students to petition to have a maximum of 6 semester hours transfer from another university. The transfer of *required* courses must closely reflect the educatioinal objectives of the Master's degree in Decision Sciences. The evaluation of substitute courses will include syllabi evaluation and the accreditation of the transferring institution.

Early Childhood Education MA

Office:
Lawrence Street Center, 701

Telephone:
303-315-6300

Fax:
303-315-6311

E-mail:
education@ucdenver.edu

Web site:
www.ucdenver.edu/education/alps

Faculty:

More information about faculty in this division is available online at www.ucdenver.edu/education

About the early childhood education program

The early childhood education (ECE) program leads to a master's degree in early childhood education and/or Colorado teacher license in early childhood special education (ECSE) specialist.The program prepares leaders who will enrich the life experience of young children (birth to 8 years) and their families through a variety of professional roles.

The ECE program is interdisciplinary in focus, drawing on university resources and the clinical expertise of various community professionals. There is a strong emphasis on fieldwork and practicum experiences in both regular and special education concentrations. Field experiences are a part of each course and provide an opportunity for each student to gain knowledge, abilities and dispositions while interacting with children, families, program staff and community agencies. Practicum experiences are designed to allow students to apply knowledge and practice skills in a closely supervised environment.

Curriculum and Program Requirements

Semester Hour Requirements

Master's degree in ECE: 39 semester hours
ECSE specialist license: 39 semester hours
Master's degree plus ECSE specialist license: 48 semester hours
Master's degree plus ECSE specialist added endorsement: 39 semester hours
ECSE specialist added endorsement: 24 semester hours

Early childhood education and the early childhood special education focus share course content in:

- language development and disorders

- child growth and development, differences and disorders
- learning approaches with young children
- measurement and evaluation
- basic statistics/research methods
- multicultural education
- research and current issues
- early childhood curriculum and program development for inclusive classrooms
- working collaboratively with parents and families
- program administration/leadership

The early childhood education program provides specialized training in:

- language acquisition and development
- literacy instruction
- infant/toddler development
- early childhood mental health and social competence

The early childhood special education program provides specialized training in:

- screening and assessment of young children
- intervention strategies with infants and preschoolers
- behavior management
- working as a member of the transdisciplinary team
- cognitive and socio-emotional development and disorders
- treatment of children who have neurological impairment and chronic illness
- challenging behaviors and autism

For more information on coursework and plans of study, please contact an advisor in the School of Education and Human Development.

Fieldwork and Practicum Requirements

The master's degree in early childhood education includes a total of 425 hours of required fieldwork/practica. Approximately 200 hours of fieldwork are associated with course assignments; 225 hours of intense, culminating practica occur toward the end of the second year of study. Students completing the MA program take a written comprehensive exam (take home) during the final semester of their program (concurrently with courses at the end of the program sequence).

For the master's degree in early childhood education plus the ECSE specialist initial license, a total of 800 hours of fieldwork/practica is required. Approximately 290 hours of fieldwork are associated with course assignments; 510 hours of intense, culminating practica occur toward the end of the second year of study. Students seeking an added endorsement in ECSE specialist also complete 510 hours of practicum experiences.

Economics MA

► Graduate School Rules apply to this program

Admissions Advisor: Brian Duncan (brian.duncan@ucdenver.edu)
Schedule Advisor: Dan Rees (daniel.rees@ucdenver.edu)

Requirements for Admission

- general requirements of the Graduate School (including a 3.0 undergraduate cumulative GPA)
- three letters of recommendation
- 15 semester hours of undergraduate economics (including theory and quantitative methods); variations to be discussed with graduate advisor
- acceptable GRE scores
- two official transcripts from all colleges attended
- international students must submit TOEFL scores

Degree Requirements

The MA degree requires the completion of 30 semester hours of course work, of which 21 hours are core requirements. Each student's plan will be worked out in conjunction with the graduate advisor.

Core Courses

All courses must be completed with a grade of B- or better.

- ECON 5073 - Microeconomic Theory
- ECON 5083 - Macroeconomic Theory
- ECON 5803 - Mathematical Economics
- ECON 5813 - Econometrics I
- ECON 5823 - Econometrics II
- ECON 6053 - Seminar In Applied Economics
- ECON 6073 - Research Seminar

Total: 21 Hours

Electives

Three elective courses

Total: 9 Hours

Degree Total: 30 Hours

Educational Psychology MA

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/education/alps

Faculty

Information about educational psychology faculty is available online at www.ucdenver.edu/education.

Master's Degree

The MA program in educational psychology prepares students to facilitate the teaching/learning process. Thus, many students pursue the degree to enhance their skills as professional classroom teachers. The degree also provides skills necessary for a variety of roles where knowledge of learning, development, motivation, and research is essential such as teaching at the community college level, teaching adults, consulting, developing assessments, and conducting program evaluation. Other students seek the MA as preparation for advanced study in educational psychology or research.

Note, too, that many students in the school's urban community teacher education program—as well as interns in the alternative teacher licensure programs conducted by the Stanley British Primary School, the Boulder Journey School and Friends' School—also seek the MA degree in educational psychology.

Areas of Study

Four major areas of concentration are available—human learning, human development, research and evaluation, and assessment. Regardless of the concentration area selected, all students must:

- demonstrate competence in educational psychology by successfully completing 36 semester hours of relevant course work
- complete either a practicum/field experience, a master's thesis, or an independent study project, the latter involving the collection of data bearing on a given problem and its analysis and interpretation in writing
- perform satisfactorily on a written comprehensive examination (typically during the last term enrolled in regular courses)
- complete the degree on a timely basis, usually within three years

Research and Evaluation Methods

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax:303-315-6311
E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/alps

Faculty

To find information about faculty in this program visit www.ucdenver.edu/education.

Emphasis Track

There is a research and evaluations methods (RSEM) emphasis track within the educational psychology master's degree program: students can select a focus on evaluation or on assessment. RSEM students will acquire skills necessary for a variety of roles that involve data driven decisions. Students who complete the MA will be better prepared to facilitate decision making based on evidence. Some students pursue the degree to enhance their skills as classroom teachers; others move out of the classroom and work in environments where information and data from different sources can be used to make informed decisions.

The RSEM area also provides classes to all education graduate programs, offering courses in research methods, evaluation, statistics, analysis, assessment, and measurement.

Areas of Study

Two major areas of concentration are available—research and evaluation, and assessment. Regardless of the concentration area selected, all students must:

- demonstrate competence in educational psychology by successfully completing 36 semester hours of relevant course work
- complete either a practicum/field experience, a master's thesis, or an independent study project, the latter involving the collection of data bearing on a given problem and its analysis and interpretation in writing
- perform satisfactorily on a written comprehensive examination (typically during the last term enrolled in regular courses)
- complete the degree on a timely basis, usually within three years

Electrical Engineering MEng

► Graduate School Rules apply to this program

The master of engineering (MEng) degree program is broad based and is designed especially for that person who wants to further his/her education in more than just electrical engineering. A minimum of 30 semester hours of academic work is required for the MEng degree. At least 15 of these hours must be in electrical engineering courses at the 5000-level or above. At least 15 semester hours must be taken in the Department of Electrical Engineering at CU Denver. As many as 15 semester hours may be taken outside of engineering. The student who wishes to enter the master of engineering program should apply to the electrical engineering department in the same manner as a master of science applicant.

Electrical Engineering MS

► Graduate School Rules apply to this program

The master of science (MS) program offers two plans, thesis (Plan I) and master's project (Plan II). In each, the student must complete 30 graduate semester hours. To satisfy the breadth requirement, two courses outside the area of specialization are required and two mathematics courses are recommended. Plan I requires a minimum of 24 semester hours of graduate course work and 6 semester hours of MS thesis work. Plan II requires a minimum of 27 semester hours of graduate course work and 3 semester hours of MS project. A minimum of 21 graduate semester hours must be earned through the electrical engineering department at CU Denver. Candidates with a BS degree from CU Denver can count 6 electrical engineering CU Denver graduate credits toward both undergraduate and graduate degrees if their undergraduate GPA is at least 3.0. Double counting applies only to credits earned with a B or better grade.

English MA

► Graduate School Rules apply to this program

Program Director: Michelle Comstock
Telephone: 303-556-8479
E-mail: Michelle.Comstock@ucdenver.edu

The department offers three programs in the English MA degree: 1) the literature program increases students' knowledge of English and American literature and also their familiarity with a variety of critical methodologies; 2) the rhetoric and teaching of writing program introduces students to the theory, research and pedagogy underlying contemporary instruction in secondary and college composition; 3) the applied linguistics program introduces students to the principles, practices and concerns of teaching English to adults whose first language is not English.

Students concurrently pursuing a master's in education can count up to 6 hours of education courses toward their MA in English with their English advisor's permission.

Contact the graduate program director for more information on these programs.

Requirements for Admission

Applicants for any of the programs described above must submit all application materials by either the spring, summer or fall deadline. The deadline for summer or fall admission is April 1; the deadline for spring is October 1. Complete applications for all three programs must include the following:

- a completed University of Colorado graduate application
- one copy of all graduate and undergraduate transcripts, and for any nondegree courses previously taken
- three letters of recommendation in which the recommender specifically addresses the candidate's ability to pursue successfully the program chosen
- recent scores on the GRE, including the analytical, verbal and quantitative portions. GRE score average should be 155 or higher. Analytical writing score should be 4 or higher.
- evidence of a 3.0 GPA in previous courses
- a one-page statement of purpose
- 10-page critical writing sample

In addition to these requirements, applicants for the literature program must have successfully completed 24 semester hours in English courses (graduate or undergraduate), excluding courses in composition, creative writing or speech. At least 15 of these semester hours must be at the upper-division level.

Transfer of Credits from Other CU Campuses

Students admitted to graduate study in English may complete all of their course requirements for the MA degree at UC Denver. Up to 9 semester hours (total) may be transferred from the University of Colorado Boulder, University of Colorado Colorado Springs or other graduate program; however, such transfer requires the written approval of the specific program

coordinator. Only 9 semester hours of courses taken at CU Denver before acceptance into the program can be counted toward the degree. Further, work already applied toward a graduate degree received at the University of Colorado or at another institution cannot be transferred toward another graduate degree of the same level at CU Denver. (For other rules concerning transfer of graduate credits, see the Graduate School Rules.) For more information, contact the graduate program director at 303-556-8479.

Degree Requirements

The literature program requires 30-34 semester hours; the rhetoric and teaching of writing program requires 30-31 hours; the applied linguistics program requires 30-31 hours. Students must receive a *B*- or above in all courses counted toward the MA degree.

Literature Program

This program provides a general knowledge of English and American literature, a familiarity with the range of theoretical approaches and critical methodologies, and an opportunity to take courses in film studies and ethnic and world literature.

GENERAL REQUIREMENTS

- Satisfactory completion of all required course work
- Satisfactory completion of the MA comprehensive exam OR thesis submission and defense
- Demonstrated fourth-semester proficiency in a foreign language. Old English or Latin will also satisfy this requirement
- Compliance with all graduate school policies and requirements

COURSE REQUIREMENTS (30 SEMESTER HOURS MINIMUM)

All courses are 3 credit hours unless otherwise noted. A minimum of 9 semester hours must be taken at the 6000 level.

REQUIRED COURSES

- ENGL 5100 - Literary Research and Writing
- ENGL 6001 - Critical Theory in Literature and Film

Total: 6 Hours

AREA REQUIREMENTS

Choose seven courses at the 5000/6000 level which fulfill seven <u>different</u> areas from the following 9 areas:

1. Classics

2. Medieval literature
3. Renaissance literature
4. Restoration and 18th-century literature
5. Romanticism
6. American literature, pre-1900
7. Victorian literature
8. American literature or film, post-1900
9. British modernism/ 20th-century British literature or film

Any graduate literature/film course will fulfill at least one of these areas. Each area can be satisfied by several different courses periodically offered. Historical surveys count within the most appropriate area based on the syllabus. Courses in film, world literature, ethnic literature and women's literature generally fulfill one of the 20th-century areas.

Total: 21 Hours

ELECTIVES

Choose one of the following:

- ENGL 5093 - Teaching of Writing
- ENGL 5913 - Practicum in Language and Rhetoric
  An ENGL 5000- or 6000-level literature or film course

Total: 3 Hours

THESIS OR NON-THESIS OPTIONS

Non-Thesis Option

Students not writing a thesis must take the MA comprehensive exam. Prior to the exam, students may take ENGL 6920. Directed Readings

for 1-3 semester hours to help them prepare for the exam, but this is not required.

Students must be registered during the semester in which they take the MA comprehensive exam, which can be met by signing up for candidate for degree (CAND 5940-900) if all course work is completed.

Thesis Option

Students must submit a proposal for a thesis to the graduate program director for permission to proceed to the thesis.

- ENGL 6950 - Master's Thesis (4-6 hours)
  For details about writing, submitting and defending a thesis, see the current thesis guidelines.

Total Thesis Credits: 4-6 Hours

LANGUAGE REQUIREMENT

Students must demonstrate fourth-semester proficiency in a foreign language. Old English or Latin also satisfies this requirement.

Literature Program Total: 30-34 Hours

Rhetoric and Teaching of Writing Program

In this program, you'll study rhetorical and language traditions and apply that knowledge to the teaching of writing. Knowledge of multicultural dimensions of literacy will help you understand the rich cultural complexity of the modern classroom. This program also focuses on developing your own writing and editing skills to fulfill your professional role as a teacher-writer.

COURSE REQUIREMENTS (30 SEMESTER HOURS MINIMUM)

All courses are 3 credit hours unless otherwise noted.

REQUIRED COURSES

- ENGL 5080 - History of the English Language
- -OR- ENGL 5171 - Language Theory
- ENGL 5093 - Teaching of Writing
- ENGL 5150 - Research Methods
- ENGL 5190 - Special Topics in Rhetoric and Writing
- ENGL 5651 - Second Language Writing
- ENGL 6002 - Rhetorical Theory

Total: 18 Hours

AREA OF CONCENTRATION

Chosen by the student and approved by the student's advisor, three courses are taken in an area of concentration which may be in virtually any field that complements the required core and that meets the student's goals in the program. Representative areas include but are not limited to literature, technical communication, reading, English as a second language and communication. ENGL 5913. Practicum in Language and Rhetoric may be included among these nine hours.

Total: 9 Hours

THESIS OR PORTFOLIO EXAM

ENGL 6950. Master's Thesis
For details about writing, submitting and defending a thesis, see the current thesis guidelines.

-OR-

ENGL 6970. Portfolio Examination

Total: 3-6 Hours

Rhetoric and Teaching of Writing Total: 30-31 Hours

Applied Linguistics Program

If you want a thorough grounding in the principles and practice of teaching English to non-native adult users of English with a special focus on the discourses of the classroom and on teaching second-language writers, this program is a good choice.

GENERAL REQUIREMENTS

Foreign Language: Students must demonstrate fourth semester proficiency in a foreign language prior to graduation; assessment of proficiency depends on the language to be demonstrated.

Internship: Those students who are not teaching adult ESL students at the time of their course work will be required to take a 3–6 credit internship in an area language school, workplace or high school/college ESL program, either through the Experiential Learning Center or by arrangement with the program coordinator.

COURSE REQUIREMENTS (30 SEMESTER HOURS MINIMUM)

All courses are 3 credit hours unless otherwise noted.

REQUIRED CORE COURSES

- ENGL 5093 - Teaching of Writing
- ENGL 5150 - Research Methods
- ENGL 5171 - Language Theory
- ENGL 5601 - Principles and Practices of Second Language Acquisition
- ENGL 5651 - Second Language Writing
- ENGL 5913 - Practicum in Language and Rhetoric
  -OR- an ENGL elective approved by the student's advisor

Total: 18 Hours

ELECTIVES: LANGUAGE OR RHETORIC COURSES

Choose two:

- ENGL 5080 - History of the English Language
- ENGL 5190 - Special Topics in Rhetoric and Writing
- ENGL 6002 - Rhetorical Theory

Total: 6 Hours

SYNTHESIS OPTIONS

Students may choose from the following two options:

Comprehensive Exam or Portfolio Exam

Students will take a comprehensive exam or portfolio exam in their last semester. Students selecting this option must take two elective courses (6 hours) approved by their advisor.

Thesis

ENGL 6840. Independent Study (3 hours)

ENGL 6950. Master's Thesis (4-6 hours)

For details about writing, submitting and defending a thesis, see the current thesis guidelines.

Total: 6-7 Hours

Applied Linguistics Total: 30-31 Hours

Additional Information

Candidate for Degree: Graduate students must be registered for at least one credit hour during the semester in which they graduate. Those who have completed all required courses and requirements may register for candidate for degree: CAND 5940; this carries no course credit, but you are billed for one credit of tuition and $10 in fees.

Teaching Assistantships: Graduate students who receive a teaching assistantship must take the following course in the fall during their first semester as a teaching assistant.

ENGL 5913. Practicum in Language and Rhetoric

Dual Degrees: Students concurrently pursuing a MA in education can count up to six hours of education courses toward their MA in English, with their English graduate advisor's permission.

Environmental Sciences MS

► Graduate School Rules apply to this program

Program Director: Frederick B. Chambers
Associate Program Director: Jon Barbour
Office: North Classroom, 3622
Telephone: 303-556-4520
Fax: 303-556-6197
E-mail: Jon.Barbour@ucdenver.edu
Web site: clas.ucdenver.edu/ges/mses.html

Faculty Affiliates to the M.S. in Environmental Sciences Program

Professors:

Larry Anderson, chemistry
Lloyd Burton, School of Public Affairs
N. Y. Chang, civil engineering
Anne Chin, geography and environmental science
James C. Y. Guo, civil engineering
John A. Lanning, chemistry
Diana F. Tomback, integrative biology

Associate Professors:

Leo P. Bruederle, integrative biology
Frederick B. Chambers, geography and environmental science
Greg Cronin, integrative biology
Rafael Moreno-Sanchez, geography and environmental science
Glenn T. Morris, political science
Brian Page, geography and environmental science
Timberly M. Roane, integrative biology
Deborah S. K. Thomas, geography and environmental science
John W. Wyckoff, geography and environmental science

Assistant Professors:

Casey Allen, geography and environmental science
Peter Anthamatten, geography and environmental science
Christy Briles, geography and environmental science
Michael J. Green, integrative biology
Gregory Simon, geography and environmental science
Bryan S. Wee, geography and environmental science

Instructors/Adjunct Faculty:

Jon Barbour, geography and environmental science
Amanda Weaver, geography and environmental science

Environmental sciences is a multidisciplinary study of the environment, housed in the Department of Geography and Environmental Sciences. Academic fields involved in environmental sciences include chemistry, biology and ecology, physics, geology, geography, anthropology, engineering, political science, law, economics and the health sciences. Students planning to pursue the MS in environmental sciences must either have earned a bachelor's degree or have taken significant course work in the natural/physical sciences or engineering and completed several other prerequisites (see the following graduate information). Graduate-level certificates in environmental sciences are also offered. The certificates may be earned stand-alone or as options in the MS in environmental sciences.

Environmental careers encompass a broad range of professions, from those with a strong foundation in the natural/physical sciences or engineering to those based in the social sciences and/or humanities. Students interested in environmental issues and careers should investigate the whole field before deciding which course to follow. At CU Denver, the MS in environmental sciences emphasizes the natural/physical sciences and engineering with the addition of the social sciences and humanities.

The MS in environmental sciences degree is designed to provide training in engineering, natural/physical sciences and socioeconomic analysis. The goals of the program are to (1) enhance the interdisciplinary communication and analytical skills of the student, and (2) provide a multidisciplinary approach for more intensive study of a particular environmental issue. Students will receive instruction in the physical and biological dynamics of various ecosystems, environmental engineering and socioeconomic issues associated with environmental analysis.

Graduates of the environmental sciences program are involved in many different areas, such as reviewing environmental impact statements, monitoring groundwater quality and communicating with the public. Many students have found employment in various agencies (U.S. Environmental Protection Agency, U.S. Geological Survey, Colorado State Department of Public Health and Environment) and private-sector environmental and engineering firms.

Requirements for Admission

The program is for students who either have baccalaureate degrees or significant background in one of the natural/physical sciences or engineering. In addition, minimum undergraduate science and math requirements are:

- one semester of calculus and one semester of upper-division statistics *(if applicant is missing the statistics course, he/she can be admitted but must take ENVS 5600, Applied Statistics, or an approved statistics course as an elective before receiving the MS in environmental sciences degree)*
- two semesters general chemistry with lab
- one semester physics
- two semesters general biology with lab

If only two semesters of the six prerequisite courses are lacking, students may be admitted, but must take them in the first year in the program. Applicants who have fulfilled all prerequisites have a better chance of acceptance. Applicants may be required to take additional prerequisite

courses (necessary for completing particular core or elective courses). The prerequisite courses will not count toward the MS in environmental sciences degree. As part of the admission review process, applicants are required to submit a graduate application, a minimum of three letters of recommendation and transcripts from all institutions previously attended. UC Denver has a minimum requirement of a 3.0 undergraduate GPA for applicants to the Graduate School. The program admits new students for the fall semester only, and the number of students admitted to the program depends, in part, on space availability. **Applicants must submit all materials by the April 1 deadline.**

Financial Aid

There are three types of financial aid available: tuition assistance; research assistantship positions funded by grants to specific program faculty; and the regular package of financial aid (primarily loans) available through the financial aid office on the Denver campus. Incoming students will be automatically considered for program-distributed tuition assistance at the time of admission to the program. Continuing students will be regularly apprised of available aid and positions. Students interested in research assistantships should consult individual faculty with whom they wish to work regarding potential assistantship positions. All other aid should be requested through the CU Denver Financial Aid Office, North Classroom, 1030, Campus Box 125, P.O. Box 173364, Denver, CO 80217-3364. Telephone: 303-556-2886.

Internships

Students in the MS in environmental sciences program are strongly encouraged to contact the Experiential Learning Center for internships and paid positions related to environmental sciences. The Experiential Learning Center is located in the Tivoli Student Union, Suite 260. Telephone: 303-556-2250. Many students have had internships in federal agencies, such as the U.S. Environmental Protection Agency and the U.S. Geological Survey.

Program Requirements

The MS in environmental sciences is a 39-hour program that provides students with two alternate plans: Plan I requires a thesis, while Plan II is a nonthesis program. General requirements for the program include: a set of core courses (18 semester hours), the MS in environmental sciences seminar course (ENVS 6002, 3 semester hours), and elective courses (12 semester hours minimum). Students choosing Plan I must also complete 6 hours of thesis, while those choosing Plan II must complete 6 hours of additional elective course work. Students opting for Plan II are encouraged to enroll in 3 hours of independent study (ENVS 6840) as one of their electives.

The degree is offered through the College of Liberal Arts and Sciences with the cooperation of the College of Engineering and Applied Science. In addition, some courses offered by the College of Architecture and Planning, the School of Public Affairs and the Business School are relevant and applicable to the program.

Required Core Courses

Fall

- CVEN 5401 - Introduction to Environmental Engineering
  Seminar Course
  Students are required to register for ENVS 6002, Environmental Sciences Seminar, in the first fall semester they are enrolled in the MS in Environmental Sciences program. The seminar serves as an introduction to the program and helps students to develop research skills and further their professional development.

- ENVS 6002 - Environmental Sciences Seminar
- ENVS 6200 - Risk Assessment
- GEOG 5440 - Science, Policy and the Environment

Spring

- BIOL 5445 - Applied Environmental Biology
- CHEM 5700 - Environmental Chemistry
- ENVS 5280 - Environmental Hydrology

Total: 18 Hours

The core courses are to be taken first upon entry into the program. They are the foundation for other courses in environmental sciences.

Elective Courses

(See the MS in Environmental Sciences website for a complete list of elective courses for the MS in environmental sciences program.)

Students, with the coordinator and/or an advisor, will complete a program plan that will include 12-18 semester hours of elective requirements that will meet their interests. Students may choose to use four of the electives to fulfill one of the following options offered in environmental sciences: air quality, ecosystems, environmental health, environmental science education, geospatial analysis, hazardous waste and water quality. Students must have the prerequisites for each course and must meet the requirements listed in the notes below. Contact the option advisor for the particular option of interest before starting. Upon graduation, the option will be noted on the student's transcript.

Following are the requirements for each environmental sciences option:

AIR QUALITY OPTION

Option Advisor: Jon Barbour
Telephone: 303-556-4520
E-mail: Jon.Barbour@ucdenver.edu

Required Courses

- CHEM 5710 - Air Pollution Chemistry
- ENVS 5730 - Air Quality Modeling and Analysis

Total: 6 Hours

Electives

Choose two:

- CHEM 5720 - Atmospheric Sampling and Analysis
- CVEN 5800 - Special Topics
  (when Air Pollution Control is the topic)
- URPL 6800 - Special Topics: Urban and Regional Planning
  (when Air Quality Planning and Policy is the topic)

Total: 6 Hours

Option Total: 12 Hours

ECOSYSTEMS OPTION*

Option Advisor: Casey Allen
Telephone: 303-556-6007
E-mail: Casey.Allen@ucdenver.edu

Required Courses

- BIOL 5415 - Microbial Ecology
- ENVS 5010 - Landscape Geochemistry

Total: 6 Hours

Electives

Choose two:

- BIOL 5050 - Advanced Biology Topics
  (when Seminar in Aquatic Ecology is the topic)
- BIOL 5154 - Conservation Biology
- ENVS 5500 - Topics in Environmental Sciences
  (when Ecological Risk Assessment is the topic) (See Note 2)
- ENVS 6220 - Toxicology
  (see Note 2)
- GEOG 5060 - Remote Sensing I: Introduction to Environmental Remote Sensing

Total: 6 Hours

Option Total: 12 Hours

* BIOL 5445, Applied Environmental Biology, is required as a prerequisite for the ecosystems option.

ENVIRONMENTAL HEALTH OPTION*

Option Advisor: Deborah Thomas
Telephone: 303-556-5292
E-mail: Deborah.Thomas@ucdenver.edu

Required Courses

- ENVS 6220 - Toxicology
  (see Note 2) (fall, even years)
- ENVS 6230 - Environmental Epidemiology
  (spring, even years)

Total: 6 Hours

Electives

Choose two:

- ANTH 4010 - Medical Anthropology: Global Health
- ENVS 5500 - Topics in Environmental Sciences
  (when Ecological Risk Assessment is the topic) (See Note 2)
- ENVS 6210 - Human Health and Environmental Pollution
  (spring, odd years)
- PUAD 5633 - Seminar in Natural Resource and Environmental Health Law

Total: 6 Hours

Option Total: 12 Hours

* ENVS 6200, Risk Assessment, is required as a prerequisite for the environmental health option.

ENVIRONMENTAL SCIENCE EDUCATION OPTION

Option Advisor: Bryan Wee
Telephone: 303-315-4992
E-mail: bryan.wee@ucdenver.edu

Required Courses

- ENVS 5500 - Topics in Environmental Sciences
  (when Survey of Field Methods is the topic)
  Choose one from the following:

- ELED 5340 - Multicultural Science Education
- ENVS 5340 - Multicultural Science Education
- SECE 5340 - Multicultural Science Education

Total: 6 Hours

Electives:

Choose two:

- ANTH 5170 - Culture and the Environment
- BIOL 5154 - Conservation Biology
- COMM 5282 - Environmental Communication
- GEOG 5335 - Contemporary Environmental Issues
- GEOG 5350 - Environment and Society in the American Past
  Or another elective approved by the option advisor

Total: 6 Hours

Option Total: 12 Hours

GEOSPATIAL ANALYSIS OPTION*

Option Advisor: Rafael Moreno
Telephone: 303-556-3762
E-mail: Rafael.Moreno@ucdenver.edu

Required Courses

- GEOG 5080 - Introduction to GIS
- GEOG 5090 - Environmental Modeling with Geographic Information Systems

Total: 6 Hours

Electives

Choose two:

- CVEN 5382 - GIS Spatial Database Development
- CVEN 5385 - GIS Relational Database Systems
- CVEN 5386 - GIS Laboratory

Total: 6 Hours

Option Total: 12 Hours

* GEOG 3080, Introduction to Mapping and Map Analysis, is required as a prerequisite of the geospatial analysis option.

For more information, contact the option advisor or Jon Barbour at 303-556-4520, Jon.Barbour@ucdenver.edu.

WATER QUALITY OPTION*

Option Advisor: John Wyckoff
Telephone: 303-556-2590
E-mail: John.Wyckoff@ucdenver.edu

Required Courses

Choose two:

- BIOL 5416 - Aquatic Ecology
- ENVS 5280 - Environmental Hydrology
- ENVS 5410 - Aquatic Chemistry

Total: 6 Hours

Electives

Choose two:

- CVEN 5333 - Applied Hydrology
- CVEN 5334 - Groundwater Hydrology
- CVEN 5343 - Open Channel Hydraulics
- CVEN 5393 - Water Resources Development and Management
- ENVS 5280 - Environmental Hydrology (if not selected as one of the required courses)
- ENVS 5403 - Unsaturated Zone Hydrology

Total: 6 Hours

Option Total: 12 Hours

*CHEM 5700, Environmental Chemistry, or appropriate chemistry background is required as a prerequisite of the water quality option.

Notes:

1. Many of the courses have prerequisites; student must check the catalog for prerequisite requirements for these courses. Some options have a prerequisite course requirement.
2. One course may not be used for more than one option, even if it is listed in several options. Other courses may be offered that will be acceptable as electives with approval of the option advisor and the director of the program.

3. No more than three courses may be from any one discipline (excluding ENVS); i.e., chemistry, biology, civil engineering.
4. Courses used by the student to fulfill a core requirement may not be used to fulfill the options.
5. All work submitted for the environmental sciences options must have a grade of *B* (3.0) or better.
6. All courses for the environmental sciences options must be completed at the Denver campus.
7. Courses applied to either a certificate* or an MS degree may later be applied toward the other if all pertinent course work is completed within a five-year time period.

* The above options of the program may be taken to earn a corresponding environmental sciences certificate. However, certificates may be earned without entrance into the MS in environmental sciences program. (See the Environmental Sciences Graduate Certificate description).

Executive MBA in Health Administration

Distinctive Features of the Executive Program in Health Administration

1. Drawing on the expertise represented by the faculties of a consortium of western universities, the program offers high-quality courses taught by instructors that are typically not available from a single university.
2. The executive program facilitates learning for professionals who have continuing career and family responsibilities. The program is especially tailored for working individuals, allowing students to remain on their jobs while completing their educational program.
3. The program employs innovation in the technology of educational delivery. Learning methods include:
    - computer-assisted instruction and self-paced learning packages
    - computer conferencing and electronic case analyses
    - on-campus sessions

For application and additional information, write to:

Executive Program in Health Administration
The Business School
University of Colorado Denver
P.O. Box 480006
Denver, CO 80248-0006
www.colorado.edu/execed

Finance and Risk Management MS

Program Director: Ajeyo Banerjee
Telephone: 303.315.8456

Faculty

Professors:
Marcelle Arak, PhD, Massachusetts Institute of Technology
Jean-Claude Bosch, PhD, University of Washington
Elizabeth Cooperman, PhD, University of Georgia
E. Woodrow Eckard, PhD, University of California-Los Angeles
Richard Foster, PhD, University of Chicago
Dean Taylor, PhD, University of Chicago

Associate Professors:
Ajeyo Banerjee, PhD,University of Massachusetts-Amherst
Jian Yang, PhD, Texas A&M University

Assistant Professors:

Takeshi Nishikawa, PhD, Texas Tech University
Rina Ray, PhD, Indiana University

Senior Instructors:
John Byrd, PhD, University of Oregon
Chen Ji, MS, University of Colorado
Barbara Pelter, MA, University of Colorado

Instructors:
John Daley, PhD, University of Washington
Eric Reiner, MBA, Louisiana State University
Cindy Sutfin, MS, University of Colorado

The master of science in finance and risk management provides the necessary depth and specialized expertise to meet the needs of businesses for financial managers, investment analysts and other finance specialists.

The program emphasizes a familiarity with the institutions in our financial system, an understanding of financial markets and instruments, and the analytical skills and tools necessary to make informed decisions about investment and financing.

The program is suited to students from a wide variety of undergraduate backgrounds and is particularly appropriate to students with strong technical and analytical backgrounds. Admission standards for the MS finance and risk management program are unique to the program. Therefore, admission to other graduate business programs does not guarantee admission into the MS finance and risk management program.

The MS in finance and risk management offers flexibility with on-campus and online courses. The MS finance and risk management degree requirements are met by the following courses and options:

Prerequisites

Prerequisites: BUSN 6550, Analyzing and Interpreting Accounting Information, or the equivalent accounting background. Students are also expected to be knowledgeable in spreadsheet software and have quantitative skills evidenced by a 40% GMAT quantitative score or equivalent.

Finance and Risk Management Core (18 hours)

- FNCE 6290 - Quantitative Methods for Finance
- BUSN 6620 - Applied Economics for Managers
- BUSN 6640 - Financial Management
- FNCE 6300 - Macroeconomics and Financial Markets
- FNCE 6330 - Investment Management Analysis

Complete one of the following three courses:

- FNCE 6380 - Futures and Options
- FNCE 6382 - Survey of Financial and Commodity Derivatives
- FNCE 6410 - Real Options and Decisions Under Uncertainty

Specializations

Specializations (12 semester hours)

Students must complete one of the following **Specializations.**

Finance Specialization

Complete three FNCE courses numbered 6000 or higher.

Complete one Elective course which may be selected from any of the following courses: FNCE 6000 or higher, ACCT 6140 Tax Planning for Managers, ACCT 6340 Financial Statement Analysis, ENTP 6824 Entrepreneurial Financial Management (cannot receive credit for both ENTP 6824 and FNCE 6460 Small Firm Financial Management), ECON 5803 Mathematical Economics, ECON 5813 Econometrics I, or ECON 5823 Econometrics II. ECON courses are recommended for students wishing to later pursue a PhD in finance.

Financial Analysis and Management Specialization

Complete 3 or 4 of the following courses:

- FNCE 6129 - Practical Enterprise Risk Management
- FNCE 6310 - Financial Decisions and Policies
- FNCE 6340 - Business Firm Valuation

- FNCE 6360 - Management of Financial Institutions
- FNCE 6410 - Real Options and Decisions Under Uncertainty
- FNCE 6411 - International Corporate Governance
- FNCE 6420 - Mergers and Acquisitions
- FNCE 6450 - Short-Term Financial Management
- FNCE 6460 - Emerging Market Finance
- FNCE 6480 - Financial Modeling
- FNCE 6809 - Principles of Risk and Insurance
- FNCE 6909 - Corporate Risk Management

If 3 courses completed from list above, complete 1 course from the list below:

- ACCT 6140 - Tax Planning for Managers
- ACCT 6340 - Financial Statement Analysis
- ENTP 6824 - Entrepreneurial Financial Management
- MATH 5390 - Game Theory

Financial and Commodities Risk Management Specialization

Complete 3 or 4 of the following courses:

- FNCE 6129 - Practical Enterprise Risk Management
- FNCE 6350 - Financial Innovations
- FNCE 6360 - Management of Financial Institutions
- FNCE 6370 - International Financial Management
- FNCE 6380 - Futures and Options
- FNCE 6382 - Survey of Financial and Commodity Derivatives
- FNCE 6410 - Real Options and Decisions Under Uncertainty
- FNCE 6480 - Financial Modeling
- FNCE 6809 - Principles of Risk and Insurance
- FNCE 6909 - Corporate Risk Management

If 3 courses completed from list above, complete 1 course from the list below:

- ECON 5823 - Econometrics II
- ECON 6801 - Advanced Mathematical Economics
- MATH 5351 - Actuarial Models
- MATH 5792 - Probabilistic Modeling

Risk Management and Insurance Specialization

Risk Management and Insurance Core (9 hours)

- FNCE 6129 - Practical Enterprise Risk Management
- FNCE 6809 - Principles of Risk and Insurance
- FNCE 6909 - Corporate Risk Management

Quantitative Elective (3 hours)

Complete one of the following:

- FNCE 6340 - Business Firm Valuation
- FNCE 6350 - Financial Innovations

FNCE 6380, FNCE 6382, or FNCE 6410 cannot be used toward specializations if taken in the Finance and Risk Management Core.

- FNCE 6380 - Futures and Options

- FNCE 6382 - Survey of Financial and Commodity Derivatives
- FNCE 6410 - Real Options and Decisions Under Uncertainty
- FNCE 6411 - International Corporate Governance
- FNCE 6420 - Mergers and Acquisitions
- FNCE 6480 - Financial Modeling
- ENTP 6824 - Entrepreneurial Financial Management
- HLTH 6040 - Health Care Financial Management

There may be additional prerequiste courses for the ECON and/or MATH selections. Please check with those departments or the graduate adivsors.

- ECON 5823 - Econometrics II
- MATH 5351 - Actuarial Models
- MATH 5792 - Probabilistic Modeling

Economics Specialization

Finance and Risk Management Core (9 hours)

- BUSN 6640 - Financial Management
- FNCE 6330 - Investment Management Analysis

Select one of the following three FNCE courses:

- FNCE 6380 - Futures and Options
- FNCE 6382 - Survey of Financial and Commodity Derivatives
- FNCE 6410 - Real Options and Decisions Under Uncertainty

Finance and Risk Management Electives (6 hours)
Select any two FNCE courses numbered 6000 or higher.
Economics Core (12 hours)

- ECON 5073 - Microeconomic Theory
- ECON 5083 - Macroeconomic Theory
- ECON 5803 - Mathematical Economics
- ECON 5813 - Econometrics I

Quantitative Elective (3 hours)
Select one of the following courses:

- ECON 5823 - Econometrics II
- ECON 6801 - Advanced Mathematical Economics
- MATH 5351 - Actuarial Models
- MATH 5390 - Game Theory
- MATH 5792 - Probabilistic Modeling

Total: 30 Hours

Global Energy Management MS

Program Advisor: Sarah Dushame
Telephone: 303-605-6212
E-mail: Sarah.Dushame@ucdenver.edu

Faculty

Professors/Instructors

Timothy Antoniuk, MDes, University of Alberta
William Ascher, PhD, Yale University
Stephen Brown, PhD, University of Maryland
Matthew Clarke, PhD, University of Calgary
William Fox, JD, Catholic University of America
Mean Husein, PhD, McGill University
Merrily Kaut, PhD, University of Colorado Denver
L. Ann Martin, PhD, University of Minnesota

The master of science in global energy management (GEM) prepares individuals for leadership careers in the energy industry. This degree is particularly appropriate for individuals seeking to advance their existing careers in the energy field. Prior work experience within the field is preferred, but not required. The program consists of two components: the core curriculum and the more advanced and specialized elective courses. The MS GEM program requires the completion of the following core classes as well as four elective courses from the selection listed below.

Required Courses

- GEMM 6000 - 21st Century Global Energy Issues and Realities
- GEMM 6100 - Global Energy Economics
- GEMM 6200 - Environmental, Regulatory, Legal & Political Environment in the Energy Industry
- GEMM 6300 - Technical Aspects of Energy Science
- GEMM 6400 - Leadership and Decision Making in the Global Energy Environment
- GEMM 6500 - Energy Accounting in the Global Markets
- GEMM 6600 - Introduction To Financial Management In The Energy Industry
- GEMM 6410 - People Management in the Global Energy Environment

Choose four

Choose four of the following courses. These courses are taken during the last two terms of the program and are offered based on enrollment.

- GEMM 6210 - Energy and the Law: Property and Contracts
- GEMM 6430 - Organizational Behavior in the Energy Industry
- GEMM 6450 - Strategic Management of the Energy Industry
- GEMM 6460 - Integrated Information Management for Energy Firms

- GEMM 6470 - Energy Marketing
- GEMM 6610 - Advanced Financial Management in the Energy Industry
- GEMM 6620 - Energy Asset & Production Management for the Energy Industry
- GEMM 6630 - Commercialization Management of Renewable Energies

Prerequisites

Applicants that do not have a science- or energy-related field undergraduate degree or three-plus years experience in the industry are required to take two prerequisite courses as well as the GMAT.

The prerequisite courses include physical geology and introduction to physical engineering. These courses can be taken at any accredited university, but must be approved by a GEM team staff member before registering. Also the prerequisites may be taken prior or concurrently with GEMM 6000 and GEMM 6100.

Notes and Restrictions

The program is a cohort group, hybrid online, 18-month master of science degree program. As a cohort program, all students start together, progress together and graduate together. Students cannot take time out from the program once it starts and need to plan on remaining in the program for the full 18 months. If it becomes necessary to take a term off, students may not re-enroll until the next cohort group catches up to the point where the student originally dropped out, which is 6 months later. As a hybrid online program, professors and students meet in class face to face for four days (Fridays through Mondays) at the start of each 3-month term with the rest of the term completed online. Please note that the GEM degree program runs on a completely separate schedule from the normal semester terms of the Business School. Please check the Business School Web site for deadlines and dates of each GEM term. All GEMM courses are restricted to those students who have been admitted to the MS GEM program.

Dual Degrees

In order to participate in the dual degree options offered by the Business School, students in the GEM program must first complete their entire GEM degree before they can begin their second degree.

Health Administration MS

Program Director: Errol L. Biggs
Telephone: 303-315-8851
E-mail: errol.biggs@ucdenver.edu

Faculty

Professors:

Heidi Boerstler, PhD/JD, Yale University/University of Denver
Peter Bryant, PhD, Stanford University
C.Marlena Fiol, PhD, University of Illinois-Urbana-Champaign
Richard Foster, PhD, University of Chicago
Bruce Neumann, PhD, University of Illinois
Edward O'Connor, PhD, University of Akron

Associate Professors:

Blair Gifford, PhD, University of Chicago
Deborah Kellogg, PhD, University of Southern California
Stephen Ross, MD, University of North Carolina

Instructor:

Errol Biggs, PhD, Pennsylvania State University

The goal of the master of science in health administration degree is to prepare men and women who, after appropriate practical experience in responsible managerial positions, are capable of assuming positions as chief executive officers or senior administrators in complex, multi-service healthcare organizations or in organizations' purchasing health services.

The curriculum is a synthesis of management concepts and techniques that are applicable to any economic organization and tools that can be specifically applied to health and health services systems. The program emphasizes skills that heighten basic analytical and decision-making processes used by top-level managers in selecting broad strategies for the institutions and by junior managers in administering subunits of health care organizations. The faculty guide the students in their mastery of theoretical, conceptual and quantitative topics.

The program has enjoyed continuous accreditation by the Commission on Accreditation of Healthcare Management Education since 1970.

A. Common Body of Knowledge (CBK) (18 hours)

- BUSN 6521 - Managing Individuals and Teams (Health Section)
- BUSN 6530 - Data Analysis for Managers
- BUSN 6550 - Analyzing and Interpreting Accounting Information
- BUSN 6560 - Marketing Management
- BUSN 6630 - Management of Operations
- BUSN 6640 - Financial Management

B. Health Administration Core (21 hours)

- BUSN 6541 - Legal and Ethical Environment of Business (Health Section)
- BUSN 6621 - Applied Economics for Managers (Health Section)
- BUSN 6711 - Strategic Management (Health Section)
- HLTH 6010 - Health Care Systems
- HLTH 6040 - Health Care Financial Management
- HLTH 6911 - Health Field Studies
- DSCI 6440 - Quality and Process Improvement

C. Health Administration Information Technology Elective (3 hours)

Complete 1 on the following courses:

- HLTH 6071 - Introduction To Health Information Technology
- HLTH 6072 - Fundamentals of Health Information Technology Management

D. Health Administration Electives (9 hours)

Complete 3 of the following courses:

- HLTH 6055 - Transformational Leadership/Transforming Organizations
- HLTH 6070 - International Health Policy and Management
- HLTH 6075 - International Health Travel Study
- HLTH 6740 - Profiles in Health Care
- MGMT 6803 - Visionary Leadership

Notes and Restrictions

Health Administration electives. Choose three of the following: HLTH 6055, Transformation Leadership; HLTH 6740, Profiles in Healthcare; MGMT 6803, Visonary Leadership; HLTH 6075, Travel Study; HLTH 6070, International Health Policy & Management.

Health Information Technology elective. Choose one of the following: HLTH 6071, Introduction to Health Information Technology or HLTH 6027, Fundamentals of Health Information Technology.

Management Residency. A management residency is optional, but recommended for all students, especially those with limited health care experience. The faculty of the program provide assistance to students in securing the residency, as well as regular consultation during the residency period. Information on the full range of local, regional, and national residencies is available in the program office.

Length of Program. The didactic portion of the degree will take at least two academic years, since most HA courses are offered only once each year and many have prerequisites. Part-time study is facilitated by courses being scheduled for late afternoon and evening hours.

Specialized Tracks in MS Health Administration

Each track carries its own specific course requirements. To provide a variety of perspectives and experiences within a specific area of health administration, each track includes courses that span various departments within the Business School, other schools on the Denver campus, and other University of Colorado campuses.

- International Health Management and Policy track
- Financial Management track
- Health Information Technology Management track

Institute for International Business

The International Health track is affiliated with the Institute for International Business at UC Denver. The Institute for International Business is one of a few university programs to have received the prestigious CIBER grant from U.S. Department of Education. The grant is being used by the institute to provide effective internationally oriented education, research, and outreach activities. Also, the institute is a participant in an international consortium of universities for faculty and student program and course exchanges. Students in the International Health Management and Policy track will have access to the institute's exchange networks.

International Health Travel/Study Course

Program Director: Blair Gifford
Telephone: 303-315-8400
E-mail: Global-Health@ucdenver.edu

A unique feature of our International Health Management and Policy track is its emphasis on making sure students gain international experience during their education. The travel study course requirement can be met by taking a University of Colorado health travel/study course, or a student can take a course at a partnering university. An example of a health travel/study was a three-week trip to Thailand and Vietnam to visit numerous cultural- and health-related facilities.

Historic Preservation MS

► Graduate School Rules apply to this program

Program Director: Christopher Koziol
Office: CU Denver Building, 320O
Telephone: 303-556-6516
E-mail: christopher.koziol@ucdenver.edu

In a rapidly changing cultural, economic and professional environment, it is valuable to have an understanding of what is worth saving of the built environment. However, appreciation for the past alone is insufficient for making the informed and creative decisions expected and required of cutting-edge professionals. The desire to know can become the opportunity to lead. There is an increasingly urgent need in our professional community and in our society for the skills and knowledge that this effort requires and this degree offers.

As global economies change fewer resources are available for new buildings and we must adaptively reuse our existing structures. This trend will continue beyond short-term economic conditions, because it will always be a more sustainable practice to reuse existing buildings than to tear them down and harvest or manufacture new materials.

The College of Architecture and Planning, and the professional community that it serves, foresee a significant and permanent shift towards more adaptive reuse of existing buildings. The master of science in historic preservation is a program designed to prepare students for a true 21st Century career.

Historic preservationists come from a variety of backgrounds. Some are well-educated in the humanities and desire to increase their technical understanding. Those familiar with the social sciences might be seeking "real world" applications for their expertise. Many already with "first professional degrees" in design and planning disciplines, as well as the law and business, seek to deepen their competence in the vibrant and interesting professional niche of historic preservation.

Prerequisites

The MSHP is fully integrated into a college emphasizing design and graphic excellence. While HP students need not have fully developed skills in advance of matriculation we have found that students have benefitted from some previous exposure to:

1. Mechanical drawing/sketching
2. CAD graphics
3. Graphics software such as Adobe Creative Suite

These competencies can be demonstrated by previous course work or by portfolio/resume submission. Should any of these competencies for an admitted student be judged insufficient by the faculty, the program director may require the student to gain supplemental instruction prior to, or upon matriculation to, the MSHP degree program. Any credit awarded for such supplemental work will not be counted toward the required number of credit hours for the degree.

Admissions

Application to the master of science in historic preservation program is open to all students holding the bachelor's (undergraduate) degree from an accredited college (or its equivalent from a foreign institution).

Materials required

- A brief statement of interest (500 word max.)
- A compact portfolio (max. 15 pages 8.5" X 11") of writing samples, and optionally, graphic work and professional resume is strongly recommended.
- Submission of Graduate Record Exam (GRE) scores is recommended for applicants without evidence of prior successful graduate level accomplishment. [There is an expedited application procedure for current CU Denver students in another CAP masters program. Please inquire to the MS in historic preservation program director.]

Transfer Credit

Transfer credit of up to 12 credit hours (up to 15 credit hours for those seeking/holding a related master's degree from CU Denver) may be awarded for equivalent graduate (post-bachelor's) course work at the discretion of the program director and in keeping with CU Denver Graduate School rules.

Undergraduate Course Work

Undergraduate course work substantively equivalent to a MSHP required course may be accepted as a substitution for that course at the program director's discretion, but such substitution will not reduce the total number of credit hours required for the degree.

Program Requirements

The course of study is designed to accommodate the background and needs of both those students with substantial experience, and those new to the field. The curriculum is flexible but rigorous, requiring:

- Fifteen (15) semester hours of core courses in preservation
- Nine (9) hours in approved core design history courses
- Six (6) hour capstone requirement
- Fifteen (15) hours of electives

Students enrolling full-time in the 45 credit-hour curriculum typically complete the program in 3 or 4 semesters, or 18 months. However, course work other than the completion of the capstone requirement may be accomplished in a period of residency as short as 15 months. Students receiving significant transfer credit and those with a related degree may further reduce the time required for the MS in historic preservation degree.

Our program is compliant with National Council of Preservation Education Standards.

Required Core Courses

Choose 5 of the following 6 core preservation courses:

- HIPR 6010 - Preservation Theory and Practice
- HIPR 6210 - Survey, Significance, Recognition
- HIPR 6310 - Documentation, Analysis, Representation
- HIPR 6410 - Urban Conservation: Context for Reuse
- HIPR 6510 - Building Conservation

- HIPR 6610 - Reading the City

Choose 3 of the designated design history courses; some examples are:

- HIPR 6110 - Regionalisms & the Vernacular
- ARCH 6210 - History of American Architecture
- LDAR 5521 - History of Landscape Architecture
- URBN 6640 - History of the City

Total: 15+9=24 Hours

Electives

Choose 12-15 semester hours of related electives. Some examples are shown below. (Other courses may be approved as substitutions at the program director's discretion.)

Project Development

- URPL 6455 - Real Estate Dev. for Planners
- URPL 6661 - Real Estate Development Finance
- URPL 6665 - Urban Market Analysis
- URPL 6549 - Environmental Impact Assessment
- PUAD 5110 - Seminar in Nonprofit Management
- PUAD 5115 - Effective Grant Writing for Nonprofit and Public Sector Managers

Context of Planning & Design

- URBN 6642 - Design Policy/Regulation
- URBN 6641 - Design Process/Practice
- URPL 5020 - Planning Law and Institutions
- URPL 6400 - Community Development
- URPL 6405 - Urban Housing
- PUAD 5625 - Local Government Management
- PUAD 5626 - Local Government Politics and Policy

History

- GEOG 5350 - Environment and Society in the American Past
- HIST 5240 - National Parks History
- HIST 5229 - Colorado Historic Places
- HIST 5228 - Western Art and Architecture
- HIST 5231 - History in Museums
- HIST 5234 - Introduction to Public History
- HIST 5236 - Colorado Mining and Railroads
- HIST 5242 - Oral History
- HIST 5243 - Public History Administration
- HIST 5244 - Interpretation of History in Museums: Exhibits and Education

- HIST 5810 - Special Topics Heritage Tourism

  Preservation Design
  Approved studio (4) + seminar (2)
  AND/OR
  Additional built environment history/practice courses
  NOTE: HIPR prefix electives HIPR 6610 Reading the City, HIPR 6710 Working Landscapes, HIPR 6810 Preservation Workshop may be counted toward any of the elective concentrations.

Total: 12-15 Hours

Capstone Work

Choose either 1. Professional Project and additional requirements, or 2. Thesis and additional requirements.

1. HIPR 6851 - Professional Project
   Preceded by **one** of the following:

- Preservation Design Studio + Seminar (HIPR 6170-71)
  or
- HIPR 6930 - Internship for 3 semester hours of credit
  or
- Pre-approved travel education (may include programs to Italy, Turkey, Scandinavia, or domestic programs, typically Chicago or the rural West)

2. HIPR 6951 - Thesis

   With LDAR 6949 - Research Tools, Strategies, Methods

Total: 6-9 hours

History MA

► Graduate School Rules apply to this program

The master of arts in history requires 36 semester hours (12 courses). Students applying for admission to the program should have some background in history, though not necessarily a BA in the subject. The department encourages applications from individuals of any age interested in resuming their education. Graduate students in history develop skills in critical thinking, writing and independent research. Our program prepares students for a wide variety of professions, including teaching, government service, museum and archive management and historic preservation, as well as further degree work in history, law, librarianship and business. The department expects that students graduating with an MA in history will master the following general skills for their degrees:

- The ability to pursue independent historical research projects
- The ability to analyze historiographical arguments
- The ability to analyze primary documents and develop arguments from them
- The ability to create bibliographies using archival, library, and Internet resources
- The ability to write in a variety of formats, including historiographical essays, book reviews, and research papers

Students will also master knowledge of the basic historical content of both their major and minor fields, and an understanding of the historiographies and historical methods in their major and minor fields.

Admission Requirements

- In addition to the general admission requirements of the Graduate School, the Department of History requires an undergraduate GPA of at least 3.25.
- All applicants to the history program must take the GRE. GRE scores form a part of the department's consideration of students' qualifications.
- Applicants are required to submit a sample of written work, usually a term paper or project of similar length.
- All applications must include three letters of recommendation, preferably from college or university faculty.
- Applicants should address any gaps, weaknesses, or special circumstances in their academic records in the statement of purpose portion of the application. In special circumstances, the department may modify its admission standards.

APPLICATION DEADLINES

April 1	**Fall admission**
October 1	**Spring admission**

Admission decisions are made by a graduate committee composed of the graduate advisor and faculty representing fields in U.S., European, global, and public history.

Graduate School Policies

All history MA students are subject to Graduate School policies related to graduate study, as well as to all relevant university policies. These policies cover such topics as time limits on degree completion, changing degree programs, incomplete grades, and more. Further information on these policies can be found in the Graduate School section of this online catalog.

Transfer Credits

With approval from the graduate advisor and the appropriate faculty, students may transfer up to nine graduate-level credits accrued before enrollment in the CU Denver MA history degree program, provided that they earned a grade of *B*+ or better in these courses. Students must submit a syllabus for each course they wish to transfer, and faculty may require students to complete additional assignments to meet the expectations of the department. The department will not accept transfer of courses comparable to HIST 6013, Introduction to the Professional Study of History.

Grade Requirements

The history department requires that graduate students maintain a cumulative GPA of 3.0 and will not accept grades lower than *B*- (2.7) toward the completion of course work for the master's degree. Students who earn less than a *B*- in HIST 6013 must retake the class.

Residency Requirements

The history department requires a residency of at least one academic year for the degree.

Graduate Advising

Upon admission, students will sign a check list indicating their understanding and acceptance of the department's expectations. Early in their first semester, students should contact the history department graduate advisor to discuss their path through the program and to receive advice regarding the selection of major and minor fields.

Degree Tracking Responsibility

Although faculty will provide reasonable guidance, it is up to students to monitor their own progress through the program in consultation with the graduate advisor and their major advisor; this includes knowledge and understanding of application and graduate deadlines, degree requirements, comprehensive exam expectations and processes, thesis guidelines, etc.

Choosing Advisors and Fields of Study

All history MA candidates choose a major field and a minor field. Students will take courses in these fields (see Degree Requirements below) and will be tested in these fields (see Comprehensive Examinations). After consulting with the graduate advisor, students are responsible for securing two field advisors, one to oversee their progress in the major field, the other to oversee their minor field. All students should have chosen their fields and advisors by the end of the semester in which they have complete 12 credit hours.

Major Fields, Minor Fields, and Concentrations

The MA in history seeks to provide students with a balance of breadth and depth in the study of history. Major fields are broad areas of study within which students gain a general picture of historical processes. Concentrations provide focus for developing expertise within the major,

either regionally or thematically. Minor fields provide a complementary or comparative area and must sit outside the major field. *[Please note that only the primary major field will be noted on the student's transcript; it will not include additional concentrations or minors.]*

Advisors and students together will work out Plans of Study, which indicate the courses students intend to take to meet their requirements, based on their selection of major and minor fields. *Students should make every effort to enroll in courses which best fit their major field, major concentration and minor field.*

Students can choose to major in one of the following four fields:

- European History
- Global History
- Public History
- U.S. History

The department has core readings for Public History and US History each of the major fields. Students will draw on these readings for their comprehensive exams. Students working A in all fields will coordinate their readings with their major and minor advisors.

Major Field Concentrations

Students work with advisors to select one of the major field concentrations listed below. Concentrations provide thematic or regional focus to a broad geographical major (e.g. for the global history major, students could concentrate on trade, borders, imperialism, etc. or any of the areas of regional expertise of our faculty). Readings for the major field concentration are in addition to the core reading list.

Minor Fields

Students can define their minor field as a specialization within one of the four major fields or as topics from the list of concentrations.

Regional Concentrations/ Minors	**United States History Chronological Concentrations/Minors**	**Topical Concentrations/Minors** (these can be regional or global and must be negotiated with students' field advisors)	
American West	Colonial and Federal	Colonialism and Imperialism	Nation and State
Britain	Nineteenth Century	Cultural and Social History	Politics
East Asia	Twentieth Century	Diplomatic History and Foreign Policy	Race and Ethnicity
Germany		Economic and Business History	Science, Medicine, and
Islamic World	**Public History Concentrations**	Gender, Women, and Sexuality	Technology

Latin America	Historic Preservation	Globalization	Urban History
South Asia	Museum Studies	Intellectual History	War and Revolution
Western Europe	State and Local History	Labor	

PUBLIC HISTORY MA MAJOR PROGRAM

Degree Requirements

All history MA students must have a major field and a minor field, and they must complete half of their course work at the 6000 level.

Required Introductory Course

- HIST 6013 - Introduction to the Professional Study of History

Total: 3 Hours

Major Field

Core course in Major Field (3-6 semester hours)

Public history and U.S. history major fields require core courses covering major approaches and themes. The core courses familiarize students with the field in a broad sense.

Research Seminars (3-6 semester hours)

Research seminars focus on students' development of an original, primary research paper. One 3-semester-hour research seminar is required of all students. A second research seminar is required for students not in public history; the second 3 semester hours can be taken within the major or minor field.

Major Electives (9-12 semester **hours**)

Electives are made up of courses in the major and concentration, including readings courses, which address specific field historiographies, and optional extended research credits. Students who choose to do a thesis may apply 6 thesis semester hours (HIST 6950) toward the major electives requirement.

Total: 18 Hours

Minor Field

Minor Electives

Electives are made up of courses in the minor field, including readings courses, which address specific field historiographies, or research seminars.

Total: 12 Semester Hours

Open Elective

Students may use the open elective to explore a course outside their major or minor or to do extra course work in one of their fields.

Total: 3 Hours

Degree Total: 36 Hours

INDEPENDENT STUDY AND/OR INTERNSHIP

Candidates may register for up to 6 hours of internships or independent study, only one of which may be at the 6000-level. Students will not be allowed to fulfill the research seminar requirement with an independent study or internship. Any independent study or internship at the 6000-level needs the permission of the graduate advisor. Students interested in pursuing an independent study or internship must find a faculty member willing to oversee their work, and they should expect the workload to equal or exceed that required for other courses at the same level.

- HIST 5840 - Independent Study: History
- HIST 6840 - Independent Study: HIST
- HIST 6939 - Internship

COMPREHENSIVE EXAMINATIONS

All history MA candidates must pass a comprehensive examination in the major and minor fields after the completion of course work and generally before embarking on a thesis, curriculum project or public history project. The comprehensive exam evaluates students' knowledge of their course work and their reading lists for their major, minor and concentration. The exam consists of a take-home written section, with broad essay questions in both the major and minor fields; this is followed by an oral exam with the student's faculty committee. In answering their exam questions, students are expected to construct arguments and to show mastery of the historiographies, narratives and historical content in their fields. The comprehensive exam is administered and evaluated by a committee of the major advisor, the minor advisor and an outside reader from the history faculty. Students should expect to read 80-100 books combined, as well as significant articles, in their major and minor fields.

Master's Degree Extended Research Options

The MA program in history offers a set of courses in which students can develop extended research interests. Students must select an advisor and develop a proposal for a specific research agenda in the semester before beginning work on a project.

REQUIRED PUBLIC HISTORY THESIS (HIST 6950) OR PROJECT (HIST 6952)
Students majoring in public history must complete either a thesis (6 semester hours) or a project (usually 3 semester hours).

OPTIONAL THESIS FOR STUDENTS IN U.S., GLOBAL AND EUROPEAN HISTORY (HIST 6950)
Students majoring in U.S., global or European history can choose to write a thesis (6 semester hours in their major field).

OPTIONAL ADVANCED HISTORY CURRICULUM DEVELOPMENT (HIST 6951)
Students who undertake their master's program when they are already teachers or who are teachers-in-training can choose to construct curriculum projects relevant to their teaching practice. See the separate section below on "Opportunities for Teachers and Teachers-in-Training."

- HIST 6950 - Master's Thesis
- HIST 6951 - Masters Project: Advanced History Curriculum Development
- HIST 6952 - Master's Project: Public History

Thesis Requirements

Students writing theses are expected to develop an original research agenda resulting in an extended paper. Students work with their major field advisor, who will help guide them through the process of research and writing. Students will enroll for six credit hours in HIST 6950 to complete their theses over one or more semesters. Before registering for HIST 6950, students should have a thesis proposal and initial bibliography approved by their advisor.

A thesis is evaluated by a committee of three, including the major advisor and two other faculty members chosen by the student in consultation with the major advisor. Upon completion of the thesis, the student meets with the committee members, who ask questions about the research and conclusions which the student must defend. In many instances, the committee will require further revisions, sometimes major in scope, before the thesis is accepted and cleared for submission to the Graduate School in fulfillment of degree requirements.

Project Requirements

In lieu of a thesis, public history majors may choose to enroll in one semester of HIST 6952 to complete a public history project. Projects, which are usually conducted in collaboration with a public history organization, can entail creating an exhibit, organizing a museum or archival collection, conducting a preservation survey or similar activities. Students are required to prepare an analytical paper describing the process and results of their project.

Opportunities for Teachers and Teachers-in-Training

Curriculum Projects

Licensed teachers and teachers-in-training enrolled in the history graduate program may choose to complete a curriculum development project. Students arrange curriculum development projects with a sponsoring faculty member. Generally, students are expected to develop and submit a complete course curriculum plan for each 3-semester-hour project. Projects need to show evidence of familiarity with the relevant historiographies and primary sources. Students may apply the hours from HIST 6951 to either the major field or the minor field, depending on the project subjects. Curriculum plans must meet minimum criteria established by the history department in the document Advanced History Curriculum Development Projects.

- HIST 6951 - Masters Project: Advanced History Curriculum Development
  (3 or 6 semester hours in their major field, or 3 semester hours in their major and possibly 3 semester hours in their minor, if a student elects to do a second project)

Secondary Teacher Licensure

Students interested in secondary teacher licensure should consult with the School of Education and Human Development. See the Urban Community Teacher Education Program for information.

Humanities MH

► Graduate School Rules apply to this program

Requirements for Admission

In addition to the general requirements of the Graduate School governing acceptance to a master's degree program, applicants must submit the following:

- evidence of a bachelor's degree
- two official copies of all transcripts, with an overall GPA of at least 3.0 out of 4.0
- a writing sample
- three letters of recommendation (at least two from academic sources)
- appropriate undergraduate training or professional background, or indicators that supply evidence of ability to pursue the MH degree
- a typed statement specifying the goal of advanced study in the humanities expressed in clear, correct and effective English
- standardized test scores are not required, but will be considered if submitted

After meeting all other requirements for admission, applicants may be required to have an interview to discuss their interest in the program and their plans for study. For out-of-state applicants, an appropriate substitute for the interview may be determined by the director.

Provisional admission:

Applicants may be admitted as provisional-status graduate students if their complete record indicates a high probability of success.

Nondegree students:

Potential applicants may take graduate-level courses as nondegree students (unclassified student with a bachelor's degree) if they:

1. Wish to strengthen their record in order to demonstrate that they can successfully complete courses in the program
   -or-
2. Wish to start courses in the program prior to completing their application.

Up to 12 semester hours of graduate-level work taken as a nondegree student may be accepted by the program once a student has been admitted to the program (the 12-hour limit also includes graduate work from another university). For further information on nondegree graduate student status, see the Information for Graduate Students section of this catalog.

International Students:

International students must also meet CU Denver requirements for international admission. See the Information for International Students section of this catalog or call 303-315-2230 for further information.

Degree Requirements

The Master of Humanities (MH) program offers graduate-level interdisciplinary studies through a 36-credit-hour degree plan. Students may pursue a general MH degree or focus their studies and course work on one of two tracks: philosophy and theory OR visual studies. Each option is detailed below.

All courses credited toward the MH degree must be taken at CU Denver over a period not exceeding five years (a maximum of 12 graduate semester hours may be transferred from other institutions subject to the MH director's approval). At least a *B* average (3.0) must be maintained in all graduate-level course work for the degree. A grade of *C+* or below will not be counted toward the degree. Each student's program is supervised by a faculty advisor. All independent study, project and thesis contracts must be approved in advance by one of the program directors. A total of two independent study courses and two 4000-level undergraduate courses may count toward the degree. Only one graduate-level online course (up to 3 hours) may be taken toward the degree. The rest must be 5000-level or above courses offered through various departments. All students must pass an oral comprehensive exam in order to graduate.

General Master of Humanities Degree

Students pursuing the general MH degree have the opportunity to fashion a course of study based on their individual interests and goals. Students complete three required core courses and, in consultation with a faculty advisor, choose two or three academic disciplines as areas of concentration. Students who select a thesis (6 semester hours) will submit a thesis proposal after completing 30 hours of course work. In the case of a project (3 semester hours), students will submit a project proposal after 33 hours. All students culminate with the completion of a final project or thesis and an oral exam defense of the final work.

GENERAL MH REQUIREMENTS

Three interdisciplinary seminars form the core course work for the MH degree:

- HUMN 5025 - Methods and Texts of the Humanities
  (Must be taken during the first year of entrance into the program. **Offered fall only.**)
  Mid-Program Seminar, an interdisciplinary seminar which is approved for the student's program by the program director (note that the Mid-Program Seminar **must** have a HUMN prefix).

- HUMN 5924 - Directed Research and Reading in Interdisciplinary Humanities
  (A final seminar that provides background reading, theory and research approaches for students to develop a thesis or project; student must have completed at least 24 hours of course work and must register for the course via a schedule adjustment form with instructor approval. **Offered spring only.**)
  Total: 9 Hours

Electives

Additionally, students must complete a total of 21-24 semester hours comprising a coherent selection of courses from a variety of disciplines. All courses for the self-structured portion of the program must be selected with the approval of the MH program director.

A total of two independent study courses and two 4000-level undergraduate courses taken when enrolled in the program may count toward the degree. All independent study contracts must be approved by the program director. The remaining course work must be 5000-level or above courses offered through various departments.

Students completing a project take 24 hours of electives, while thesis students complete 21 hours of electives.

Total: 21-24 Hours

Thesis or Project

A thesis (6 semester hours) or a final project (3 semester hours), which must include a substantial scholarly paper and may include a creative exercise involving at least two disciplines. In order to proceed with a thesis or project, all students must submit to the program a proposal to be approved by three faculty members of the committee and the program director.

- HUMN 5950 - Master's Thesis
- HUMN 5960 - Master's Project

Total: 3-6 Hours

Oral Exam

An oral exam before a committee of three faculty members in order to graduate.

General MH Degree Total: 36 Hours

OPTIONAL MH TRACKS

Students may also focus in one of the new formal tracks in the Master of Humanities program: philosophy and theory or visual studies. In addition to the three MH core required courses, students must fulfill the minimum track requirements and must complete a total of 36 credit hours in order to complete the degree. These are detailed in the track descriptions that follow:

Philosophy and Theory Track

The philosophy and theory track in the Master of Humanities degree program offers students an interdisciplinary approach to studying philosophy, critical theory and related theories of criticism and analysis in various humanities disciplines. Students who pursue this concentration may focus their course work variously in philosophy, social theory, literary theory and criticism, cultural criticism, intellectual history and political theory. In this track, students develop

analytic skills that allow them to integrate knowledge and modes of thinking that reflect the demands of critical inquiry.

By combining philosophical theory and critical thinking in one interdisciplinary track, students will be prepared to pursue advanced academic or professional degrees, secondary and higher education teaching, careers in art and literature, criticism, law, media and other careers with demand for critical thinking.

Beyond the required core MH courses (9 hours), a minimum of 21 credit hours in philosophy/theory-related work must be completed. This must include one required methodology course to be determined with the Master of Humanities advisor; 12-15 credit hours of philosophy/theory-related courses; and 3-6 hours of project or thesis work on a philosophy/theory-related topic.

TRACK REQUIREMENTS

Required Core MH Courses

- HUMN 5025 - Methods and Texts of the Humanities
  (Must be taken during the first year of entrance into the program. **Offered fall only.**)
  Mid-Program Seminar, an interdisciplinary seminar which is approved for the student's program by the program director (note that the Mid-Program Seminar **must** have a HUMN prefix).

- HUMN 5924 - Directed Research and Reading in Interdisciplinary Humanities
  (A final seminar that provides background reading, theory and research approaches for students to develop a thesis or project; student must have completed at least 24 hours of course work and must register for the course via a schedule adjustment form with instructor approval. **Offered spring only.**)

Total: 9 Hours

Additional requirements

- ♦ Philosophy/theory methods course (3 credit hours): Must be approved by the Master of Humanities Director or Associate Director.
- ♦ Minimum of 12-15 credit hours of focused course work in philosophy/theory related courses (see suggested electives below).
- ♦ 3-credit project or 6-credit thesis on a philosophy/theory topic, written in consultation with the required 3-person committee.

Total: 21 Hours

Suggested Electives:

(The following is not a comprehensive list. See your advisor to discuss these and other elective courses for the track.)

- ANTH 6103 - Current Theory in Ethnography
- COMM 5025 - Philosophy of Communication
- COMM 5041 - Theories and Methods in Interpersonal Communication
- COMM 5111 - Theories of Leadership
- COMM 5605 - Rhetorical Theory for Technical Communication
- ENGL 5420 - Film Theory and Criticism
- ENGL 5735 - Philosophy and Literature
- HUMN 5013 - Philosophical Problems in the Social Sciences and the Humanities
- HUMN 5020 - Elements of Social Thought

- HUMN 5550 - Paris 1910: Art, Philosophy and Psychology
- HUMN 5650 - Reflections on Modernity
- HUMN 5720 - Sexuality, Gender and Their Visual Representation
- HUMN 5750 - Philosophical Psychology
- HUMN 5984 - Topics: Interdisciplinary Humanities
- PHIL 5000 - 19th Century Philosophy
- PHIL 5040 - Skeptic and Believer
- PHIL 5101 - Pragmatism: Classical American Philosophy
- PHIL 5220 - Aesthetics and the Philosophy of Art
- PHIL 5242 - Bioethics
- PHIL 5250 - Environmental Ethics
- PHIL 5260 - Philosophy of Law
- PHIL 5300 - Philosophy of Mind
- PHIL 5470 - Concepts of the Soul
- PHIL 5600 - Philosophy of Religion
- PHIL 5655 - Differing Concepts of God
- PHIL 5730 - Philosophy and Literature
- PHIL 5735 - Rationalism
- PHIL 5740 - Empiricism
- PHIL 5750 - Introduction to Phenomenology
- PHIL 5770 - Hegel
- PHIL 5780 - Heidegger
- PHIL 5790 - Nietzsche
- PHIL 5800 - Plato
- PHIL 5810 - Aristotle
- PHIL 5820 - Hume
- PHIL 5830 - Kant
- PHIL 5833 - Existentialism
- PHIL 5900 - John Dewey
- PHIL 5920 - Philosophy of Media and Technology
- PHIL 5933 - Philosophy of Eros
- PSCI 5005 - Political Theory After 9/11
- PSCI 5417 - Seminar: Practical Utopias
- PSCI 5457 - Seminar: American Political Thought
- RLST 5060 - Philosophy of Religion
- SOCY 5014 - Classical Sociological Theory
- WGST 5306 - Survey of Feminist Thought
- WGST 6010 - Methods and Theories of Feminism and Gender Studies

Visual Studies Track

The visual studies track in the Master of Humanities program offers students focused studies in disciplines that apply critical analysis to our visual world, such as art history, museum studies, film studies, new media studies and cultural studies. In a world whose work forces and creative citizenry are focused on the growth and use of visual technologies, visual literacy with sophisticated analytic skills is critical. Successful engagement with an image-driven and

technological society necessitates an understanding of the use and encoding of imagery. The visual studies track provides students with the critical tools for engaging with advanced history, concepts and philosophies especially centered on visual culture, art history, visual communication studies, film studies and new media studies.

Areas of application for such studies include museum and cultural institutions, curatorial and research positions, arts administration, non-profit community-based organizations, advertising, promotion and marketing. The program is likewise relevant for students interested in pursuing doctoral work in related fields. Upon graduation, students will be prepared to enter the job market immediately, or they may use this track as a steppingstone toward a Ph.D. or another advanced degree.

Beyond the required core MH courses (9 hours), a minimum of 21 credit hours in visual studies-related work must be completed. This includes one 3-credit methodology course in visual studies, and 12-15 credit hours of visual studies-related courses; and 3-6 hours of project or thesis work on a visual studies-related topic.

TRACK REQUIREMENTS

Required Core MH Courses

- HUMN 5025 - Methods and Texts of the Humanities
  (Must be taken during the first year of entrance into the program. **Offered fall only.**)
  Mid-Program Seminar, an interdisciplinary seminar which is approved for the student's program by the program director (note that the Mid-Program Seminar **must** have a HUMN prefix).

- HUMN 5924 - Directed Research and Reading in Interdisciplinary Humanities
  (A final seminar that provides background reading, theory and research approaches for students to develop a thesis or project; student must have completed at least 24 hours of course work and must register for the course via a schedule adjustment form with instructor approval. **Offered spring only.**)

Total: 9 Hours

Additional requirements

- ♦ Visual studies methods course, chosen from the following list (substitutions must be approved by the Master of Humanities director or associate director). If not taken for the methods requirement, any of these three may be taken as an elective.
- ENGL 5420 - Film Theory and Criticism
- FINE 5790 - Methods in Art History **(Offered every fall)**
- HUMN 5660 - Visual Arts: Interpretations and Contexts **(Offered every other spring)**

- ♦ Minimum of 9-12 credits of focused course work in visual studies-related courses (see suggested electives below)
- ♦ 3-credit project or 6-credit thesis on a visual studies topic, written in consultation with the required 3-person committee.

Total: 18 Hours

Note: Students interested in pursuing doctoral work in related fields are strongly encouraged to develop foreign language competency in one or two of the following languages: French, German, Spanish or a language related to the preferred area of study.

Suggested Electives

(The following is not a comprehensive list. See your advisor to discuss these and other elective courses for the track.)

- COMM 5230 - Nonverbal Communication
- COMM 5621 - Visual Communication
- COMM 5830 - Visual Principles in Technical Communication
- ENGL 5770 - Topics in English: Film and Literature
- ENGL 6001 - Critical Theory in Literature and Film
- FINE 4990 - Contemporary Art: 1960 to Present
- FINE 5524 - Topics in Art History
- FINE 5610 - Pre-Columbian Art
- FINE 5620 - American Art
- FINE 5632 - History of Digital Media
- FINE 5650 - Nineteenth-Century Art
- FINE 5660 - Twentieth-Century Art
- FINE 5670 - Greek and Roman Art
- FINE 5680 - Art of the Middle Ages
- FINE 5690 - Renaissance Art
- FINE 5710 - Baroque and Rococo Art
- FINE 5730 - Arts of Japan
- FINE 5750 - Arts of China
- FINE 5770 - Art of India and Southeast Asia
- FINE 5990 - Contemporary Art:1960-Present
- HIST 5228 - Western Art and Architecture
- HIST 5231 - History in Museums
- HIST 5232 - Historic Preservation
- HUMN 5220 - Aesthetics and the Philosophy of Art
- HUMN 5550 - Paris 1910: Art, Philosophy and Psychology
- HUMN 5720 - Sexuality, Gender and Their Visual Representation
- PHIL 5220 - Aesthetics and the Philosophy of Art
- PHIL 5920 - Philosophy of Media and Technology

Information and Learning Technologies MA

Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/education/alps

Faculty

Information about Information ILT faculty is available online at www.ucdenver.edu/education/alps.

Master's Degree

The ILT master's program helps people design and use various resources and technologies for learning. Applying sound principles of instructional design, graduates can integrate a variety of learning technologies into their teaching including multimedia presentations, social-networking tools and tools for authoring, production, assessment and participation. ILT students learn to implement learning technologies in specific professional settings—either K–12 schools or adult learning settings such higher education or corporate environments.

Students choose tracks according to their professional goals:

- The instructional design track prepares students to work in adult learning settings such as business, higher education, health care, nonprofits or government.
- The eLearning track prepares educators to develop online courses and learning materials and to teach and facilitate learning in those eLearning environments.
- The K–12 teaching track helps teachers integrate technologies into schools and classrooms with a focus on improving teaching practices. Teachers may earn a state endorsement in instructional technology.

Once admitted, students begin a plan of study that typically takes about 1-1/2 to 3 years to complete while working full-time. Some students are organized into a cohort to complete courses together at a fixed sequence. Other students select courses at a more flexible pace. Consult the ILT website for more information about specific plans of study, course offerings and expectations of cohort groups.

Admission Requirements

Admission decisions are based on undergraduate and graduate grades, external letters of recommendation, writing samples and fit with the program as reflected in a letter of intent. In some cases, results of a test (GRE) are also required. Prospective students should consult the ILT program website for complete admission procedures and requirements.

Professional Expectations

All students in the ILT program are expected to show a strong commitment to the program and to maintain high academic, professional and ethical standards. Inappropriate or unprofessional conduct is cause for discipline or dismissal from the program.

Technology Expectations

The ILT program uses computers and related technologies either as a focus or a tool for learning. Students are expected to use their campus e-mail account and check it frequently. In addition to on-campus facilities, ILT students need convenient access to Internet-connected computers off campus, either at their place of work or at home. In addition to textbooks, software purchases may be required or recommended for specific classes.

Program Requirements

Instructional Design and Adult Learning

Students complete 30 graduate semester hours of course work from a set of core courses and approved electives within and outside the ILT program. The plan of study is nationally accredited by NCATE and AECT and is consistent with standards for instructional designers. Students should consult the ILT program website or their advisor for complete program requirements.

eLearning Design and Implementation

Students may complete a 30 semester hours online master's degree with an eLearning emphasis. The focus of this master's track is on the planning, design, development, delivery, facilitation and evaluation of online learning resources and programs. A certificate is also available in this area, constituting the first-year requirements of the master's program. Students should consult the ILT program website or their advisor for complete program requirements.

K-12 Teaching

Students may select a master's program and/or an endorsement program in instructional technology within the K-12 Teaching track. For the full master of arts degree, students complete 30 graduate semester hours of course work consisting of a core set of courses and approved electives. The plan of study is accredited by NCATE and AECT and is designed in line with standards of the Colorado Department of Education. Students may also complete an endorsement-only program in instructional technology consisting of 24 graduate semester hours.

Comprehensive Examination for all ILT Students

The comprehensive exam consists of a professional portfolio where in students demonstrate program competencies through work products and related accomplishments. The portfolio is created throughout the student's program and submitted for faculty review the final semester. For more information, see the ILT website.

Information Systems MS

Program Director: Jahangir Karimi
Telephone: 303-315-8430
E-mail: Jahangir.Karimi@ucdenver.edu
Web site: http://business.ucdenver.edu/Disciplines/InfoSystems/InfoSystemsMS.htm

Faculty

Professors:
James Gerlach, PhD, Purdue University
Jahangir Karimi, PhD, University of Arizona

Associate Professors:
Dawn Gregg, PhD, Arizona State University
Michael Mannino, PhD, University of Arizona
Ronald Ramirez, PhD, University of California-Irvine
Judy Scott, PhD, University of California-Irvine
Steven Walczak, PhD, University of Florida

Assistant Professors:
Zhiping Walter, PhD, University of Rochester

Senior Instructors:
Eric Thompson, MS, University of Colorado

Instructor:
Linda Fried, JD/LLM, University of Miami

The Master of Science in Information Systems (MSIS) program at the Business School meets industry needs by providing specializations. The program prepares students for career paths in systems development and management services, enterprise application services, business intelligence, health information technology, information security audit and control, business consulting and development and consumer products and services. Whether students aim to be systems analysts or designers, software engineers, applications programmers, database administrators, Web developers, systems integrators, project managers, LAN administrators or application and technology consultants, the MSIS program provides the necessary knowledge and skills. This entire MS in Information Systems can be completed online.

The MSIS program offers a wide choice of courses. The course work consists of common body of knowledge courses plus 30 semester hours, which includes a choice of a specialization. Each specialization includes two required courses, 6 courses from a list specific to your chosen specialization and two elective courses. Candidates for the MS degree are not required to take a comprehensive examination or to complete a thesis in the major field.

A. Common Body of Knowledge (CBK)

Waivers of CBK courses are possible. The entire CBK may be waived if the student has completed an undergraduate business degree or MBA from an AACSB-accredited college or university within the last 10 years. Specific courses may be waived based on a case-by-case evaluation of undergraduate or graduate course work in business completed at a regionally accredited college or university within the last 10 years.

Four of the following courses are required if you do not meet the above waiver policy.

- BUSN 6530 - Data Analysis for Managers
- BUSN 6550 - Analyzing and Interpreting Accounting Information
- BUSN 6560 - Marketing Management
- BUSN 6630 - Management of Operations
- BUSN 6640 - Financial Management

Total: 12 Hours for Common Body of Knowledge (CBK)

B. Information Systems Specializations

The five specializations that accompany the MS in Information Systems are designed to provide the fundamental knowledge necessary for a career as an IS professional. Up to 9 semester hours may be transferred from an AACSB international accredited graduate school and applied to the information systems specializations upon approval. The IS specializations provide students with a set of related courses necessary to acquire skills and expertise within a specific area in the development, management and use of information technology applications. Students are required to choose one specialization upon admission to the MSIS.

Accounting and Information Systems Audit and Control (AISAAC) Specialization

Recently, new regulatory environments have required companies to provide better documentation of their accounting and IT systems to improve the management and disclosure of their business processes for better financial and regulatory controls. Accounting and IT professionals have significant roles in audit and control activities, since they control the systems that monitor and report on finance, planning and operations. The courses within this specialization cover business-process management and financial controls; the emerging trends and practices in privacy and security; the strategies for integrating governance and compliance; and the IT organization's financial and business intelligence services. These courses will focus on how to leverage the existing IT infrastructure to establish quality in financial and internal audit processes and address the regulatory issues associated with reporting, consolidation and document/content management more effectively and completely.

Prerequisite

- ACCT 6030 - Financial Accounting

Required Courses: (24 hours)

- ACCT 6020 - Auditing Theory
- ISMG 6040 - Business Process Management
- ISMG 6060 - Analysis, Modeling and Design
- ISMG 6080 - Database Management Systems
- ISMG 6180 - Information Systems Management and Strategy
- ISMG 6220 - Business Intelligence Systems
- ISMG 6420 - Global Enterprise Systems
  Either
- ACCT 6510 - Accounting and Information Systems Processes and Controls
  OR
- ISMG 6510 - Accounting and Information Systems Processes and Controls

AISAAC Electives (6 hours)

Select 2 of the following courses:

- ACCT 6620 - Advanced Auditing
- ACCT 6470 - Internal Auditing
- ACCT 6340 - Financial Statement Analysis
- ACCT 6360 - Fraud Examination
- ISMG 6430 - Information Systems Security and Privacy
- ISMG 6450 - IT Project Management

Business Intelligence Specialization

Business Intelligence (BI) systems combine operational data with analytical tools to present complex and competitive information to planners and decision makers. The objective is to improve the timeliness and quality of inputs to the decision process. BI is used to understand the capabilities available in the firm; the state-of-the-art, trends, and future directions in the markets, the technologies, and the regulatory environment in which the firm competes; and the actions of competitors and the implications of these actions. With this specialization, you get the necessary skills and knowledge in real-time data warehousing, data visualization, data mining, online analytical processing, customer relationships management, dashboards and scorecards, corporate performance management, expert and advanced intelligent systems, and hands-on experience with leading BI tools.

Required Courses: (6 hours)

- ISMG 6080 - Database Management Systems
- ISMG 6220 - Business Intelligence Systems

BI Electives: (18 hours)

Select 6 of the following courses:

- DSCI 6828 - Data Mining: Predictive Modeling
- ISMG 6180 - Information Systems Management and Strategy
- ISMG 6420 - Global Enterprise Systems
- ISMG 6430 - Information Systems Security and Privacy
- ISMG 6480 - Data Warehouse and Administration
- ISMG 6810 - Business Intelligence in Healthcare **OR**
- ISMG 6820 - Business Intelligence and Financial Modeling
- MKTG 6090 - Customer Relationship Management

Enterprise Technology Management (ETM) Specialization

This specialization focuses on information technology as the prime driver of business strategy. It focuses on the strategic, technological, financial and organizational issues involved with the effective management of information technology within an enterprise. The courses in this specialization cover the emerging technologies and the evolving roles and importance of IT in modern organizations; IT-enabled organizational processes and knowledge management; methods to develop, acquire and implement information systems; implementing and managing complex IT projects; security and privacy issues associated with IT.

Required Courses: (6 hours)

- ISMG 6040 - Business Process Management
- ISMG 6180 - Information Systems Management and Strategy

ETM Electives: (18 hours)

Select 6 of the following courses:

- ISMG 6080 - Database Management Systems
- ISMG 6120 - Internet and Mobile Technologies
- ISMG 6220 - Business Intelligence Systems
- ISMG 6420 - Global Enterprise Systems
- ISMG 6430 - Information Systems Security and Privacy
- ISMG 6450 - IT Project Management
- ISMG 6460 - Emerging Technologies

eHealth and Healthcare Service Entrepreneurship Specialization

Recently, the health care industry has shifted its focus from using proprietary and expensive IT solutions to more innovative IT applications in electronic health records (EHR) and other health information technology (HIT) innovations for sharing information effectively to help manage health care crisis. The courses within this specialization cover the evolving roles and importance

of IT in the health care industry; the innovative IT applications for delivering health care with reduced cost and increased quality; the management of health care using effective IT systems; and the security and privacy issues associated with health information. These courses will focus on how IT-enabled health care organizations can integrate information from various resources in order to deliver innovative IT solutions to meet unique requirements of health care industry.

Common Body of Knowledge (CBK) 12 hours

Select 4 of the following courses:

- BUSN 6530 - Data Analysis for Managers
- BUSN 6550 - Analyzing and Interpreting Accounting Information
- BUSN 6560 - Marketing Management
- BUSN 6630 - Management of Operations
- BUSN 6640 - Financial Management

Information Technology Required Courses: (12 hours)

- ISMG 6060 - Analysis, Modeling and Design
- ISMG 6080 - Database Management Systems
- ISMG 6120 - Internet and Mobile Technologies
- ISMG 6460 - Emerging Technologies

Bio-innovation and Entrepreneurship Electives: (12 hours)

Select 4 of the following courses:

- ENTP 6801 - Building Biotechnology
- ENTP 6802 - Regulatory Environment of Life Science Innovation
- ENTP 6824 - Entrepreneurial Financial Management
- ENTP 6848 - Leadership in New Ventures
- ENTP 6854 - Design & Manage Entrepreneurial Organizations

Health and Information Technology Electives: (6 hours)

Select 2 of the following courses:

- HLTH 6071 - Introduction To Health Information Technology
- HLTH 6072 - Fundamentals of Health Information Technology Management
- ISMG 6020 - .Net Programming Fundamentals
- ISMG 6430 - Information Systems Security and Privacy
- ISMG 6810 - Business Intelligence in Healthcare

Enterprise Risk Management (ERM) Specialization

ERM Required Courses: (9 hours)

- ISMG 6180 - Information Systems Management and Strategy
- FNCE 6809 - Principles of Risk and Insurance
- FNCE 6909 - Corporate Risk Management

ERM Electives: (15 hours)

Select 5 of the following courses:

- FNCE 6129 - Practical Enterprise Risk Management
- ISMG 6420 - Global Enterprise Systems
- ISMG 6430 - Information Systems Security and Privacy
- ISMG 6450 - IT Project Management
- ISMG 6820 - Business Intelligence and Financial Modeling
- ISMG 6830 - IT Governance and Service Management

Information Systems/Risk Management Elective (3 hours)

Select any course numbered 6000 or higher with an ISMG or FNCE prefix or an internship.

Free Elective: (3 hours)

Select any course numbered 6800 or higher with BUSN prefix or any course numbered 6000 or higher with a prefix of ACCT, DSCI, ENTP, FNCE, HLTH, INTB, ISMG, MGMT, or MKTG.

Technology Innovation and Entrepreneurship (TIE) Specialization

TIE Required Courses: (12 hours)

- ENTP 6842 - New Concept Development
- ENTP 6020 - The Business Plan
- ENTP 6021 - Corporate Entrepreneurship
- ISMG 6460 - Emerging Technologies

TIE/Information Systems Electives: (18 hours)

Select 6 courses from the two elective lists below for a total of 18 hours.

Select 2 or 3 of the following Entrepreneurship electives:

- ENTP 6822 - Legal and Ethical Issues of Entrepreneurship
- ENTP 6824 - Entrepreneurial Financial Management
- ENTP 6826 - International Entrepreneurship
- ENTP 6848 - Leadership in New Ventures

- ENTP 6854 - Design & Manage Entrepreneurial Organizations
- ENTP 6862 - Strategic Web Development

If 2 ENTP courses were selected above, select 4 of the following Information Systems electives; if 3 ENTP courses were selected above, select 3 of the following Information Systems electives:

- ISMG 6060 - Analysis, Modeling and Design
- ISMG 6080 - Database Management Systems
- ISMG 6120 - Internet and Mobile Technologies
- ISMG 6220 - Business Intelligence Systems
- ISMG 6240 - Website Development Practice and Technologies
- ISMG 6450 - IT Project Management

Web and Mobile Computing Specialization

This specialization focuses on building and managing large systems using platforms for website development, mobile and wireless applications, and web services and service oriented architectures. The courses provide expertise in .Net programming, business process management, internet and mobile technologies, website development technologies, data warehousing and administration, and service oriented architecture. Project management coursework enables graduates to successfully handle highly, complex systems development projects in the business world.

Required Courses: (6 hours)

- ISMG 6060 - Analysis, Modeling and Design
- ISMG 6080 - Database Management Systems

WEB Electives: (18 hours)

Select 6 of the following courses:

- ISMG 6020 - .Net Programming Fundamentals
- ISMG 6040 - Business Process Management
- ISMG 6120 - Internet and Mobile Technologies
- ISMG 6240 - Website Development Practice and Technologies
- ISMG 6280 - Service Oriented Architecture
- ISMG 6450 - IT Project Management
- ISMG 6480 - Data Warehouse and Administration

C. Electives

Students fulfill an additional 6 semester hours by completing the following:

Note: Students pursuing the Accounting and Information Systems Audit and Control, Enterprise Risk Management, or Technology Innovation and Entrepreneurship specializations, do not complete the electives below. Students in all of the other specializations will complete the following electives.

- an elective course from any of the ISMG graduate courses OR an internship **AND**
- a free elective selected from any graduate course offered by the Business School, except BUSN courses numbered below 6800.

Candidates for the MS degree are not required to take a comprehensive examination or to complete a thesis in the major field.

Total: 30 hours for MS in Information Systems

Geographic Information Systems (GIS) Option

The Geographic Information Systems option expands upon system development skills through the understanding of geographic information systems workflows, analysis processes, and data models. This option for the Web and Mobile Computing specialization and Business Intelligence specialization addresses how map representations can be abstracted in geo-databases to develop intelligent GIS systems. Learn how GIS can improve efficiencies, decision making, planning, geographic accountability, science-based plans and communication. The GIS option is offered in conjunction with the College of Engineering and Applied Science and a certificate in GIS is awarded by the College of Engineering and Applied Science.

Students must complete all requirements for the MS in Information Systems, as well as the requirements below.

- CVEN 5381 - Introduction to Geographic Information Systems

Select 3 of the following courses: (9 hours)

- CVEN 5382 - GIS Spatial Database Development
- CVEN 5383 - GIS Analysis -- Theory and Practice
- CVEN 5384 - GIS Management and Policies
- CVEN 5385 - GIS Relational Database Systems
- CVEN 5386 - GIS Laboratory

Total: 12 Hours

- GIS courses are offered online and can be completed concurrently with the Information Systems courses.
- Students will be able to register for the classes on the web. There are no special registration requirements.
- Students need to notify the graduate advising office at the Business School, 303-315-8200, prior to graduation if they are planning to complete the GIS option. Students also need to indicate the completion of the coursework when they submit their application for diploma card.

Integrated Sciences MIS

► Graduate School Rules apply to this program

Degree Requirements

Minimum Hours

Students must complete a minimum of 30 semester-hours, of which 3-4 must be project hours (MINS 5960) or 4-6 must be thesis hours (MINS 5950). In accordance with Graduate School rules, a minimum of 24 semester-hours must be at the graduate level (5000+). Up to six (6) semester-hours may be taken at the 4000 level, provided the courses are outside of the disciplines of biology, chemistry, computer science, environmental sciences, geology, mathematics or physics.

Breadth Requirement

Students are required to take classes in a minimum of two (2) areas and a maximum of three (3) areas within the disciplines of biology, chemistry, computer science, environmental sciences, geology, mathematics or physics. With approval, students may take a maximum of six (6) semester-hours at the 4000+ level in one other school or college (any such classes at the 4000 level would count toward the six semester-hour limit above). Classes in computer science (CSCI) are outside the College of Liberal Arts and Sciences, but are considered as part of the program; students may take a maximum of twelve (12) semester-hours in computer science at the graduate level (5000+). All classes counted toward the degree must be related to the student's stated program goal and receive prior approval for inclusion in the program of study by the program director. The student is responsible for insuring that all prerequisite requirements for the classes they take have been met, even if the prerequisite courses do not count toward the degree.

Depth Requirement

The student must designate a primary area within the disciplines of biology, chemistry, computer science, environmental sciences, geology, mathematics or physics. An interdisciplinary concentration (including but not limited to fields such as biochemistry, biophysics, or computational biology) may also be considered. The student must complete a minimum of nine semester hours in the chosen area of concentration.

Project or Thesis Requirement

All students must conduct independent research that results in either a project or a thesis, which is presented to their examination committee in written form and is subject to an oral defense.

Graduate Advisor and Examination Committee

All candidates for the MIS degree must select a faculty advisor and two other faculty members to serve with the advisor as the candidate's graduate examination committee. The committee members must have graduate standing at the University of Colorado Denver and be approved by the program director. The name of the faculty advisor must be submitted to the MIS program director no later than two semesters following full admission to the program.

DEGREE TOTAL: 30 HOURS

International Business MS

Advisor: Manuel G. Serapio, Jr.
Telephone: 303-315-8436
E-mail: Manuel.Serapio@ucdenver.edu

Faculty

Professors:
Wayne Cascio, PhD, University of Rochester
Lawrence Cunningham, DBA, University of Tennessee
John Ruhnka, JD/LLM, Yale School of Law/Cambridge University

Associate Professors:
L. Ann Martin, PhD, University of Minnesota
Kang RaeCho, PhD, University of Washington
Manuel Serapio, PhD, University of Illinois

Senior Instructors:
John Byrd, PhD, University of Oregon
John Turner, PhD, St. Louis University

Instructors:
Chen Ji, MS, University of Colorado
Mary Lee Stansifer, PhD, Northwestern University
Merrily Kautt, PhD-ABD, University of Colorado Denver

The Master of Science in International Business prepares individuals for careers in international business or with international organizations.

The MS program in International Business requires the completion of the following:

Prerequisites (3 hours)

Complete 1 of the following courses: BUSN 6520, BUSN 6550, BUSN 6560, or BUSN 6640. (*Note: BUSN 6550 is an enforced prerequisite for BUSN 6640)* Prerequisite choices should be based on course choices in the International Specialization and the International Core courses below. *(Advisors will evaluate transcripts for possible prerequisite waivers)*

Students who choose to take classes in the international specializations below that require prerequisites not previously met, may be required to take additional courses. Completion of prerequisite courses is in addition to the 30 hour MS in International Business. Meeting prerequisites is the responsibility of the student.

A. International Business Core (6 hours)

- INTB 6000 - Introduction to International Business
- INTB 6200 - International Business Policy

B. International Functional Core (6 hours)

Complete 1 course from the International Marketing/Managment Specialization list below **and** complete 1 course from the International Finance/Accounting Specialization list below.

C. International Specialization (9 hours)

Students must complete one of the specializations below: (two specializations may not be completed)

International Marketing/Management Specialization

Depending on course selection below, one or both of the following prerequisites may be required.

- BUSN 6520 - Managing Individuals and Teams
- BUSN 6560 - Marketing Management

Select 3 of the following courses:

- ENTP 6826 - International Entrepreneurship
- INTB 6020 - Cross-Cultural Management
- INTB 6022 - International Business Negotiations
- INTB 6024 - International Trade Finance and Management
- INTB 6026 - International Marketing
- INTB 6040 - Managing Global Talent
- INTB 6060 - The Legal Aspects of International Business
- INTB 6082 - Marketing in Emerging Markets
- INTB 6094 - Marketing Issues in the Chinese Environment
- INTB 6800 - Special Topics in International Business

International Finance/Accounting Specialization

Depending on course selection below, one or more of the following prerequisites may be required.

- ACCT 6140 - Tax Planning for Managers
- BUSN 6530 - Data Analysis for Managers
- BUSN 6550 - Analyzing and Interpreting Accounting Information
- BUSN 6620 - Applied Economics for Managers
- BUSN 6640 - Financial Management

Select 3 of the following courses:

- ACCT 6430 - International Taxation
- INTB 6024 - International Trade Finance and Management
- INTB 6370 - International Accounting
- INTB 6372 - International Financial Management
- INTB 6411 - International Corporate Governance
- INTB 6460 - Emerging Market Finance

D. International Elective (6 hours)

Complete any course numbered 6000 or higher with an INTB prefix **OR** any graduate level business course that is cross-listed with an INTB prefix including travel study courses. May also select from the following: ACCT 6430 International Taxation, ENTP 6826 International Entrepreneurship, or ISMG 6420 Global Enterprise Systems.

E. Free Elective (3 hours)

Complete any graduate business BUSN course numbered 6800 or higher **OR** any graduate business course numbered 6000 or higher with a prefix of ACCT, DSCI, ENTP, FNCE, INTB, ISMG, MGMT, MKTG. Note: student who require additional BUSN courses as prerequisites may petition to count one BUSN prerequisite course as a free elective. Please contact grad.advising@ucdenver.edu for the petition form.

Total 30 hours (plus any needed prerequisites)

Landscape Architecture MLA

Prerequisites

Students are expected to have achieved a basic level of computer literacy and are required to have their own computer.

Program Requirements

The landscape architecture program offers professional and advanced professional graduate degree curricula leading to the degree master of landscape architecture (MLA).

- The first-professional degree program, requiring a six-semester sequence of course work totaling 90 semester hours, is fully accredited by the Landscape Architecture Accreditation Board (LAAB) and recognized by the Council of Educators in Landscape Architecture (CELA).
- Students completing a bachelor of environmental design degree at another institution may be given advanced standing in the three-year program. Advanced standing will be based on prior academic accomplishment.
- The fully accredited advanced professional degree program is for qualified students who have already earned a first professional degree in landscape architecture (BLA) or related discipline. It requires a minimum of 48 semester hours. Advanced standing will be based on prior academic accomplishment.

Course Sequence (90-semester-hour)

Course Sequence

(90-semester-hour MLA for students without a professional degree in landscape architecture or related profession)

The curriculum consists of core and elective course work. Core courses are grouped into five components:

	Semester hours
Design Studios	36
History and Theory	12
Site Works	12
Media	6
Critical Practice	6
Total core courses	72
Electives	18
Total courses	90

Typical 90-semester-hour program of study in required courses for the first professional MLA degree

First Year

Fall

- LDAR 5501 - Landscape Architecture Design Studio 1
- LDAR 5521 - History of Landscape Architecture
- LDAR 5572 - Landscape Ecology
- LDAR 6686 - Special Topics: Landscape Architecture

Total: 15 Hours

Spring

- LDAR 5502 - Landscape Architecture Design Studio 2
- LDAR 5532 - Landform Manipulation
- LDAR 6632 - Site Planning - Environment and Society
- LDAR 6641 - Computer Applications in Landscape Architecture

Total: 15 Hours

Second Year

Fall

- LDAR 5503 - Landscape Architecture Design Studio 3
- LDAR 6631 - Landscape Construction Materials and Methods
- LDAR 6670 - Plants in Design
- LDAR 6949 - Research Tools & Methods

Total: 15 Hours

Spring

- LDAR 6604 - Landscape Architecture Design Studio 4
- LDAR 6605 - Landscape Architecture Design Studio 5
- LDAR 6620 - Landscape Architecture Theory and Criticism
  Two electives. **Semester hours**: 6

Total: 15 Hours

Third Year

Fall

- LDAR 6606 - Landscape Architecture Design Studio 6
  Three Electives. **Semester hours**: 9

Total: 15 Hours

Spring

- LDAR 6607 - Landscape Architecture Design Studio 7
- LDAR 6608 - Landscape Architecture Design Studio 8
- LDAR 6750 - Professional Practice
  Two Electives. **Semester hours**: 6

Total: 15 Hours

Course Sequence (48-semester-hour)

(48-semester-hour MLA for students with a professional degree in landscape architecture or related disciplines)

This route typically requires 48 semester hours and two years of full-time study. The core curriculum consists of two groups:

	Semester Hours
Design	24
History and Theory	12
Total core courses	36
Electives	12
Total courses	48

The department chair will advise each student engaged in this program of study.

Thesis

The graduate thesis in landscape architecture provides an opportunity for students to conduct independent research and design investigations that demonstrate their capacity for rigorous original thinking. The thesis is not required for graduation and not all students are approved to write a thesis. Choosing to pursue a thesis project constitutes a significant commitment to the endeavor; the topic must be chosen with care and thoughtfully and critically developed. Topics can explore material that has been previously unstudied, reinterpret existing material in a new light, or engage research and design practices in ways that strengthen and define the final

project. For all theses, the research and products must meet the highest standards of academic excellence and contribute significantly to the discipline and/or profession.

Pursuing a thesis requires students to enroll in a three-course sequence for a maximum total of 12 semester hours. Students are required to formulate their research proposals two full semesters prior to their enrollment for the 6-semester-hour thesis, typically taken in lieu of the final studio. To proceed through the sequence, students must have completed and passed the research tools and methods class (LDAR 6940) and have secured departmental approval of the thesis proposal. The completion of the thesis is dependent on acceptance of the student's work by the faculty member acting as the thesis chair and by the committee. For work to be accepted it must meet the standards established by the University of Colorado Denver for graduate thesis projects.

Dual Degree Options

Students may enroll in a dual degree program with architecture (MArch) or urban and regional planning (MURP), or with business (MBA).

They also may be selected through an application process to participate in a dual degree MLA with Tongji University in Shanghai, China. Read more about this program on the department website.

Linguistically Diverse Education, MA Curriculum and Instruction

Linguistically Diverse Education

Requirements for LDE Program

(Degree/Endorsement or Certificates - TESOL, CRUE, TCLD)

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/lde

Faculty

Information about faculty in this program is available at www.ucdenver.edu/education/lde. The faculty of linguistically diverse education (LDE) believe that effective teaching requires an awareness of and the ability to respond to individual differences. LDE faculty also emphasize the importance of teachers as scholars and reflective practitioners. In particular, teachers must understand how linguistic and cultural diversity affect their teaching. Two themes run throughout all program offerings. The first concerns the importance of recognizing a variety of literacies—"home" literacies, school literacy, "mainstream" literacy, first and second language literacies—and to develop teaching practices that utilize an understanding of the complexity of literacy development across language contexts. The second theme involves the meaningful use of language and literacy to improve the quality of one's life. As an approach to teaching, this theme emphasizes the creation of diverse, rich environments in which learners experience oral and written language as part of authentic tasks, and where concern for the cultural and linguistic heritage of the students is evident.

Program Options

The LDE program offers options leading to the following:

- a Master of Arts in Curriculum and Instruction
- the Colorado Endorsement for Culturally and Linguistically Diverse Education
- a Teaching English to Speakers of Other Languages (TESOL) certificate
- a Culturally Responsive Urban Education (CRUE) certificate
- a Teaching for Cultural and Linguistic Diversity (TCLD) certificate

The program is intended for:

- novice teachers who have completed their Colorado teaching credentials in CU Denver's graduate teacher education licensure program and are enrolled in the MA in curriculum and instruction with an emphasis in LDE (see 27 semester-hour option)
- veteran elementary and secondary teachers returning to graduate studies for the master's degree (36 semester hours)
- veteran elementary and secondary teachers returning to acquire Colorado endorsement credentials (24 semester hours)

- individuals interested in teaching English abroad (TESOL: 15 semester hours)
- elementary and secondary teachers who desire preparation in better meeting the needs of culturally diverse learners (CRUE: 9 semester hours)
- veteran elementary and secondary teachers returning to graduate studies for a certificate to aid them in helping their English language learners succeed (TCLD: 9 semester hours)
- individuals interested in teaching adults (MA: 36 semester hours)

The MA is a field-based professional development program involving university faculty and practicing LDE instructors in public school and intensive English settings. Courses, laboratories and practica emphasize scholarly approaches to complex problems of practice and feature interactive, collaborative and practical approaches to working with English language learners.

We advocate a sociocultural approach to issues of language and learning, acknowledging the legitimacy of linguistic and cultural differences and recognizing that academic settings represent important socializing forces in students' lives. Because of this, we emphasize the "whole learner" in our teaching and in teacher education and teacher development, understanding that individuals do not merely add a language to their repertoire of communication but make fundamental identity adjustments as they progress in their studies. For this reason, all our course work, laboratories and practica experiences are field-based, putting our program participants in contact with veteran teachers and English language learners. We draw heavily on recent scholarship in collaborative approaches to school-university partnerships and systemic school change in developing classroom methods and materials, curricula and teacher development experiences.

The MA program also provides a foundation in teaching English in a variety of contexts in the United States and abroad. Teachers who work in LDE programs or in other content areas (such as art, language arts, math, music, science, social studies or technology), but who wish to integrate LDE principles and strategies into their instruction for their English language learners, will find the MA program relevant to their interests and goals.

Course work includes language teaching methodology, language acquisition, linguistic analysis of English, multicultural foundations, assessment, literacy and other areas. This program has been developed as an advanced course of study for practicing teachers or individuals with some teaching experience.

Applicants who are new to teaching, and who wish to teach in U.S. K–12 public school settings, should inquire about the teacher education licensure program. Applicants who are new to teaching, but who do not need a teaching license (certification) because they do not wish to teach in U.S. public schools, may consider the TESOL certificate to gain initial teaching experiences before applying for the MA.

Program Requirements and Courses

To complete the LDE program and earn a master's degree and/or endorsement, or to earn a TESOL certificate, students must complete the appropriate course work as outlined in the table below.

Requirements for LDE Program (Degree/Endorsement or TESOL Certificate)					
Course	**MA without CDE Endorsement in LDE**	**MA and CDE Endorsement in CLDE**	**CDE Endorsement in CLDE Only**	**MA and CDE Endorsement in CLDE** *(when added to CU Denver's graduate teacher education licensure program)*	**TESOL Certificate**
CLDE 5010 - Foundations of Language, Literacy and Culture	Required	Required	Required	Required	
One course from culture options: CLDE 5140 - Multicultural Education CLDE 5150 - Culture of the Classroom CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn	Select One	Select One	Select One	Select One	
CLDE 5070 - Linguistic Analysis of English: Implications for Teaching	Required	Required	Required	Required	Required
CLDE 5030 - Language & Literacy	Required	Required	Required	Required	Required

Acquisition Div Lrn					
CLDE 5820 - Techniques in Teaching English as a Second Language	Required	Required	Required	Required	Required
CLDE 5050 - Assessment & Advocacy for Diverse Learners	Required	Required	Required	Required	Required
One course from field-based teaching options: LCRT 5020 - Workshop in Literacy and Language Teaching CLDE 5825 - Methods and Materials of Language Teaching CLDE 5826 - Language Teaching Lab LCRT 5730 - Language and Literacy Across the Curriculum LCRT 5770 - Effective Literacy Instruction for Second Language Learners	5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	5826
CLDE 5035 - Language and Literacy: Acquisition,	Required	Required			

Processes, and Cognition, Part II					
CLDE 6912 - Seminar and Practicum in Literacy and Language, ESL and Bilingual Education	Required	Required	Required	Required	
One course from research and evaluation methodology: RSEM 5050 - Classroom Assessment RSEM 5080 - Research In Schools	Select One	Select One		Select One	
One course from educational psychology: EPSY 5110 - Human Learning EPSY 5220 - Adult Learning and Education	Select One	Select One			
Graduate-level University of Colorado elective	Select One	Select One			
Cumulative online portfolio	Required	Required	Required	Required	
LDE PLACE Exam (not required for students beginning Spring 2013 or later)		Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	

Total Semester Hours	36	36	24	27	15

Culturally Responsive Urban Education (CRUE) Certificate Requirements

Those considering the CRUE certificate must complete the following:

CLDE 5170 - Race, Class and Culture in Public Schools Semester Hours: 3

CLDE 5180 - Working with Communities and Families Semester Hours: 3

CLDE 5190 - Culturally Responsive Pedagogy and Practices Semester Hours: 3

Total: 9 Hours

This certificate is only offered as a cohort, through our district partnerships. Additional information about the CRUE certificate can be found at www.cruecenter.org/certificate.php.

Teaching for Cultural and Linguistic Diversity (TCLD) Certificate

The TCLD Certificate (formerly known as Content Instruction for English Learners (CIEL) is a graduate certificate providing a foundation in teaching content to students whose first language is other than English. The program is designed for content-area teachers (math, science, social studies, etc.) who have English language learners in their classes. This certificate is also valuable to content area coaches or administrators who provide support for teachers with English language learners. The certificate is appropriate for public school and community college personnel.

The certificate totals nine credit hours with the specialty area in linguistically diverse education (LDE). All courses are three graduate credit hours and may be applied directly toward a full master's degree in Curriculum and Instruction with an emphasis in LDE while also fulfilling the requirements toward a Colorado Culturally and Linguistically Diverse Education Endorsement. Courses may also be applied toward the Teaching English to Speakers of Other Languages (TESOL) Certificate. Additional courses and applications are required for these programs.

The certificate may be completed in one year. Those pursuing the TCLD certificate must complete the following:

CLDE 5030 - Language & Literacy Acquisition Div Lrn

CLDE 5820 - Techniques in Teaching English as a Second Language

LCRT 5770 - Effective Literacy Instruction for Second Language Learners

The TCLD certificate is being offered only through our district partnerships.

Cumulative Portfolio of Performance Based Assessments (PBAS)

The portfolio is required for the CLDE endorsement, counts as the comprehensive exam for the master's degree and permits you to document your development over the course of your program. Portfolios are reviewed by LDE faculty members. The portfolio process is reviewed in every class as each of the PBAs is completed in the classes, helping students to update their portfolios throughout the program. For more portfolio guidelines, visit the website at http://www.ucdenver.edu/education, click on "Current Students" and select Linguistically Diverse Education from the "Program specific resources" drop-down menu.

PLACE Exam for Linguistically Diverse Education Endorsement

To add the endorsement to their teaching license, students beginning the program prior to Spring 2013 must pass the PLACE (Program for Licensing Assessments for Colorado Educators) exam for linguistically diverse education, secure and submit the appropriate paperwork from the Colorado Department of Education, and pay fees required for the PLACE and for the endorsement paperwork. Information about PLACE is online at www.place.nesinc.com. Students beginning Spring 2013 or later will be eligible for the Culturally and Linguistically Diverse Education Endorsement and will not be required to pass the PLACE exam to receive the CLDE endorsement.

Course Scheduling

During the fall and spring semesters, most university courses are offered in the late afternoon and evening and meet for three hours once a week over a 16-week semester. Some alternative course schedules are available, such as meeting on five Friday-evening/all-day Saturday combinations. In the summer semester, three-to eight-week sessions are offered, and courses may be in the morning, afternoon or evening.

Planning

For practicing full-time teachers, we recommend taking one course each fall and spring semester and up to two courses each summer. Students may simultaneously complete requirements for the MA and the endorsement for culturally and linguistically diverse education (some courses are offered only once per year.)

Active Status

Students must complete their programs within seven years, maintaining a GPA of 3.0. Students typically take four courses each calendar year. Failure to enroll over three contiguous semesters will result in a requirement to submit readmission materials.

Management and Organization MS

Program Director: Kenneth L. Bettenhausen
Telephone: 303-315-8425
E-mail: Kenneth.Bettenhausen@ucdenver.edu

Faculty

Professors:
Heidi Boerstler, PhD/JD, Yale University/University of Denver
Wayne Cascio, PhD, University of Rochester
C. Marlena Fiol, PhD, University of Illinois-Urbana-Champaign
Edward O'Connor, PhD, University of Akron
John Ruhnka, JD/LLM, Yale School of Law/Cambridge University

Associate Professors:
Kenneth Bettenhausen, PhD, University of Illinois-Urbana-Champaign
Blair Gifford, PhD, University of Chicago
Sarah Koovor-Misra, PhD, University of Southern California

Assistant Professors:

David Chandler, PhD, University of Texas-Austin
Vinit Desai, PhD, University of California at Berkeley
Stephanie Johnson, PhD, Rice University
Traci Sitzmann, PhD, University of Tulsa

Instructors:
Linda Fried, JD/LLM, University of Miami
Barry McConnell, MBA, University of Colorado
Jeffrey Nystrom, MS, University of Colorado
David Ruderman, MBA, University of Colorado
Ira Selkowitz, JD, University of Denver
Francisco Conejo, PhD, University of Otago New Zealand

The MS Management program prepares students for significant managerial responsibilities in the private and public sectors. Core course requirements provide students with an advanced understanding of how to manage interpersonal dynamics, effectively design organizations, implement planned change and organizational transformations and develop human resources. Students build on this foundation with any four electives in MGMT, ENTP or INTB, or with the courses that comprise one of 12 career-focused specializations.

The specializations include: business strategy, change and innovation, communications management, enterprise technology management, entrepreneurship and innovation, human resources management, global management, leadership, strategic management, managing for sustainability, quantitative decision methods and sports and entertainment management. These specializations will help students master the tools and knowledge to be successful in each focused competency.

The MS management and organization degree requirements are met by the following:

Management MS Core

Required Management Courses (12 hours)

- BUSN 6520 - Managing Individuals and Teams
- MGMT 6320 - Leading Organizational Change
- MGMT 6360 - Designing Effective Organizations
- MGMT 6380 - Managing People for Competitive Advantage

Management Specialization or Elective Courses (12-18 hours)

A student may select any four MGMT, INTB or ENTP elective courses or by completing one of the Management specializations, all of which include four courses. There are also two courses of free electives that must also be completed.

Select from one of the following specializations:

- Business Strategy
- Change and Innovation
- Enterprise Technology Management
- Entrepreneurship and Innovation
- Global Management
- Leadership
- Managing Human Resources
- Managing for Sustainability
- Quantitative Decision Methods
- Sports and Eentertainment Management
- Strategic Management

Business Strategy

Complete 4 of the following courses:

- ENTP 6021 - Corporate Entrepreneurship
- ENTP 6826 - International Entrepreneurship
  OR
- INTB 6200 - International Business Policy
- INTB 6022 - International Business Negotiations
  OR INTB 6800 International Business Consulting
- MGMT 6730 - Human Resources Management: Performance Management
- MGMT 6803 - Visionary Leadership
- MKTG 6010 - Marketing Strategy, Evaluation and Development

Your selection may include up to 2 of the following FNCE courses:

- FNCE 6310 - Financial Decisions and Policies

- FNCE 6340 - Business Firm Valuation
- FNCE 6410 - Real Options and Decisions Under Uncertainty
- FNCE 6411 - International Corporate Governance
- FNCE 6420 - Mergers and Acquisitions
- FNCE 6480 - Financial Modeling
- FNCE 6909 - Corporate Risk Management

Change and Innovation

Complete 4 of the following courses:

- MGMT 6730 - Human Resources Management: Performance Management
- MGMT 6803 - Visionary Leadership
- MGMT 6804 - Bargaining and Negotiation
- MGMT 6808 - Leadership Development

Your selection may include up to 2 of the following courses:

- MGMT 6821 - Managing for Sustainability
- MGMT 6823 - The Sustainable Business Opportunity
- BUSN 6830 - Business and the Natural Environment

Enterprise Technology Management

Required Course

- ISMG 6180 - Information Systems Management and Strategy

Complete 3 of the following courses:

- ISMG 6120 - Internet and Mobile Technologies
- ISMG 6420 - Global Enterprise Systems
- ISMG 6430 - Information Systems Security and Privacy
- ISMG 6450 - IT Project Management
- ISMG 6460 - Emerging Technologies

Entrepreneurship and Innovation

Complete 1 of the following courses:

- ENTP 6642 - Exploring Social Entrepreneurship
- ENTP 6807 - Small Business Marketing and Personal Branding
- ENTP 6824 - Entrepreneurial Financial Management
- ENTP 6826 - International Entrepreneurship

Complete 1 of the following courses:

- ENTP 6620 - New Venture Operations and Project Management
- ENTP 6644 - Social Entrepreneurship in the Developing World
- ENTP 6822 - Legal and Ethical Issues of Entrepreneurship
- ENTP 6838 - Real Estate for the Entrepreneur

- ENTP 6848 - Leadership in New Ventures
- ENTP 6862 - Strategic Web Development

Complete 1 of the following courses:

- ENTP 6020 - The Business Plan
- ENTP 6021 - Corporate Entrepreneurship

Complete 1 of the following courses:

ENTP 6000 level course of your choice (excluding ENTP 6801 and 6802)
MGMT 6000 level course of your choice

Global Management

Required Courses

- INTB 6000 - Introduction to International Business
- INTB 6020 - Cross-Cultural Management
- MGMT 6040 - Managing Global Talent

OR

- INTB 6040 - Managing Global Talent

For the last course selection you may choose any INTB course numbered 6000 or higher **OR** any Travel Study Program for three credits

Leadership

Complete 4 of the following courses:

- MGMT 6803 - Visionary Leadership
- MGMT 6804 - Bargaining and Negotiation
- MGMT 6808 - Leadership Development

Your selection may include 2 of the following courses:

- MGMT 6821 - Managing for Sustainability
- MGMT 6822 - Business Ethics and Corporate Social Responsibility
- MGMT 6823 - The Sustainable Business Opportunity
- MGMT 6824 - Sustainable Business/CSR Field Study
- DSCI 6820 - Project Management
- ENTP 6848 - Leadership in New Ventures
- INTB 6000 - Introduction to International Business

Managing Human Resources

Prerequisites

- BUSN 6530 - Data Analysis for Managers
- MGMT 6380 - Managing People for Competitive Advantage

HR emphasis prerequisite courses are in addition to the 30-hour MS core.

Complete 4 of the following courses:

- BUSN 6540 - Legal and Ethical Environment of Business
- MGMT 6040 - Managing Global Talent
  OR
- INTB 6040 - Managing Global Talent
- MGMT 6710 - Human Resources Management: Staffing
- MGMT 6720 - Human Resources Management: Training
- MGMT 6730 - Human Resources Management: Performance Management
- MGMT 6740 - Human Resources Management: Compensation
- MGMT 6750 - HRM: Investing in People: HR Analytics
- MGMT 6808 - Leadership Development

Managing for Sustainability

Complete 4 of the following courses:

- MGMT 6821 - Managing for Sustainability
- MGMT 6822 - Business Ethics and Corporate Social Responsibility
- MGMT 6823 - The Sustainable Business Opportunity
- MGMT 6824 - Sustainable Business/CSR Field Study
- MGMT 6840 - Independent Study
- MGMT 5939 - Internship
- BUSN 6826 - Supply Chain Management
- BUSN 6830 - Business and the Natural Environment
- BUSN 6850 - Accounting and Finance for Sustainability
- ENTP 6642 - Exploring Social Entrepreneurship
- ENTP 6644 - Social Entrepreneurship in the Developing World
- MKTG 6830 - Marketing & Global Sustainability
- MKTG 5939 - Internship
- INTB 6870 - Global Climate Change
  Students must petition to complete either an internship (MGMT/MKTG 5939) or an independent study course (MGMT 6840).
  Students may take 1 sustainability course outside the Business School from another CU Denver school/college/department by petition.

Quantitative Decision Methods

Prerequisite

(completion of prerequisite is in addition to the 30-hour MS in management and organization)

- BUSN 6530 - Data Analysis for Managers

Complete 4 of the following courses:

- BUSN 6630 - Management of Operations
- FNCE 6480 - Financial Modeling
- MKTG 6050 - Marketing Research
  You may also select any DSCI course 6000 or higher.

Sports and Entertainment Management

Complete 4 of the following courses:

- BUSN 6860 - Finance in the Sports Entertainment Industries
- MGMT 6830 - Sports and Entertainment Management
- MGMT 6832 - Law and Negotiation in the Sports/ Entertainment Industries
- MGMT 6834 - London Calling: Global Sports and Entertainment Management
- MGMT 5939 - Internship
  Students must petition if they are interested in the MGMT 5939 Internship course.
- MKTG 6820 - Sports & Entertainment Marketing

Strategic Management

Students pursuing a dual MBA/MS in organization and management are not eligible for this specialization.

Prerequisites

- BUSN 6530 - Data Analysis for Managers
- BUSN 6550 - Analyzing and Interpreting Accounting Information

Required Courses

- BUSN 6560 - Marketing Management
- BUSN 6640 - Financial Management
- BUSN 6710 - Strategic Management
- MGMT 6803 - Visionary Leadership
  OR
- MGMT 6808 - Leadership Development

Free Electives (6 hours)

Free electives can be anything in the Business School (graduate level), except BUSN prefix courses below 6800. Any 6000-level or higher ACCT, FNCE, ENTP, MKTG, MGMT, ISMG, INTB or HLTH course can count as your free elective requirement.

Marketing MS

Program Director: David Forlani
Telephone: 303-315-8420
E-mail: David.Forlani@ucdenver.edu

Faculty

Professors:
Lawrence Cunningham, DBA, University of Tennessee
Susan Keaveney, PhD, University of Colorado
Clifford Young, PhD, University of Utah

Associate Professors:
David Forlani, PhD, University of Minnesota
Vick Lane, PhD, University of Washington
Madhavan Parthasarathy, PhD, University of Nebraska

Senior Instructor:
Mary Lee Stansifer, PhD, Northwestern University

Instructors:
Peter Miller, MA, Farleigh Dickenson University

The MS in Marketing degree is designed to provide the skill sets necessary for you to succeed in middle (e.g., brand manager, advertising account executive) and upper level (e.g., CMO) positions in marketing and for those who interface with an organization's markets (e.g., customer service or operations).

Your MS in Marketing degree from the University of Colorado Denver consists of 30 hours:

- 21 semester hours of marketing core courses
- 9 semester hours of graduate electives

We highly recommend that one of the electives include a marketing-related internship, especially for those making a career change or without prior experience in marketing. Further, as has been our policy, if you feel that you would benefit by substituting a one or two graduate electives for a marketing elective, the marketing program director will help to work out a plan designed to meet your specific career needs. You must complete the following 21 hours of marketing core courses and then you can choose from two paths to complete the remaining 9 hours. You can select the “build your own MS marketing degree” option or one of the seven specializations.

Graduate Core in Marketing

Required Courses

- BUSN 6560 - Marketing Management

- MKTG 6010 - Marketing Strategy, Evaluation and Development
- MKTG 6020 - International Marketing
- MKTG 6040 - Services Marketing
- MKTG 6050 - Marketing Research
- MKTG 6060 - Buyer Behavior
- MKTG 6200 - Marketing Dashboard Metrics

Marketing Electives

Build Your Own MS Marketing Degree with 9 semester hours of MKTG electives

Choose any three MKTG electives, such as:

- MKTG 5939 - Internship
- MKTG 6030 - Sales and Sales Force Management
- MKTG 6070 - Integrated Marketing Communications and Brand Identity
- MKTG 6080 - Marketing in Emerging Markets
- MKTG 6090 - Customer Relationship Management
- MKTG 6091 - Strategic Product Marketing
- MKTG 6092 - Internet Marketing
- MKTG 6094 - Marketing Issues in the Chinese Environment
- MKTG 6700 - Marketing Travel Study

Total: 30 Hours

…or complete one of the following marketing specializations (listed alphabetically).

Marketing Specializations

The specializations are areas of focus that will appeal to those who have specific interests or are looking to apply their marketing acumen in particular contexts (e.g., interface with engineering or work in a multinational or nonprofit environment). A 3-semester-hour internship can be substituted for an elective in any area of specialization with the approval of the marketing program director.

Brand Management and Marketing Communications

Are you interested in a career in advertising, promotions or public relations? How about furthering your career in marketing management? Advertising, promotion and public relations managers are creative, highly-motivated individuals who are flexible yet can meet a deadline. They need good verbal and written communication skills and the ability to work well with people. Similar talents are needed by those involved with brand management. This task is central to all marketers, especially those involved with perceptual positioning and the deliverance of positions in a target market (e.g., those working in any phase of market communication and R&D) The U.S. Bureau of Labor Statistics reports that, because of the high visibility of these positions, these managers are often prime candidates for top C-level positions. The job outlook remains promising but competition will be keen, and the best

opportunities will go to those with an MS in marketing or an MS marketing /MBA dual degree. (Don't take our word for it, see http://www.bls.gov/oco/ocos020.htm).

Required:

- MKTG 6070 - Integrated Marketing Communications and Brand Identity

Complete two of the following courses:

- MKTG 6030 - Sales and Sales Force Management
- MKTG 6091 - Strategic Product Marketing
- MKTG 6092 - Internet Marketing
- MKTG 6820 - Sports & Entertainment Marketing
- MKTG 6830 - Marketing & Global Sustainability
- MKTG 6090 - Customer Relationship Management
- ENTP 6862 - Strategic Web Development

Global Marketing

One of the growing themes of the 21st century economy is the growth of world trade. There is continuing demand for individuals who understand the how to conduct marketing across many different international environments as well as rapidly growing areas such as China and the emerging markets. This specialization prepares you to effectively compete and succeed in this environment.

Required Courses

- MKTG 6094 - Marketing Issues in the Chinese Environment
- MKTG 6830 - Marketing & Global Sustainability

Complete one of the following courses:

- ENTP 6826 - International Entrepreneurship
- INTB 6020 - Cross-Cultural Management
- INTB 6022 - International Business Negotiations
- INTB 6080 - Global Competition
- INTB 6200 - International Business Policy
- MKTG 6080 - Marketing in Emerging Markets
- MKTG 6700 - Marketing Travel Study

High-Tech/Entrepreneurial Marketing

The American economy was built on a spirit of innovation, hard work and entrepreneurship, and this is surely going to be the path that assures continued American dominance in the technology and business development fields. Most smart innovators know that, in addition to the financial and managerial aspects of a business, it is the marketing function that often makes the difference between success and failure. Whether your interest is in corporate intrapreneurship and the development of high-technology oriented innovations or individual entrepreneurship and the development of a small business with minimal funds, knowing how to create and implement appropriate marketing strategies is fundamental to achieving your goals. This specialization allows you to focus on the type of new business creation path that best

suits your aspirations while greatly enhancing your endeavor's probability of success. If you aspire to be the next Bill Gates, this is a "must take" degree path for you.

Required Courses:

- MKTG 6091 - Strategic Product Marketing
- ENTP 6842 - New Concept Development

Complete one of the following courses:

- MKTG 6030 - Sales and Sales Force Management
- MKTG 6070 - Integrated Marketing Communications and Brand Identity
- MKTG 6092 - Internet Marketing
- ENTP 6020 - The Business Plan
- ENTP 6021 - Corporate Entrepreneurship
- ENTP 6801 - Building Biotechnology
- ENTP 6826 - International Entrepreneurship

Internet Marketing

Are you interested in a degree that blends Web development and application strategies with marketing? This, then, is the specialization for you. This specialization covers all aspects of Internet marketing including the functions associated with Web sites for marketing communication and customer support, one-to-one communication to many different receiving devices, marketing via social networks, consumer behavior insights based on offline and online data combination, inventory optimization through CRM-SCM integration, and a focus on ROI and associated performance metrics. With Internet marketing poised to take off globally, especially in developing countries where consumers may not have access to the latest products in local stores, this is indeed the wave of the future.

Required:

- MKTG 6092 - Internet Marketing

Complete two of the following courses:

- MKTG 6070 - Integrated Marketing Communications and Brand Identity
- MKTG 6090 - Customer Relationship Management
- DSCI 6828 - Data Mining: Predictive Modeling
- ISMG 6080 - Database Management Systems
- ISMG 6240 - Website Development Practice and Technologies
- ISMG 6430 - Information Systems Security and Privacy
- ENTP 6862 - Strategic Web Development

Marketing for Sustainability

The world has changed. More than ever, companies around the globe need to introduce smart, sustainable brands to lead the way into the future. The strong core of MS marketing courses will give you the skills to become an effective marketing manager, while the specialized set of sustainability courses will give you the knowledge to work toward a better tomorrow. The

sustainability courses will focus on the triad of economic, environmental and social sustainable development.

Required:

- MKTG 6830 - Marketing & Global Sustainability

Complete two of the following courses:

- BUSN 6830 - Business and the Natural Environment
- BUSN 6850 - Accounting and Finance for Sustainability
- MGMT 6821 - Managing for Sustainability
- MGMT 6822 - Business Ethics and Corporate Social Responsibility

Marketing Research

Marketing and survey researchers gather information about what people think, measure customer satisfaction and repurchase intentions, help companies decide what goods and services to offer and at what price, and detect up-and-coming trends. Marketing researchers need good quantitative skills, strong analytical skills and a good understanding of marketing and buyer behavior. Many of our alumni got their starts in marketing research positions. According to the U.S. Bureau of Labor Statistics, employment is expected to grow faster than average with the best job opportunities for those with an MS marketing degree (Don't just take our word for it; check out http://www.bls.gov/oco/ocos013.htm).

Required:

- BUSN 6530 - Data Analysis for Managers

Complete two of the following courses:

- DSCI 6480 - Simulation Modeling
- DSCI 6828 - Data Mining: Predictive Modeling
- ISMG 6080 - Database Management Systems
- ISMG 6480 - Data Warehouse and Administration
- MKTG 6070 - Integrated Marketing Communications and Brand Identity
- MKTG 6090 - Customer Relationship Management

Sports and Entertainment Marketing

The sports business industry is one of the largest and fastest growing in the United States. Add to that the burgeoning music, film, theater, television, cable and other entertainment industries and you've got virtually limitless choices. Every one of those industries needs good marketers. The strong core of marketing courses in the MS marketing program will give you the skills you need to hit the ground running with the specialized courses to teach you how to tailor your skills to the unique needs of the sports and entertainment industries.

Required:

- MKTG 6820 - Sports & Entertainment Marketing

Complete two of the following courses:

- MGMT 6832 - Law and Negotiation in the Sports/ Entertainment Industries
- MGMT 6830 - Sports and Entertainment Management

- MGMT 6834 - London Calling: Global Sports and Entertainment Management
- MKTG 6070 - Integrated Marketing Communications and Brand Identity

Master in Business Administration for Executives, MBA

Program Director: W. Scott Guthrie
Telephone: 303-623-1888 or 1-800-228-5778

The executive MBA program provides executive-level students with a broad, rigorous 21-month academic experience leading to the master of business administration degree. The program is designed for persons who hold managerial positions in the private and public sectors. It builds upon the knowledge and experience of these executives with a sophisticated, challenging curriculum that can be pursued simultaneously without career interruption.

The executive MBA program emphasizes strategic leadership; the organization in a complex, international environment; and the applied tools of management. Courses are taught through a variety of methods. Case studies, lectures and computer simulation are combined with research projects and other teaching methods to provide students with tools useful in their present positions and applicable to more advanced responsibilities as they progress in their management careers.

Each new session of the executive MBA program begins the last week of August. Classes meet for a full day, once a week, on alternating Fridays and Saturdays, making it possible for those who live outside the Denver area to participate.

Two courses are taken simultaneously throughout the program. The program is supplemented by an intensive orientation at the beginning and a two-day seminar at the conclusion of the first academic year. A second-year seminar is held at an international business center outside of North America.

Mathematics Education Master of Science in Education MSEd

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/lde

Faculty

Information about faculty is available online at www.ucdenver.edu/education

The MSEd in mathematics education program incorporates courses in both mathematical content and pedagogy and will also provide research experiences. Together, these courses and experiences will improve the student's knowledge of mathematics and enhance their ability to teach effectively at the K-12 level. The program arises from collaboration between the School of Education and Human Development (SEHD) and the Department of Mathematical and Statistical Sciences in the College of Liberal Arts and Sciences (CLAS). It interweaves both mathematics and education leading to a truly interdisciplinary program.

The MSEd in mathematics education has concentrations in the following areas:

- Elementary Mathematics Education
- Secondary Mathematics Education

Mechanical Engineering MEng

► Graduate School Rules apply to this program

The master's of engineering (MEng) is an interdisciplinary degree program designed to meet the needs of those practicing engineers who wish to follow an integrated program of studies in engineering and allied subjects related to the individual student's professional work. Students can combine advanced engineering course work with graduate-level non-engineering courses such as business administration, environmental sciences, social sciences, biological sciences or public administration.

Prospective students are required to present a well-defined objective in order to be admitted to the program. In consultation with faculty advisors, an academic program is developed to meet this objective.

An advisory committee will be appointed for each student by the department. The advisory committee that guides the student is responsible for approving the individual's degree program and admission to candidacy, and approves the student's written report and the awarding of the degree.

The requirements for admission are the same as those for the MS degree awarded through the College of Engineering and Applied Science. A minimum of 30 semester hours of academic work are required for the MEng degree. At least 15 of these hours must be at the 5000 level or above in mechanical engineering. A maximum of 12 semester hours may be taken outside of engineering. In addition to course work, a written report is required in the MEng program as a final project (3 semester hours). The report may be related to the student's professional work. The report will be of the same general quality as that required for the master of science thesis and must be defended orally. It may be based on work done for credit under independent study.

Mechanical Engineering MS

► Graduate School Rules apply to this program

Program Plans

For the master of science (MS) degree in mechanical engineering, students may choose between three plans with each plan totaling 30 semester hours.

- Plan I - Students following Plan I (thesis option) take 24 semester hours of formal course work plus 6 semester hours of thesis work.
- Plan II - Students following Plan II (project option) take 27 semester hours of formal course work plus a 3 semester hour final project requiring a report.
- Plan III - Students following Plan III (10-course option) take 30 semester hours of formal course work plus a final comprehensive exam.

Students following Plan I or Plan II must submit a proposal to their examination committee prior to the semester in which they register for their thesis or project semester hours, and the examination committee must approve the proposal for the thesis or project.

Program Options

Students in each of the plans may choose one of three options. In the first two options, the student may choose to specialize in either thermal science or mechanics. The third option is the general mechanical engineering option.

- The **thermal science option** requires 12 semester hours of course work in analytical methods, numerical methods, fluid mechanics and thermodynamics. The student then selects 9 semester hours of course work in approved electives from a selection of thermal science electives.
- The **mechanics option** requires 12 semester hours of course work in analytical methods, numerical methods, elasticity and dynamics. The student then selects 9 semester hours of course work in approved electives from a selection of mechanics electives.
- The **general mechanical engineering option** requires the student to take 18 semester hours of required course work in analytical methods, numerical methods, fluid mechanics, thermodynamics, elasticity and dynamics.

After meeting the course requirements for any of the three options the student may select any Mechanical Engineering graduate course to complete the 30 hour credit requirement. The student may also take courses approved by an advisor outside of the Mechanical Engineering Department.

Media Forensics Emphasis, Recording Arts MS

►Graduate School Rules apply to this program

Program Overview

The master of science in recording arts, media forensics emphasis, prepares students from various backgrounds for work in the field of forensic audio, video, and image analysis, utilizing the state-of-the-art methods and technology necessary to fight crime in the digital age. Housed in the National Center for Media Forensics (NCMF), this program is unique in providing a hybrid format (online and onsite) graduate education in forensic multimedia analysis.

Students from all disciplines (media production, electrical engineering, general forensics, etc.) are encouraged to apply, as this program enhances scientific inquiry while guiding students through a two-year cohort curriculum. The hybrid delivery format affords students the option to work full-time while completing most of the program in an online classroom with additional onsite study at the NCMF and its partner institutions. Classes are comprised of online self-guided lectures, interactive learning, discussion boards and reading responses, as well as scheduled video conferencing. Onsite coursework provides students with hands-on and practical experiences which augment and enrich the curriculum. Additionally, experiential learning includes visits to regional crime labs and scientific conferences to understand the application of forensic media technology and laboratory procedures.

Classes feature diverse faculty and lead students through three areas of study: foundational knowledge, core analyses and capstone experiences which fully prepare students for research in forensic science and expert witness testimony. Digital media evidence acquisition through computer forensics applications is emphasized in an environment that fosters creativity and individual skills. The research thesis on a topic of the student's choosing is conducted under the advisement of the Director and Associate Director of the NCMF as well as forensic professionals from around the world. The thesis is a topic of exploration throughout the program and serves to enhance a graduate's area of specialty as they prepare for work in private forensic practice, corporate research and development, academic research and teaching, or crime labs at the local, state or federal levels.

Note: The application process, requirements and deadlines for the master of science in recording arts, media forensics emphasis (MSRA-MF), differ from those listed for the MSRA recording arts program.

MSRA Media Forensics Application Components

Application Components – Domestic Students

Domestic Student Application Deadline: **February 15th**
Program accepts students in **Fall** only.

Graduate Application for Admission

- Students are required to complete the Graduate Application for Admission. Students should complete an application online.

- Program of Study – On the online application, the Program is **College of Arts & Media**, the *Plan* is Recording Arts, and the *Sub-Plan* is **Media Forensics**. Make sure to include all three of these designations; otherwise application materials will not be received by the MSRA-MF Admissions Committee.
- It is recommended to e-mail: leah.haloin@ucdenver.edu with notification of intent to apply. Application materials will be more closely tracked by the program.

Application Fee

- Domestic applicant non-refundable application fee of $50.00.
- Fee must be paid in U.S. dollars, via the online Graduate Application for Admission.

Official Graduate Record Examination (GRE) General Test Scores

- Applicants to the MSRA-MF degree program must submit scores from the GRE tests dated within the past five years. The "General Test" offered by Educational Testing Service will assist in evaluating applicants to the degree program. It evaluates the analytical writing, and verbal and quantitative reasoning skills of the candidates. This examination is offered internationally by Educational Testing Service on a continuous schedule. There is no minimum score required for admission, as each student's score will be evaluated as a portion of the complete application. This examination is not intended to exclude any applicant from the degree program, but rather to assist in academic advising.
- Scores must be received by the application deadline, therefore students should plan accordingly when scheduling their testing dates. Late GRE scores are not accepted, and these applications will not be reviewed.
- The institution code for the University of Colorado Denver where scores should be sent is: **4875**. There is no department code for the program.
- Information on the GRE can be obtained here.

Transcripts

- Applicants must have two (2) official academic transcripts from each college or university attended sent directly from the issuing institution to:
  Leah Haloin
  MSRA-MF Graduate Admissions Committee
  National Center for Media Forensics
  Campus Box 154
  P.O. Box 173364
  Denver, CO 80217-3364

- While credits from one institution may appear on the transcript of a second institution, transcripts must be submitted from each institution, regardless of the length of attendance, and whether or not courses were completed.
- "Official transcripts" exhibit the official seal and signature of the registrar.

- Transcripts that are marked "student copy" or "unofficial" are not accepted as official and cannot be used in the admission decision.

Cover Letter

- *Applicants must submit a cover letter detailing the following:
    - Professional/educational background
    - Reason for wanting to participate in program
    - Research interests
- The cover letter must be typed and double-spaced.
- The cover letter can be scanned and uploaded in your online application or e-mailed: leah.haloin@ucdenver.edu.

Resume

- Students are required to submit a typed resume as it relates to the field of forensic science. The resume must including educational background, work experience and relevant skills. Students are also welcome to include any published works, scholarly/creative work, exhibitions, awards, or other relevant achievements.
- The resume should be chronologic, beginning with educational background, and progressing to employment history. Please refrain from “functional” resumes, or those that simply summarize qualities or competencies.
- The resume can be scanned and uploaded in your online application or e-mailed to leah.haloin@ucdenver.edu.

Three (3) Letters of Recommendation

- Three (3) letters of recommendation from responsible persons that can attest to the applicant’s academic and professional accomplishment are required. The names and contact information of persons from whom letters have been requested should be included in the online Graduate Application for Admission.
- Applicants are invited to provide additional letters of recommendation beyond the three required, should the applicant desire.
- Letters of recommendation must be input directly from the recommender via the online process through the Graduate Application for Admission.
- Incomplete letters of recommendation will not be considered, and the application will not be reviewed.

Two (2) Technical Writing Samples

- Applicant is to provide two (2) samples of material authored by applicant displaying scientific/non-fictional writing skills. These could be undergraduate research papers, published or unpublished articles, grant proposals, prepared reports or affidavits from mock-trial proceedings.
- Each writing sample should be 1,000 words or more.

- The technical writing samples can be scanned and uploaded in your online application or e-mailed to: leah.haloin@ucdenver.edu.

Applications which do not include all of the requirements listed above, or that include partial components, are considered incomplete and will not be reviewed.

Application Components – International Students

(Note: International applicants are encouraged to visit the Office of International Admissions website.)

International Student Application Deadline: **February 15th**
Program accepts students in **Fall** only.

International Student Graduate Application for Admission

- International Students are required to complete an online application form. Please visit international.ucdenver.edu/admissions and click on the 'Apply Now' tab on the top right hand corner. Program of Study – On the online application, the Program is **College of Arts & Media**, the Plan is **Recording Arts**, and the Sub-Plan is **Media Forensics**. Make sure you have included all three of these designations; otherwise your application will not be received by the MSRA-MF Admissions Committee.
- It is recommended to e-mail: leah.haloin@ucdenver.edu with notification of intent to apply. Application materials will be more closely tracked by the program.

Application Fee

- International applicant non-refundable application fee of $75.00.
- Fee must be paid in U.S. dollars, via the online Graduate Application for Admission.

Official Graduate Record Examination (GRE) General Test Scores

- Applicants to the MSRA-MF degree program must submit scores from the GRE tests dated within the past five years. The "General Test" offered by Educational Testing Service will assist in evaluating applicants to the degree program. It evaluates the analytical writing, and verbal and quantitative reasoning skills of the candidates. This examination is offered internationally by Educational Testing Service on a continuous schedule. There is no minimum score required for admission, as each student's score will be evaluated as a portion of the complete application. This examination is not intended to exclude any applicant from the degree program, but rather to assist in academic advising.
- Scores must be received by the application deadline, therefore students should plan accordingly when scheduling their testing dates. Late GRE scores are not accepted, and these applications will not be reviewed.
- The institution code for the University of Colorado Denver where scores should be sent is: 4875. There is no department code for the program.

- Information on the GRE can be obtained here.

English Language Requirement

- International Applicants to the MSRA-MF degree program whose first language is not English are required to provide evidence of English language competency. The language requirement can be satisfied as follows:
    - Submitting TOEFL scores (minimum score of 71 IBT or 525 PBT.)
    - Submitting IELTS scores (minimum 6.0.)
    - Graduation from CU Denver approved English language programs with a recommendation letter from the Center director.
    - Students with a Bachelor's degree from an accredited institution in the United States.
    - Following the Graduate School Policy, the English language requirement is waived for international students who have graduated from a foreign institution where the language of instruction for their Bachelor's degree was English. These students are required to provide a letter from their home institution verifying this information.
    - International students who have earned a Bachelor's degree in the United States or completed one year of study in a Master's program at an accredited institution in the United States may demonstrate English language competency via their transcripts from the U.S. Institution.
- Evidence of English language competency should be scanned and uploaded in your online application.
- Please contact the Office of International Admissions for more information.

Transcripts

- Applicants must have two (2) official academic transcripts from each college or university attended.
- Foreign language transcripts must be translated word by word into English by a certified translator. The translator should not attempt to convert grades into the American system.
- Transcripts should be scanned and uploaded in your online application.

Cover Letter

- Applicants must submit a cover letter detailing the following:
    - Professional/educational background
    - Reason for wanting to participate in program
    - Research interests
- The cover letter must be typed and double-spaced.
- The cover letter should be scanned and uploaded in your online application.

Resume

- Students are required to submit a typed resume as it relates to the field of forensic science. The resume must including educational background, work experience and relevant skills. Students are also welcome to include any published works, scholarly/creative work, exhibitions, awards, or other relevant achievements.
- The resume should be chronologic, beginning with educational background, and progressing to employment history. Please refrain from "functional" resumes, or those that simply summarize qualities or competencies.
- The resume should be scanned and uploaded in your online application.

Three (3) Letters of Recommendation

- Three (3) letters of recommendation from responsible persons that can attest to the applicant's academic and professional accomplishment are required. The names and contact information of persons from whom letters have been requested should be included in the online Graduate Application for Admission.
- Applicants are invited to provide additional letters of recommendation beyond the three required, should the applicant desire.
- Letters of recommendation must be input directly from the recommender via the online process through the Graduate Application for Admission.
- Incomplete letters of recommendation will not be considered, and the application will not be reviewed.

Two (2) Technical Writing Samples

- Applicant is to provide two (2) samples of material authored by applicant displaying scientific/non-fictional writing skills. These could be undergraduate research papers, published or unpublished articles, grant proposals, prepared reports or affidavits from mock-trial proceedings.
- Each writing sample must be 1,000 words or more, and provided in English.
- The technical writing samples should be scanned and uploaded in your online application.

Applications which do not include all of the requirements listed above, or that include partial components, are considered incomplete and will not be reviewed.

International Students must submit all application components in English, where applicable.

Transcripts, cover letters, recommendation letters, and evidence of English language proficiency should be scanned and uploaded in your online application. If these documents are being mailed to the University, please send to:

University of Colorado Denver
International Admissions
Campus Box A005/141
P.O. Box 173364
Denver, CO 80217-3364
USA

Curriculum

The master of science in recording arts, media forensics emphasis, comprises 33 semester hours of credit: 29 hours are required courses and 4 hours are thesis. All courses must be completed with a grade of B- (2.7) or better and students must maintain at least a 3.0 cumulative GPA. Grades of C+ (2.3) or lower, or a cumulative GPA below 3.0, will result in the student's dismissal from the program. Students are admitted to the program in the fall as a cohort, and must follow the curriculum in sequence. Students who do not complete the program in sequence must reapply.

Curriculum and application requirements for the master of science in recording arts, media forensics emphasis, are subject to change. Refer to the National Center for Media Forensics website for up-to-date information regarding curriculum and application requirements.

Program Sequence

Fall - Year 1

MSRA 5014 - Research Practices in Media Forensics
MSRA 5124 - Forensic Science and Litigation

Spring - Year 1

MSRA 5054 - Experiential Lab
MSRA 5114 - Foundations in Media Forensics
MSRA 5144 - MATLAB Foundations

Summer - Year 1

MSRA 5134 - Computer Forensics
MSRA 5244 - Mobile Phone Forensics

Fall - Year 2

MSRA 5054 - Experiential Lab
MSRA 5214 - Forensic Audio Analysis
MSRA 5254 - MATLAB for Forensic Audio Analysis

Spring - Year 2

MSRA 5054 - Experiential Lab
MSRA 5224 - Forensic Video and Image Analysis
MSRA 5264 - MATLAB for Forensic Video and Image Analysis

Summer - Year 2

MSRA 5314 - Report Writing and Court Testimony

Summer - Year 2 (or later)

MSRA 6954 - Research Thesis in Media Forensics

Total: 33 Hours

New Directions, Political Science MA

► Graduate School Rules apply to this program.

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An alternative track of the political science MA program (Plan II) is offered off-campus through the Center for New Directions in Politics and Public Policy at Chaparral in Douglas County and on the Fort Lewis College campus in Durango. This politics and public policy track presents courses in an intensive weekend format. The emphasis on politics and the policy-making process relates to the ability of leaders to mobilize resources and achieve constituent goals consistent with the public interest. In this context, politics entails communication, and effective politics requires communication. In short, this emphasis on political awareness seeks to help participants utilize the political process as the "art of making what appears to be impossible, possible."

Degree Requirements

Students must complete a total of 33 graduate credit hours to complete the MA degree.

Core Courses

- PSCI 5014 - Seminar: American Politics
- PSCI 5085 - Comparative Public Policy
- PSCI 5324 - Politics, Public Policy and Leadership
- PSCI 5457 - Seminar: American Political Thought
- PSCI 5468 - Research Methods in Political Science

Total: 15 Hours

Electives

In addition to the required core courses, students must take 15 credit hours of political science electives.

[*NOTE*: Previously earned graduate credit may be submitted for approval to satisfy up to nine hours of the supportive elective requirement. The elective courses offered may change from time to time based on needs, interests and other factors.]

Below are examples of electives taken by New Directions students:

- PSCI 5007 - Beyond Political Correctness
- PSCI 5009 - Politics of the Budgetary Process
- PSCI 5024 - State Politics: Focus on Colorado
- PSCI 5084 - Local Government and Administration

- PSCI 5274 - Conflict Resolution and Public Consent Building
- PSCI 5354 - Seminar: Environmental Politics and Policy
- PSCI 5374 - Public Priorities for the 21st Century
- PSCI 5414 - Organizational Change Agents
- PSCI 5644 - Ethical Responsibilities of Leaders

Total: 15 Hours

Project Requirement

All students are required to complete a 3-credit master's project under the direction of a faculty advisor. Registration is done using the Special Processing form, rather than online.

- PSCI 5960 - Master's Project

Total: 3 Hours

Major Total: 33 Hours

Common Course Outcomes

In addition to clearly stated subject outcomes, all courses will have a common set of outcomes related to the following areas which are considered critical in developing leadership capacities necessary to address the changing public priorities for the 21st century:

Creativity and innovation
Changing public priorities
Political and social diversity
Ethical accountability
Deductive and inductive reasoning
Applied use of appropriate technology
Strategic planning and decision making
Resolution of conflicts and public consent building
Individual, organizational and cultural communication effectiveness

Course Format

All courses are offered in a weekend format that consists of two or three weekend sessions for a given course spread out over a two-month period. Three-weekend classes are held from 9:00 am to 4:00 pm on both Saturday and Sunday of each weekend session. Two-weekend classes meet from 5:00 until 9:00 p.m. on Friday evening and from 8:30 a.m. until 4:30 p.m. on Saturday and Sunday. In most cases, a student will complete all of the two or three weekend sessions of one course before starting the weekend sessions for the next course. There is typically a 2-3 week break between semesters.

Location

All of the courses for the Denver-based programs are currently offered at the University Center at Chaparral, 20 miles south of downtown Denver. The University Center is located next to the Chaparral High School, just north of Lincoln Avenue at Chambers Road in Douglas County (15653 Brookstone Drive).

Courses for the Durango-based program are currently offered on the campus of Fort Lewis College.

Political Science MA

► Graduate School Rules apply to this program

The political science department offers a master of arts (MA) degree in political science with an emphasis on building academic and practical skills in key areas of the discipline. Research and teaching in the department centers on the major fields of American politics, comparative politics, international relations, political theory and public policy; however, the department also offers more specialized training in human rights, legal studies, gender politics, race and ethnic politics, European studies, indigenous politics and urban politics. Students pursuing the MA have the option of completing the traditional track or an alternative track centered on the study on politics, public policy and leadership. Students completing the program have gone on to PhD programs across the country and work in a variety of areas, including; state and local elected office, government service, directors of community-based organizations and nongovernmental organizations, legislative analysts, UN affiliates, lobbyists, teachers, media analysis and political consulting.

Requirements for Admission

Students applying for admission to the MA program in political science should present at least 18 semester hours of previous academic work in political science, at least 9 hours of which should be at the upper-division or graduate level. The department may make exceptions to these requirements in unusual cases (for instance, if course work in related fields such as psychology, economics and history compensates for the deficiencies in political science). Applicants should present an undergraduate GPA of at least 3.0 to be considered; however, the department typically admits students with a GPA of 3.2 or higher. In their applications, students must submit transcripts and letters of recommendation (from academic sources) as specified by the Graduate School. In addition, applicants must submit a statement of academic objectives and an academic writing sample. Standardized test scores are not required of applicants, but will be considered if submitted.

In order to take graduate courses in political science, students must either be admitted to the MA program or secure permission as a nondegree student. Nondegree students may take up to 12 semester hours of graduate course work; however, they must first secure permission from the department graduate advisor to enroll in all graduate course work.

Degree Requirements

In addition to the requirements for admission and details of the program spelled out here, graduate students in political science must also abide by department rules and procedures specified in the Graduate Student Handbook. Failure to meet these policies may result in a student being dropped from the program.

Under the MA program in political science, two degree plans are available:

- Plan I requires the completion of nine graduate courses (27 semester hours) and a 6-credit thesis

- Plan II requires the completion of ten graduate courses (30 semester hours) and a 3-credit project.

Course work in both plans completed under the traditional track offered on the Downtown Campus must include:

P SC 5000. The State of the Discipline

Additionally, at least one graduate seminar is required in each of the following areas: American politics, comparative politics or international relations, political theory and research methods.

Students will complete between 12 and 15 elective semester hours, depending on whether they are working under Plan I or II, which may be fulfilled through graduate course work in political science, related disciplines, independent study or internships. Ultimately, the total combination of independent study, graduate course work in related disciplines and internship cannot exceed 9 semester hours. With either plan, students are required to complete a minimum of 16 semester hours with the political science department at the University of Colorado Denver, and maintain a minimum *B* (3.0) overall GPA or better. Students who are on probation must meet regularly with the graduate advisor and must secure approval from the advisor for all course work while on probation.

Plan II is available both under the traditional MA track offered on the Denver campus, as well as through an alternative track offered off-campus through the Center for New Directions in Politics and Public Policy. For details about this off-campus track in politics and public policy, see New Directions, MA in Political Science .

Psychology MA

► Graduate School Rules apply to this program

Objectives and Requirements

The major objective of the MA program is to prepare graduates for doctoral-level study in both PhD and PsyD programs. Assessment training includes theory, diagnostic interviewing, intelligence testing and some personality testing with both children and adults. We introduce students to the theory and application of major models of psychotherapy and to psychopathology theory and research. We also emphasize the ethical principles that permeate clinical psychology and the application of these principles to problems in mental health practice, teaching and research. Finally, students become well versed in statistical methods. Students take the required courses during their first year in the program. During the second year, they choose to specialize by opting for a research-based thesis and/or an applied internship at a mental health agency. Students also demonstrate competency by defending a thesis or an internship competency project. Students can complete the program in slightly less than two years, and have up to five years to complete the program according to Graduate School Rules.

Admissions

The application deadline is February 1 for the following fall. Applicants are responsible for making sure all materials are in on time. We do not consider late applications. International students should be sure to submit all materials at least two weeks before this deadline (by January 15) so that they arrive at our department on time. Below is condensed information; see the psychology department website for complete information.

Admission Requirements:

- BA or BS from an accredited college or university, with a minimum GPA of 3.5 based on all college course work. However, successful applicants over the past several years have typically held GPAs above 3.5, with an average GPA of 3.7.
- Undergraduate courses in: introductory psychology, psychological statistics and abnormal psychology. Additional courses in psychology are highly desirable; our admissions committee will also look favorably upon courses in the biological and physical sciences.
- Two official transcripts from each college and university attended.
- Graduate Record Exam (GRE) General Test (verbal, quantitative, analytical writing) is required for all applicants. The subject test in psychology is not required, but is strongly recommended for applicants who do not hold an undergraduate degree in psychology. Successful applicants in recent years have typically had GRE verbal plus quantitative scores above 1100. Take the exam at least six weeks before the February 1 deadline so that the scores arrive on time.
- Three letters of recommendation, at least two of which must be academic references, accompanied by the Request for Recommendation form.
- Graduate Application Form, with answers as informative as possible.
- Application fee of $50 ($75 for International Students). This fee can be paid online; however, if paying by check, please specify “PSY M.A. CLN” on the memo line in the lower left corner of your check.

Financial Information

The University of Colorado Denver administers various forms of financial aid for graduate students: fellowships, scholarships and a number of awards from outside agencies. See the Office of Financial Aid for further information. Additionally, the psychology department offers teaching assistantships each year in such courses as introductory psychology, statistics, research methods and human development. Teaching Assistantships are not guaranteed.

Contingent upon the availability of grant money, faculty may also offer part-time research assistantships to qualified students. The typical RA position involves data collection and analysis, library research, etc. Some computer and statistical skills are usually required. RA positions may arise on very short notice.

Please note: Neither teaching nor research assistantships confer in-state tuition status or include tuition waivers.

Degree Requirements

A total of 30 (for thesis students) or 33 (for internship students) semester hours are required for graduation: 24 for required courses and either six thesis hours or eight internship hours. Internship students must also register for one credit for the Internship Competency Project. Students must maintain a 3.0 grade point average.

Demonstration of competence

Upon completion of the 24 hours of course work (eight courses), students must demonstrate competence in several core areas (e.g., statistics and methods, ethics, assessment, psychotherapy, psychopathology) by completing a thesis or an internship competency project (ICP).

Internship or Thesis

Students have the option of completing a master's thesis and/or pursing an internship. The thesis involves a research project that makes a significant contribution to the field. Topics pursued by students in our master's program have included body image in eating disorders, HIV infection and childhood abuse, humor as a moderator between social conflict and psychological distress, and ethical issues regarding informed consent for psychotherapy.

Students who are particularly interested in going on to PhD programs should strongly consider the thesis option, since most PhD programs prefer individuals who have prior research experience. Applicants who are interested in the thesis option and whose research interests/experience overlap with those of a faculty member should contact that faculty member directly.

Alternatively, students may begin work on an 800-hour internship following successful completion of their courses. Students select internships (subject to program approval) based on personal interests. The greater Denver area offers a rich variety of internship possibilities, and our students have worked at a variety of agencies, including community mental health centers,

inpatient and residential treatment facilities, social services, hospitals, probation and diversion programs and university counseling centers.

At minimum, students must complete either an 800-hour internship or a thesis. Students also have the option to complete both or to do a thesis and a 400-hour internship.

Public Administration MPA

The master of public administration (MPA) is designed to provide graduate professional education for students who wish to prepare themselves for careers in public management or policy, in nonprofit organizations or in private corporations that interface with the other sectors. The program also offers to those already in public service an opportunity to pursue additional education as a means of furthering their careers.

Program Director: Christine Martell, PhD

Faculty

Professors:

Kathleen Beatty, PhD, Washington State University
Lloyd Burton, PhD, University of California, Berkeley
Angela Gover, PhD, University of Maryland
Mary Guy, PhD, University of South Carolina
Richard Stillman, PhD, Syracuse University
Paul Stretesky, PhD, Florida State University
Paul Teske, PhD, Princeton University

Associate Professors:

Brian Gerber, PhD, Stony Brook University
Tanya Heikkila, PhD University of Arizona
Jody Fitzpatrick, PhD, University of Texas, Austin
Christine Martell, PhD, Indiana University
Callie Rennison, PhD, University of Houston
Jessica Sowa, PhD, Syracuse University
Allan Wallis, PhD, City University Graduate Center
Brian Gerber, PhD, Stony Brook University
Chris Weible, PhD, University of California, Davis

Assistant Professors:

Todd Ely, PhD, New York University
Danielle Varda, PhD, University of Colorado Denver
Benoy Jacob, PhD, University of Illinois at Chicago

MPA, Western Slope Director:
Fred Rainguet, PhD, University of Colorado

Wirth Chair in Sustainable Development:
Alice Madden, JD, University of Colorado

Research Professor:
Stephen Block, PhD, University of Colorado

Assistant Research Professor:
Kelly Hupfeld, JD, Northwestern University

Clinical Professors:
Malcolm Goggin, PhD, Stanford University
Denise Scheberle, PhD, Colorado State University

Professor Emeritus:
John Buechner, PhD, University of Michigan

MPA AND MCJ—General Information

Admission Requirements

1. Applicants must have a baccalaureate degree from a college or university of accredited standing, with a minimum GPA of 3.0. Two sets of official transcripts are required from all higher education institutions attended.
2. Applicants must provide three recommendations from qualified references. Recommendations may be from professors, employers and/or others acquainted with the prospective student's professional and/or academic work.
3. Applicants are required to take the GRE, the GMAT or the LSAT unless they meet the requirements for waiver. Standard graduate admission test scores are normally waived when the candidate already has a graduate degree in another field from an accredited institution. Other applicants may have test scores waived if they have an undergraduate GPA of 3.0 or better *and* they have *significant* post-baccalaureate professional employment in management or policymaking positions for a minimum of 10 years or the equivalent.
4. A current resume highlighting professional accomplishments and community involvement, a short essay stating educational and career goals, a declaration of program form, and an application fee are also required.
5. International applicants may have different admission requirements and should check with the Office of International Affairs. In particular, international students whose first language is not English are required to take the TOEFL or IELTS. A composite score of 6.5 on the IELTS, or a composite score of 80 on the TOEFL, with accompanying minimum IELTS or TOEFL subscore results, is required.

All application material and test scores should be sent to SPA, University of Colorado Denver, Campus Box 142, P.O. Box 173364, Denver, CO 80217-3364.

SPA will review applications as soon as they are complete. Master-level applicants generally receive notification of their admission status three weeks after all materials have been received in the office. The preferred deadlines listed below allow students to receive best consideration

for scholarships, financial aid and course selection. *Students who do not meet the preferred deadline may still submit application materials until approximately one month before the start of classes and will be considered on a space-available basis.*

Semester	*Preferred Application Deadline*	*Final Deadline**
Fall	March 15	August 1
Spring	October 15	December 1
Summer	March 15	May 1

*Final deadline does not apply to international students who should contact the Office of International Affairs for deadline information.

Provisional Admission

In exceptional cases, a student who does not otherwise meet the minimum requirements for admission may be admitted on provisional status if elements of their application suggest they may be able to succeed in the program. Students admitted on a provisional basis take two core courses in their first semester, and must earn at least a B in each course. MPA students may select two of the following: PUAD 5001 , 5003 or 5004. MCJ students may select two of the following: CRJU 5001, 5002 or 5005. Based on their performance in these courses, a formal decision will be made concerning their admission into the program. Provisionally-admitted students may not take any other courses at SPA until they have been formally admitted to the program.

Nondegree Admissions

Students may register as nondegree students while developing their application packet. However, students are discouraged from taking multiple courses as a nondegree student if they hope to pursue a degree. No more than nine semester hours taken in the program as a nondegree student may be applied to the master's degree programs, with approval of an advisor. Nondegree student application forms are available in the Office of Admissions or online.

Transfer of Credit to SPA

Up to 9 semester hours of appropriate graduate work from an accredited college or university may transfer, if such credit was not applied to a completed degree.

Limitation of Course Load

The normal course load for a full-time student is 9 semester hours. A student who is employed full time may not carry more than 9 hours unless an excess load has been approved in advance by the faculty advisor.

Financial Assistance

Students in the master's degree programs are eligible for several types of financial assistance. Educational loans require application to the CU Denver Office of Financial Aid and completion of the FAFSA. A number of students secure internships or other part-time positions with local, state and federal agencies in the Denver metropolitan area. Scholarship assistance is available on a limited basis.

The school receives announcements for fellowships from various government organizations and actively seeks additional funding for student support in the form of internship positions and research assistantships.

Persons interested in applying for financial assistance should inquire in the SPA office. The deadline for current students is March 15 for the fall term. Prospective students seeking scholarship funds should have complete scholarship applications on file at the SPA office by the preferred application deadline for the semester they are requesting funds.

The Internship Program

An internship for the MPA and MCJ programs is required for students who have not had significant public, nonprofit or private-sector experience. The purpose of the internship is to continue the linkage between theory and practice that is the philosophical basis of SPA. The internships generally involve part-time work. A maximum of three semester hours will be awarded for internship service. Great care is taken by the SPA to ensure that the internship experience meets the intellectual needs of the student. Placements have included the Governor's Office, Colorado General Assembly, Denver Mayor's Office, City of Denver, Denver Police Department, Boulder Crime Lab, Western Governor's Association, the National Conference of State Legislatures, the Colorado Department of Public Health and Environment and the Denver Center for the Performing Arts.

Time Limit for Master's Degree

Master's degree students must complete all course work and degree requirements within six years of registration in their first course.

MPA Degree Requirements

The minimum requirements for the basic MPA degree are outlined below. Occasionally, changes are made; students may graduate under the requirements that were in effect when they were admitted.

1. Graduate Course Work

All students must complete a minimum of 36 semester hours of graduate course work, with a cumulative GPA of B (3.0) or better. No more than 6 semester hours of independent study can be applied toward the degree. Students who have not had at least one year of professional work experience in the public or nonprofit sectors must complete an internship through an additional 3-semester-hour course described in No. 6 below, bringing their total semester-hour requirements to 39.

2. Core Courses

All MPA students (with the exception of those in the executive MPA option) must complete the following core courses or approved equivalents, for a total of 18 credit hours. Students must receive a grade of at least B- (2.7) in each core class. Students who earn a lower grade in a core class may repeat the class once in an effort to improve the grade.

- PUAD 5001 - Introduction to Public Administration and Public Service
- PUAD 5002 - Organizational Management and Behavior
- PUAD 5003 - Research and Analytic Methods
- PUAD 5004 - Economics and Public Finance
- PUAD 5005 - The Policy Process and Democracy
- PUAD 5006 - Leadership and Professional Ethics

3. Electives

All MPA students must complete 15 hours of electives. Elective courses in which a student earns a grade of less than a *C* (2.0) will not be counted toward a degree.

4. Capstone Class

All MPA students, except those pursuing the thesis option, must complete the capstone course during the last semester of their degree program. All core courses must be completed before beginning the capstone.

- PUAD 5361 - Capstone Seminar

5. Thesis Option

The thesis option is available in lieu of PUAD 5361 for MPA students who have an interest in pursuing a topic in-depth or who are planning to pursue a career in research or academia. Students must receive approval from their faculty advisor or the MPA director to pursue the thesis option. The thesis is a six credit course that normally spans two semesters.

6. Internships

Students who have limited experience (generally defined as less than one year of experience) in public, nonprofit or relevant private-sector service must enroll in PUAD 6910, Field Study in Public Administration. The decision to require PUAD 6910 for a particular student is made by the faculty admissions committee or the student's faculty advisor upon the student's acceptance to the MPA program. A minimum of 300 hours of supervised work and study is required to earn 3 semester hours of credit. This requirement raises the total semester hours needed to earn the MPA degree to 39.

MPA Options

Concentrations and Graduate Certificates

All SPA concentrations are a total of 15 semester hours and may either be taken as part of the MPA program or as a stand-alone graduate certificate.

A student *may* choose to select one of the concentrations described below or may complete the MPA without a specified concentration. Students completing a concentration take their electives

in the area of their concentration, complete the advanced seminar project in the area of their concentration and are advised by faculty from the concentration. The concentrations and their particular required courses are:

Environmental Policy, Management and Law Concentration

Students take the two courses listed below, plus three electives approved by the concentration director:

- PUAD 5631 - Seminar in Environmental Politics and Policy
- PUAD 5632 - Seminar in Environmental Management
- PUAD 5633 - Seminar in Natural Resource and Environmental Health Law
  Electives approved by advisor (3) (6-9 semester hours)

Total: 15 Hours

Local Government Concentration

Students take at least two of the four courses listed below, plus electives approved by the concentration advisor:

- PUAD 5625 - Local Government Management
- PUAD 5626 - Local Government Politics and Policy
- PUAD 5628 - Urban Social Problems
  Electives approved by advisor (3) (6-9 semester hours)

Total: 15 Hours

Domestic Violence Concentration

Students take four specified courses and one elective.

- PUAD 5910 - Women and Violence: A Sociological Perspective
- PUAD 5920 - Psychology of Violence Against Women
- PUAD 5930 - Battered Women and the Legal System
- PUAD 5940 - Domestic Violence Social Change and Advocacy

Total: 15 Hours

Emergency Management and Homeland Security Concentration

Students take two out of three required courses as well as electives approved by advisor.

- GEOG 5230 - Hazard Mitigation and Vulnerability Assessment
- PUAD 5650 - Disaster and Emergency Management Policies
- PUAD 5450 - Law of All-Hazards Management

Total: 15 Hours

The emergency management and homeland security concentration requires the completion of three electives chosen from a preapproved, multidisciplinary list of courses relevant to emergency management. Students may choose electives in one of three tracks: policy and management; spatial analysis, planning and quantitative assessment; or public safety, homeland security and justice.

Nonprofit Organizations Concentration

Students take two required courses as well as nonprofit electives approved by advisor.

- PUAD 5110 - Seminar in Nonprofit Management
- PUAD 5140 - Nonprofit Financial Management
  Other nonprofit courses (9 semester hours)

Total: 15 Hours

The Accelerated Cohort

The accelerated MPA is a fast-paced, full-time option that brings academically superior students together with a dedicated research and teaching faculty in the midst of the vibrant downtown Denver environment.

The accelerated option enables students to focus their energies in a concentrated program of study and earn a nationally accredited, 36-hour MPA in 12 months. (It is preferred that applicants have some knowledge of economics, statistics and political science.)

The cost for the accelerated option is the same for both in-state and out-of- state students, providing out-of-state students with substantial savings.

The students in the cohort enjoy a unique experience as they go through all classes in the MPA together, fostering a community of scholar-practitioners.

Students are admitted to the program in cohorts of approximately 20 participants. A new cohort starts each fall. The cohort format helps to increase the opportunity to become acquainted with other graduate students and increases the opportunities for interaction between program participants and faculty.

The Executive Option

The School of Public Affairs currently offers an executive MPA option for senior level professionals in the nonprofit and public sectors. The Executive MPA option requires 30 semester hours of credit.

Initial Leadership Experience (3 credit hours): All students will enroll in the Rocky Mountain Program, a SPA residential leadership program. This is a six-day seminar typically held in

Breckenridge that brings together public and non-profit professionals from across the country to collaborate on current management issues while honing leadership skills. Federal employees may elect OPM's federal Management Assessment Seminar at either the Western or Eastern Management Development Centers in lieu of the Rocky Mountain Program. For more information about the OPM program option please see www.leadership.opm.gov.

Required Courses (15 credit hours): All students are required to complete two courses (6 credits) held on the Denver campus in an intensive format (1-2 weeks). Students complete two additional core courses (6 credits) in either an online, weekend intensive, or through the traditional campus based classroom setting. All students complete their program with a capstone project (3 credits). The capstone project allows students to synthesize the information learned during the program and put it into practice within a professional setting.

Elective Courses (12 credit hours): In consultation with an advisor, students select elective courses that best meet their professional goals. These may be taken online or in the classroom. Students may complete up to 9 credits through the federal OPM Management Development Center provided they are approved for graduate credit by the American Council on Education.

Potential students may contact the program director, Dr. Kathleen Beatty, at 303.315.2485, for more information.

Online Option

SPA provides a unique opportunity for students who live at a distance from the university to obtain a MPA degree.

Designed to serve students who are looking for a high-quality education, but who need an alternative to traditional classroom instruction, students may elect to do one or all of their courses online. This option allows students to complete the entire degree at a distance or to choose to come to campus for some courses while using an interactive online format for others. For both in-state and out-of-state online students, tuition is comparable to the rate charged to in-state students for courses that meet in the classroom. The nonprofit organization concentration is available online, as well as a variety of other electives leading to a general MPA degree. Students in the executive option may also choose to do all SPA course work online.

Domestic Violence Cohort

The first graduate program of its kind in the nation, the University of Colorado Denver's MPA concentration in domestic violence focuses on the management and policies surrounding domestic violence, as well as grass-roots social justice work and best practices in this emerging field. Each fall, 10 to 20 students are accepted into the cohort program, allowing the participants to build a strong community of advocates and learners.

The program invites students from around the world to participate in a unique cohort program, which combines online courses with five intensive campus seminars spaced throughout the two-year program. Students may choose to take all courses in the classroom if they wish.

The cost of the domestic violence concentration courses is the same for in-state and out-of-state students. Nonresident students pursuing the MPA with a concentration in domestic violence may also qualify for reduced tuition through the Western Regional Graduate Program which covers 14 western states.

Western Slope Cohort

Public and nonprofit sector professionals living in Colorado's Western Slope have the opportunity to earn a MPA without traveling to the Front Range. SPA offers one MPA course each semester in Grand Junction at Mesa State College and supplements these offerings with online courses. Courses are designed to integrate the academic and applied experiences necessary to be an effective modern manager. The courses are offered in an intensive weekend format and emphasize the needs of small and rural communities.

Public History, MA in History

► Graduate School Rules apply to this program.

The MA program in history offers graduate-level major and minor fields in public history. Public history is a field of study that applies historical methods to the public sphere. This graduate major does not require a concentration, but students can choose to concentrate in museum studies or historic preservation. Public history majors can minor in any subspecialty the department currently offers. Students majoring in U.S., European or global history can also minor in public history.

Admission Requirements—See History MA

Degree Requirements

Required Introductory Course

- HIST 6013 - Introduction to the Professional Study of History

Total: 3 Hours

Major Courses

- HIST 5234 - Introduction to Public History

Concentration Requirement (optional)
Students who choose to concentrate in museum studies or historic preservation must take either

- HIST 5231 - History in Museums
- -OR- HIST 5232 - Historic Preservation

Research Seminar (3 hours)
Research seminars focus on students' development of an original, primary research paper.
Major Electives (9-12 hours)
Electives are made up of courses in public history, which focus on methodology and practice and thesis or project credits. These courses include:

- HIST 5133 - Management of Material Culture and Museum Collections
- HIST 5228 - Western Art and Architecture
- HIST 5229 - Colorado Historic Places
- HIST 5240 - National Parks History
- HIST 5242 - Oral History
- HIST 5243 - Public History Administration
- HIST 5244 - Interpretation of History in Museums: Exhibits and Education
- HIST 5245 - Heritage Tourism
- HIST 6992 - Seminar: Colorado Studies

Additionally, special topics courses may be offered in such areas as historic reenactments, monuments and memory and recreating historic house interiors. Students who didn't take HIST 5231 or HIST 5232 as their concentration requirement may use these courses toward their elective requirements.

Total: 18 Hours

Minor Electives

Electives are made up of courses in the minor field, including readings courses, which address specific field historiographies, or research seminars.

Total: 12 Hours

Open Elective

Students may use the open elective to explore a course outside their major or minor or to do extra course work in one of their fields.

Total: 3 Hours

Total: 36 Hours

INDEPENDENT STUDIES AND/OR INTERNSHIPS

Candidates may register for up to 6 hours of internships or independent study, only one of which may be at the 6000-level. Students will not be allowed to satisfy the research seminar requirement via independent study. *Any independent study or internship at the 6000-level needs the permission of the graduate advisor.* Students interested in pursuing an independent study or internship must find a faculty member willing to oversee their work, and they should expect the workload to equal or exceed that required for other courses at the same level.

- HIST 5840 - Independent Study: History
- HIST 6840 - Independent Study: HIST
- HIST 6939 - Internship

COMPREHENSIVE EXAMINATIONS

All history MA candidates must pass a comprehensive examination in the major and minor fields after the completion of course work and before embarking on a thesis, curriculum project or public history project. The comprehensive exam evaluates students' knowledge of their course work and their reading lists for their major, minor and concentration. In answering their exam questions, students are expected to construct arguments and to show mastery of the historiographies, narratives and historical content in their fields. The comprehensive exam is administered and evaluated by a committee of the major advisor, the minor advisor and an outside reader from the history faculty.

Master's Degree Extended Research Options

The MA program in history offers a set of courses in which students can develop extended research interests. Students must select an advisor and develop a proposal for a specific research agenda in the semester before beginning work on a project.

REQUIRED PUBLIC HISTORY THESIS (HIST 6950) OR PROJECT (HIST 6952)
Students majoring in public history must complete either a thesis (6 semester hours) or a project (3 semester hours).
OPTIONAL ADVANCED HISTORY CURRICULUM DEVELOPMENT (HIST 6951)
Students who undertake their master's program when they are already teachers can choose to construct curriculum projects relevant to their teaching practice. See the separate section below on "Opportunities for Teachers and Teachers-in-Training."

- HIST 6950 - Master's Thesis
- HIST 6951 - Masters Project: Advanced History Curriculum Development
- HIST 6952 - Master's Project: Public History

Thesis Requirements

Students writing theses are expected to develop an original research agenda resulting in an extended paper. Students work with their major field advisor, who will help guide them through the process of research and writing. Students enroll for six credit hours in HIST 6950 to complete their theses. Before registering for HIST 6950, students must have a thesis proposal and initial bibliography approved by their advisor.

A thesis is evaluated by a committee of three, including the major advisor and two other faculty members chosen by the student in consultation with the major advisor. Upon completion of the thesis, the student meets with the committee members, who ask questions about the research and conclusions which the student must defend. In many instances, the committee will require further revisions, sometimes major in scope, before the thesis is accepted and cleared for submission to the Graduate School in fulfillment of degree requirements.

Project Requirements

In lieu of a thesis, public history majors may choose to enroll in one semester of HIST 6952 to complete a public history project. Projects, which are usually conducted in collaboration with a public history organization, can entail creating an exhibit, organizing a museum or archival collection, conducting a preservation survey or similar activities. Students are required to prepare a paper describing the process and results of their project.

- HIST 6952 - Master's Project: Public History

Opportunities for Teachers and Teachers-in-Training

Curriculum Projects

Licensed teachers and teachers-in-training enrolled in the history graduate program may choose to complete a curriculum development project. Students arrange curriculum development projects with a sponsoring faculty member. Generally, students are expected to develop and submit a complete course curriculum plan for each 3-semester-hour project. Projects need to show evidence of familiarity with the relevant historiographies and primary sources. Students may apply the credits from HIST 6951 to either the major field or the minor field, depending on the project subjects. Curriculum plans must meet minimum criteria established by the history department in the document Advanced History Curriculum Development Projects.

- HIST 6951 - Masters Project: Advanced History Curriculum Development
  (3 or 6 semester hours in their major field, or 3 semester hours in their major and 3 semester hours in their minor)

Secondary Teacher Licensure

Students interested in secondary teacher licensure should consult with the School of Education and Human Development. See the Urban Community Teacher Education Program for information.

History MA

Reading and Writing Option, MA Curriculum and Instruction

Literacy, Language and Culturally Responsive Teaching

MA Requirements for the Reading and Writing Option and Secondary English Education Option, plus Reading Teacher Endorsement and Certificate Programs

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Websites: www.ucdenver.edu/education/literacy and www.ucdenver.edu/education/englished

Reading and Writing

Secondary English

Early and Adolescent Literacy Certificates

Faculty

Information about faculty in this program is available online at www.ucdenver.edu/education/literacy.

The faculty of literacy, language and culturally responsive teaching (LLCRT) believe that effective teaching requires an awareness of and the ability to respond to individual differences. LLCRT faculty also emphasize the importance of teachers as scholars and reflective practitioners. In particular, teachers must understand how linguistic and cultural diversity affect their teaching. Two themes run throughout all program offerings. The first concerns the importance of recognizing a variety of literacies—"home" literacies, school literacy, "mainstream" literacy, first and second language literacies—and to develop teaching practices that utilize an understanding of the complexity of literacy development across language contexts. The second theme involves the meaningful use of language and literacy to improve the quality of one's life. As an approach to teaching, this theme emphasizes the creation of diverse, rich environments in which learners experience oral and written language as part of authentic tasks, and where concern for the cultural and linguistic heritage of the students is evident.

Reading and Writing Option and Reading Teacher Endorsement

This master's program is designed for K-6 and 7-12 teachers. This program is a credentialed program meeting the Colorado Department of Education requirements for the reading teacher endorsement. Therefore, students who obtain a master's degree emphasizing reading and writing are certified to hold positions in public and private schools as special developmental and reading teachers in K–6 or 7–12. This program is also valuable for elementary and secondary teachers who wish to enhance reading and writing instruction in their classrooms.

By placing emphasis on the reading, writing and oral and visual language development of culturally, linguistically and academically diverse student populations, this master's program is at the forefront of the field. Language is approached from a socio-psycholinguistic perspective that emphasizes the learner's construction of meaning rather than the learning of isolated skills.

Importance is placed on using theory, inquiry and personal reflection to inform classroom practice. The program prepares teachers to become decision makers capable of developing learner-centered curricula where each student's reading and writing abilities are assessed to address developmental or special needs.

Curriculum

Course offerings lead to an MA degree in curriculum and instruction with an emphasis in reading and writing, as well as a reading teacher endorsement, at one of two levels: K–6 or 7–12.

Those who have completed University of Colorado Denver's graduate teacher education licensure program must earn an additional 27 semester hours to obtain the MA and endorsement. Those who completed licensure through other means must earn an additional 36 semester hours to obtain the MA and endorsement.

Teachers may add a reading teacher endorsement to an already-earned master's degree in education by taking those courses listed under the chosen endorsement level. (In the state of Colorado, the reading teacher endorsement cannot simply be added to a bachelor's degree.) Electives and core courses are not required for those seeking the endorsement only. Two additional courses must be taken in other areas specified by the Colorado Department of Education. In many cases, previous master's degree courses will satisfy this requirement.

Requirements for Reading and Writing Program (Degree/Endorsement Options)

	ELEMENTARY (K-6)			**SECONDARY (7-12)**		
Course	**MA & CDE Endorsement**	**MA & CDE Endorsement** *(when added to CU Denver's graduate teacher education licensure program)*	**CDE Endorsement Only**	**MA & CDE Endorsement**	**MA & CDE Endorsement** *(when added to CU Denver's graduate teacher education licensure program)*	**CDE Endorsement Only**
Required		Required	Required	Required	Required	
LCRT 5810 - Wksp: Lang Acq & Development	Required	Required	Required	Required	Required	Required
LCRT 5010 - Foundations of Language	Required	Required	Required	Required	Required	Required
LCRT 5710 - Primary Literacy:	Required	Required	Required			

Pre-3rd Grade						
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12	Required	Required	Required	Required	Required	Required
LCRT 5730 - Language and Literacy Across the Curriculum	Required		Required	Required		Required
Children's literature course, per advisor approval	Select one	Select one	Select one			
LCRT 5201 - Adolescent Literature				Required	Required *(waived if taken as part of English Licensure)*	Required
LCRT 6910 - Seminar and Practicum in Literacy and Language, K-6	Required	Required	Required			
LCRT 6911 - Seminar and Practicum in Literacy and Language, 7-12+				Required	Required	Required
LCRT 5055 - Linking Assessment and Instruction in Language and Literacy	Required	Required	Required	Required	Required	Required
LCRT 6915 - Seminar and Practicum in Literacy	Required	Required		Required	Required	Required

Professional Development						
Core course in Research and Evaluation Methodology - see list below	Select one	5080		Select one	5080	
Interdisciplinary core course - see list below	Select one			Select one		
Graduate-level School of Education and Human Development elective				Select one		
Portfolio	Required	Required		Required	Required	
PLACE Exam	Required	Required	Required	Required	Required	Required
Total Semester Hours	36	27	27	36	27	27

Secondary English Education Option

The master's program in secondary English education is designed to enhance the preparation of middle and high school English/language arts teachers. Students complete course work in language development, assessment and field experiences. With the help of their advisor, they also select specific courses from the English Department or within the School of Education and Human Development that provide a well-rounded repertoire of knowledge and skills to fulfill the needs of an English educator. Special consideration is given to working with diverse ethnic populations.

Program Requirements

To earn a master of arts degree in curriculum and instruction with an emphasis in secondary English education, students must complete the following:

- 30 graduate semester hours in English education
- 6 graduate semester hours of core courses
- performance-based assessments that culminate in a portfolio finalized in the last semester of the program as fulfillment of the MA comprehensive exam requirement

Each student's course plan is developed in conjunction with his/her advisor. Please review www.ucdenver.edu/education/englished for recommended course sequence.

LCRT 5055 - Linking Assessment and Instruction in Language and Literacy Semester Hours: 3
LCRT 5201 - Adolescent Literature Semester Hours: 3
LCRT 5200 - Theory and Methods of English Education Semester Hours: 3
LCRT 5810 - Wksp: Lang Acq & Development Semester Hours: 3
LCRT 5010 - Foundations of Language Semester Hours: 3
LCRT 6911 - Seminar and Practicum in Literacy and Language, 7-12+ Semester Hours: 3
Research and Evaluation Methodology core course (see list below).
Interdisciplinary core course (see list below).
Four electives, per advisor approval, from the English department and/or the School of Education & Human Development. The following are recommended:
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12 Semester Hours: 3
-OR-
ENGL 5110 - Denver Writing Project Semester Hours: 3

Courses in working with English language learners and in instructional technology may also be helpful. For a technology course, please contact the professor about prerequisite knowledge.
Total: 36 semester hours

Program Requirements--When Added to CU Denver's Graduate Teacher Education Licensure Program

MA in curriculum and instruction with emphasis in secondary English education, when added to CU Denver's graduate teacher education licensure program:

- 18 graduate semester hours
- performance-based assessments that culminate in a portfolio finalized in the last semester of the program as fulfillment of the MA comprehensive exam requirement

Each student's course plan is developed in conjunction with his/her advisor. Please review www.ucdenver.edu/education/englished for recommended course sequence.

FNDS 5050 - Critical Issues in American Education Semester Hours: 3
-OR-
SPED 5300 - Collaborating in Schools and Communities Semester Hours: 3
RSEM 5080 - Research In Schools Semester Hours: 3
Four electives, per advisor approval, from the English Department and/or the School of Education and Human Development. The following are recommended:
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12 Semester Hours: 3
-OR-
ENGL 5110 - Denver Writing Project Semester Hours: 3
Courses in working with English language learners and in instructional technology may also be helpful. For a technology course, please contact the professor about prerequisite knowledge.
Total: 18 semester hours

Core Courses

Research and Evaluation Methodology

RSEM 5000 - Orientation to Research and Measurement in Education Semester Hours: 3
RSEM 5050 - Classroom Assessment Semester Hours: 3
RSEM 5080 - Research In Schools Semester Hours: 3
RSEM 5100 - Basic Statistics Semester Hours: 3
RSEM 5120 - Introduction to Research Methods Semester Hours: 3
RSEM 5110 - Introduction to Measurement Semester Hours: 3

Interdisciplinary

EPSY 5100 - Advanced Child Growth and Development Semester Hours: 3
EPSY 5140 - Advanced Adolescent Growth and Development Semester Hours: 3
EPSY 5220 - Adult Learning and Education Semester Hours: 3
EPSY 6200 - Human Development Over the Life Span Semester Hours: 3
FNDS 5050 - Critical Issues in American Education Semester Hours: 3
FNDS 5420 - History and Philosophy of Education: Twentieth Century America Semester Hours: 3
LCRT 5140 - Multicultural Education Semester Hours: 3
LCRT 5150 - Culture of the Classroom Semester Hours: 3
CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn Semester Hours: 3
CLDE 5820 - Techniques in Teaching English as a Second Language Semester Hours: 3

Cumulative Portfolio

The MA portfolio counts as the comprehensive exam for the master's degree. The portfolio is an accumulation of the performance based assessments completed during program courses and reflects on the student's development over the course of the degree program. Reading and writing students must include confirmation of Reading Teacher PLACE exam registration in their portfolios. Information about the PLACE is online at www.place.nesinc.com.

Course Scheduling

During the fall and spring semesters, most university courses are offered in the late afternoon and evening and meet for three hours once a week over a 16-week semester. Some alternative course schedules are available, such as meeting on five Friday-evening/all-day Saturday combinations. In the summer semester, three- to eight-week sessions are offered, and courses may be in the morning, afternoon or evening.

Planning

For practicing full-time teachers, we recommend taking one course each fall and spring semester, and up to two courses each summer. Plan carefully because courses are intended to build upon each other, and some courses are only offered once a year.

Active Status

Students must complete their programs within seven years, maintaining a GPA of 3.0. Students typically take four courses each calendar year. Failure to enroll over three contiguous semesters will result in a requirement to submit readmission materials.

Early and Adolescent Literacy Certificates

The early literacy certificate and adolescent literacy certificate each include three graduate-level courses (for a total of 9 semester hours) and are conveniently offered entirely online. They are specifically designed to help licensed teachers develop the skills necessary to reach student readers. To find out more, please visit www.ucdenver.edu/education/cpe or email cpe@ucdenver.edu.

Recording Arts, Master of Science (MSRA)

► Graduate School Rules apply to this program

Program Overview

Recording arts is a field that deals with all aspects of recorded music and sound, including mixing, mastering, production, sequencing, calibration, live sound reinforcement, and post-production. The program refines student skills in sound recording, aesthetics, multi-track recording, digital signal processing, automated mixing, synchronization, stereo imaging and monitoring, mastering and post-production.

In addition, the program recognizes the need for pedagogy degrees. Pedagogy is synonymous with teaching, and this program includes a survey of available resources for audio education. The curriculum offers an interdisciplinary approach, including physics, acoustics, engineering, music, broadcast, medicine, psychology, multimedia, theatre and film/video. The program emphasizes design and development of new methods and materials.

CU Denver's master of science in recording arts (MSRA) has the only pedagogy track in the nation. This graduate degree is designed to:

- prepare students for careers in audio application for the fields of mass communications, education, arts and the entertainment industries
- help professionals advance their careers
- help prepare the music educators of the future

Students may choose between a thesis (research) or non-thesis (portfolio/project) option.

Graduate courses constituting the core of the MSRA advance the artistic, pedagogical, technical and problem-solving abilities of the enrolled students. Elective courses allow each student to develop additional skills and knowledge in related areas, including film, broadcasting, education, music business and the performing arts.

CAM encourages students from allied disciplines (music, physics, engineering, etc.) to apply. Students are not required to have their bachelor's in recording arts—the student's bachelor's degree can be from any discipline. Applicants can qualify for the MSRA by having equivalent level preparation (e.g., work experience). Candidates without sufficient experience/training in recording arts may be required to take preparatory courses at the undergraduate level.

Note: The application process and requirements for the master of science in recording arts (MSRA) differ from those listed for the MSRA media forensics emphasis.

MSRA Application Components

The following is required of all students applying to the MSRA program, with the exception of international students. International students should consult the Office of International Affairs for specific information on application and admission requirements. Contact the Office of International Affairs for specific application forms: www.internationaladmissions.ucdenver.edu.

1. **Graduate Admissions Application**

Students should plan to apply online: www.ucdenver.edu > Admissions > Master's. Alternatively, students may request an application packet by calling 303-556-3480. Please be sure to provide a mailing address.

Students are required to complete the application for graduate admissions form.

Program of study—on the online application, the plan of study for all master of science in recording arts candidates is Recording Arts (RCDA-MS).

International students must complete additional paperwork in addition to the components below. International student applications must be received six months prior to the term for which the student is applying. Contact the Office of International Affairs for specific application forms.

2. **In-State Tuition Classification Application**

Students who may qualify for Colorado in-state tuition (i.e., residency) should fill out the in-state tuition form. *The Office of Admissions will make the determination of residency*. For information on residency criteria contact the Office of Admissions at 303-556-2704 or admissions@ucdenver.edu.

3. **Entrance Examinations(s)**

Official GRE scores (www.gre.com)—All applicants to the MSRA degree program must submit scores from the GRE. The General Test offered by Educational Testing Service will assist the department in evaluating applicants to the degree program. The test evaluates verbal, quantitative and analytical writing skills for the candidates. This examination is offered internationally by Educational Testing Service on a continuous schedule. The minimum required score for entrance in the program is the 50th percentile, although each student's score will be evaluated as part of complete application process. This examination is not intended to exclude any applicant from the degree program, but rather to assist in academic advising.

Scores must be received by the application deadline; therefore, students should plan accordingly when scheduling their testing dates. Late GRE scores are not accepted; these applications will not be reviewed.

Test of English as a Foreign Language (TOEFL) (www.ets.org/toefl)—This examination is required for international students for whom English is not their primary language. These students are required to have a minimum TOEFL score of 500 (173 electronic). As this is a highly technical degree program, which will require a specialized vocabulary and strong written skills, higher TOEFL scores are encouraged.

4. **Transcripts**

The most recent *official* academic transcripts must be sent from the registrar of all previous higher education institutions. Official transcripts should be mailed to:

MSRA Graduate Admissions Committee
Campus Box 162, P.O. Box 173364
Denver, CO 80217-3364

5. **Letters of Recommendation**

Three (3) letters of recommendation are required from responsible persons who can attest to the academic and professional accomplishments of applicants. The names of those who are providing letters of recommendation should be included in Part II of the application.

Letters of recommendation must be accompanied by the letter of recommendation form, available on the MSRA website.

Incomplete letters of recommendation will not be considered, and the application will not be reviewed.

6. **Application Essay**

This essay should summarize the educational and professional history of the applicant relative to a career in the audio/music industry, and should include:

- complete name and contact information
- educational background
- career objective
- anticipated dates of attendance

The essay must be typed, double-spaced and in English; the preferred length is three to five pages.

7. *Resume*

Students are required to submit a 1-2 page typed resume, including educational background, work experience and relevant skills. Students are welcome to include any published works, exhibitions, performances, awards or other relevant achievements. The resume should be chronological, beginning with educational background and progressing to employment history. Please refrain from functional resumes or those that simply summarize qualities or competencies. This professional vita complements the essay by providing a chronology of all educational and work experiences and of scholarly/creative work.

8. *Portfolio*

All applicants will submit a portfolio of recordings that represent their best accomplishments in audio production. Presentation, breadth of experience, technical and artistic quality will be evaluated.

The required submission format is an audio Compact Disc (CD) or Video DVD, with an annotated discography (index) to the portfolio material and a clear and accurate labeling of all material. Discography *must* include the applicant's function on each track (e.g. artist/performer, engineer, producer, arranger, etc.). Compressed audio recordings (MP3, AAC, etc.) will not be accepted.
A DVD portfolio may be submitted if the student's primary experience is in visual media (film, TV, etc.). DVD portfolios must also contain an annotated discography.

Helpful tips for a good portfolio are available on the MSRA website. Portfolio submissions that do not follow these guidelines will not be evaluated, and the application will not be processed.

9. **Application Fee**

$50 nonrefundable for domestic (within the USA) applicants
$75 nonrefundable for international applicants

The application fee must be paid with a check, money order or by credit card. Cash will not be accepted. The fee must be paid in U.S. dollars.

Applications that do not include all of the requirements listed above, or that include partial components, are considered incomplete and will not be reviewed.

Required Courses

- MSRA 5000 - Introduction to Graduate Studies
- MSRA 5580 - Graduate Audio Seminar I
- MSRA 5590 - Graduate Audio Production
- MSRA 6510 - Graduate Audio Studies Pedagogy
- MSRA 6950 - Thesis in Professional Audio
  or
- MSRA 6951 - Professional Audio Portfolio Thesis

Total: 16 Hours

Electives

Students may take courses not listed here upon approval of the faculty or academic advisor.

- MSRA 5001 - MSRA Research Seminar (spring)
- MSRA 5500 - Topics in Professional Audio (spring)
- MSRA 5505 - Audio Post Production I (fall)
- MSRA 5530 - Live Sound Reinforcement (fall/spring)
- MSRA 5560 - Mastering & Advanced Digital Audio (spring)
- MSRA 5575 - Graduate Surround Sound (spring)
- MSRA 5605 - Audio Post Production II (spring)
- MSRA 5820 - Digital Music Techniques (fall)
- MSRA 5840 - Independent Study for MSRA (spring, fall, summer)

Total: 18 Hours

Program Total: 34 Hours

Students should plan to graduate in a minimum of 4 semesters. Students can apply for graduation in any semester (fall, spring or summer), provided they have completed the

required course work. All course work must be completed with a satisfactory grade of "B" (3.0) or higher. Students should not register for thesis/portfolio, unless approved by the faculty advisor.

Please refer to the master of science in recording arts website for additional information: http://cam.ucdenver.edu/meis/recordingarts.htm.

School Library and Instructional Leadership MA

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/education/schoollibrary

Faculty

Information about SLIL faculty is available online at www.ucdenver.edu/education/schoollibrary.

Program Overview

The school library and instructional leadership program within the ILT master's degree program is a nationally recognized NCATE-AASL revised and approved school library media education program that leads to the Colorado Department of Education endorsement for school libraries. The program integrates information literacy standards through the use of collaborative planning, as approved by the American Association of School Libraries. Technology and library resources are seen as tools to increase student achievement by integrating the information literacy standards with the content standards of the classroom teacher. The program adheres to the constructivist theory of resource-based learning and promotes an appreciation of children's and adolescent literature. The program believes that school librarians require education as a teacher as well as a librarian, as advocated by the American Library Association and the International Association of School Libraries. As a school librarian, you will provide collaborative instruction, information access and leadership through the management of your library program and the library resources. Courses are offered in a completely online program, or a monthly Saturday cohort scheduled in communities across Colorado.

Once admitted, students begin a plan of study that typically takes about two years to complete. Consult the SLIL website for more information about specific plans of study, course offerings and expectations of cohort groups.

Admission Requirements

Admission decisions are based on undergraduate and graduate grades, external letters of recommendation and fit with the program as reflected in a letter of intent. In some cases, results of a test (GRE) are also required. Prospective students should consult the SLIL program website for complete admission procedures and requirements.

Professional Expectations

All students in the SLIL program are expected to show a strong commitment to the program and to maintain high academic, professional and ethical standards. Inappropriate or unprofessional conduct is cause for discipline or dismissal from the program.

Technology Expectations

The SLIL program uses computers and related technologies either as a focus or a tool for learning. Students are expected to obtain an e-mail account and check it frequently. In addition to on-campus facilities, SLIL students need convenient access to Internet-connected computers

off campus, either at their place of work or at home. In addition to textbooks, software purchases may be required or recommended for specific classes.

Program Requirements

School library students also have a choice between endorsement-only and full master's programs. The master's program requires a minimum of 36 graduate semester hours. Students complete a plan of study consisting of courses and professional field experience. To receive Colorado teacher endorsement, students are required to pass the PLACE test in school library. This is a Colorado Department of Education requirement.

An Example of Two-Year Plan for School Library Program

Courses are offered only in certain semesters and courses should be taken in a particular sequence based on when you start the program**.** Advising is required prior to enrolling in a course, even as a non-degree student, in order to ensure the most effective course sequencing and availability of courses.

Typical First Year

Fall	Spring	Summer
SCHL 5530 - Foundations of School Librarianship* LCRT 5790 - Children's Literature Through the Ages***	SCHL 5020 - Collection Development	SCHL 5110 - Integrating Instructional Technology Practices in School Libraries (MA only) LCRT 5201 - Adolescent Literature . ***

Second Year

Fall	Spring	Summer
SCHL 5160 - Managing School Library Programs SCHL 6720 - Research In Information And Learning Technologies *** SCHL 5911 - School Library Field Experience-Elementary **	SCHL 5030 - Information Literacy and Reference SCHL 5912 - School Library Field Experience-Secondary **	SCHL 5040 - Information Storage and Utilization SCHL 6999 - Leadership and Practice in School Libraries (MA Only)

***** SCHL 5530 Foundations in School Librarianship should be taken as the first course in your program.

** 80 hours of field experience hours are required. Field experience may be completed over the course of a year; online seminar hours will be completed during the field experience timeframe. Field experiences are completed within a pre-approved school library. See Field Experience Policy for more information.

*** LCRT 5201; LCRT 5790; and SCHL 6720 are offered on-campus in other semesters as well.

Comprehensive Examination for All SLIL Students

The comprehensive exam consists of a professional portfolio where in students demonstrate program competencies through work products and related accomplishments. The portfolio is created throughout the student's program and submitted for faculty review the final semester. For more information, see the ILT website. For complete details about the SLIL program and endorsement requirements, see the ILT website at www.ucdenver.edu/education/schoollibrary.

School Psychology EdS/Licensure

Program Leader: Franci Crepeau-Hobson
Office: Lawrence Street Center, 1113
Phone: 303-315-6315
Fax: 303-315-6349
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/education/schoolpsychology

Faculty

Information about faculty in the school psychology program is available online at www.ucdenver.edu/education/literacy.

Degree

The educational specialist degree in school psychology is a 75 graduate semester-hour program that leads to licensure in school psychology by the Colorado Department of Education, national certification in school psychology by the National Association of School Psychologists Certification Board and the educational specialist degree (EdS) in school psychology.

This NASP-approved program allows students to create individual plans for meeting program requirements on a full- or part-time basis, during summer and academic year terms and during evening and weekend hours.

The school psychology faculty have adopted a culturally responsive preventative model of school mental health services. Upon completion of the program, students will be able to:

- screen for and recognize the early warning signs of social, emotional or academic risk, distinguishing between these and the typical development of infants, children and adolescents (birth–age 21)
- communicate effectively and consult collaboratively with students, parents, school professionals and community leaders to enhance the academic and mental health skills of students
- incorporate data-based decision making through formal and informal assessment procedures and planning interventions that enhance students' cognitive, social-emotional and behavioral competencies
- plan, implement and evaluate the effectiveness of preventative and remedial therapeutic interventions that strengthen students' mental health and academic skills
- advocate for children and families through the application of legal, ethical and professional standards for practice

Bilingual School Psychologist Concentration Option

This specialization provides School Psychology students with the knowledge and skills to effectively serve English language learners in the school setting. In addition to the two required courses and practicum component, the Bilingual School Psychologist concentration consists of language proficiency assessments to ensure that school psychologists are adequately proficient in another language to provide psychoeducational services. CU Denver provides one of the few

bilingual school psychology concentration areas in the country making our graduates even more desirable in their future endeavors.

Admission Requirements

Successful applicants to the school psychology (SPSY) program will have obtained a minimum 3.0 undergraduate GPA and will score at least 300 on the verbal and quantitative sections (combined) of the Graduate Record Exam (GRE) and a minimum score of a 3.5 on the written portion of the GRE. Applicants will also submit a current resume, a personal statement that outlines their reasons for pursuing a degree in school psychology at CU Denver, and three letters of recommendations. Applicants meeting these minimum standards will be invited to a half-day group interview that includes a program orientation, and a writing assignment.

Application materials are available at https://soa.prod.cu.edu/degreeprog/applyDEGREEPROG_CUDEN/login.action. All materials must be submitted online by the appropriate deadline—January 15 for fall semester. Application materials include the following:

- part I of the application for admissions
- tuition classification form
- $50 application fee (make checks payable to the University of Colorado Denver)
- letter of intent
- three letters of recommendations
- two official transcripts from each higher education institution attended (in the original, sealed envelope)
- official GRE scores sent directly to the University of Colorado Denver
- oath and consent
- fingerprint affidavit

Requirements for the Educational Specialist Degree in School Psychology and Licensure

Students will complete course work in child development, learning and cognition, academic interventions, legal and professional issues, assessment, crisis intervention, counseling and other direct, interventions and consultation. Specific course requirements include two prerequisite courses, 20 graduate courses, including two electives and 15 graduate semester hours (1700 clock hours) of supervised experiences. Prerequisites include an undergraduate or graduate courses in Child Development and Measurement Concepts (i.e., RSEM 5110 - Introduction to Measurement).

Students will complete the following core course work:

- CPCE 5010 - Counseling Theories
- EPSY 5240 - Cognition and Instruction
- RSEM 5100 - Basic Statistics
  Or
- RSEM 7110 - Intermediate Statistics

- RSEM 7120 - Advanced Methods in Quantitative Inquiry and Measurement
  Or
- RSEM 7500 - Special Topics: Research and Evaluation Methods
- SPSY 5600 - Behavior Analysis and Intervention
- SPSY 5900 - School-Based Multicultural Interventions
- SPSY 6100 - School Psychology: Professional and Legal Foundations
- SPSY 6150 - Psychoeducational Assessment I
- SPSY 6160 - Psychoeducational Assessment II
- SPSY 6170 - Assessment and Intervention: Birth to 3
- SPSY 6200 - Risk, Resilience, and Prevention in School Mental Health
- SPSY 6350 - School-Based Interventions: Children, Youth and Families
- SPSY 6400 - School-Based Interventions: Groups, Classrooms and Systems
- SPSY 6420 - Crisis Prevention, Planning and Intervention
- SPSY 6450 - School-Based Consultation for Mental Health Professionals
- SPSY 6500 - Identifying and Planning for the Mental Health Needs of Children and Adolescents
- SPSY 6550 - Academic Interventions in School Psychology
- SPSY 6410 - Psychoeducational Assessment of Culturally and Linguistically Diverse Students
- SPSY 6917 - Advanced Practicum in Psychological Assessment

Two of the following electives courses are also required and must be taken prior to Internship:

- CLDE 5140 - Multicultural Education
- CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn
- CPCE 5280 - Addictions Counseling
- CPCE 6230 - Developmental Counseling in Schools: Prevention & Intervention
- ECED 5202 - Classroom Management to Promote Positive Behavior
- EPSY 5180 - Psychology of Gifted, Talented and Creative Children
- PUAD 6600 - Special Topics: Public Administration
- SPED 5300 - Collaborating in Schools and Communities
- SPED 5450 - Introduction to ABA and Terminology
- SPED 5780 - Literacy Intervention for Students with Disabilities

Supervised Experiences

- SPSY 6911 - School Psychology Practicum
- SPSY 6930 - School Psychology Internship

Total: 75 Hours

The education specialist in school psychology degree also requires satisfactory completion of two professional portfolios (pre-internship and EdS) demonstrating mastery of the program objectives and passing scores (≥ 165) on the PRAXIS specialty exam in school psychology.

Professional Expectations

All students in the SPSY program are expected to show a strong commitment to the program and to maintain a high academic, professional, ethical standards and a sensitivity to diversity. Inappropriate or unprofessional conduct is cause for discipline or dismissal from the program.

Secondary English Education Option, MA Curriculum and Instruction

Literacy, Language and Culturally Responsive Teaching

MA Requirements for the Reading and Writing Option and Secondary English Education Option, plus Reading Teacher Endorsement and Certificate Programs

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu.
Websites: www.ucdenver.edu/education/literacy and www.ucdenver.edu/education/englished

Reading and Writing

Secondary English

Early and Adolescent Literacy Certificates

Faculty

Information about faculty in this program is available online at www.ucdenver.edu/education/literacy.

The faculty of literacy, language and culturally responsive teaching (LLCRT) believe that effective teaching requires an awareness of and the ability to respond to individual differences. LLCRT faculty also emphasize the importance of teachers as scholars and reflective practitioners. In particular, teachers must understand how linguistic and cultural diversity affect their teaching. Two themes run throughout all program offerings. The first concerns the importance of recognizing a variety of literacies—"home" literacies, school literacy, "mainstream" literacy, first and second language literacies—and to develop teaching practices that utilize an understanding of the complexity of literacy development across language contexts. The second theme involves the meaningful use of language and literacy to improve the quality of one's life. As an approach to teaching, this theme emphasizes the creation of diverse, rich environments in which learners experience oral and written language as part of authentic tasks, and where concern for the cultural and linguistic heritage of the students is evident.

Reading and Writing Option and Reading Teacher Endorsement

This master's program is designed for K-6 and 7-12 teachers. This program is a credentialed program meeting the Colorado Department of Education requirements for the reading teacher endorsement. Therefore, students who obtain a master's degree emphasizing reading and writing are certified to hold positions in public and private schools as special developmental and reading teachers in K–6 or 7–12. This program is also valuable for elementary and secondary teachers who wish to enhance reading and writing instruction in their classrooms.

By placing emphasis on the reading, writing and oral and visual language development of culturally, linguistically and academically diverse student populations, this master's program is at the forefront of the field. Language is approached from a socio-psycholinguistic perspective that emphasizes the learner's construction of meaning rather than the learning of isolated skills.

Importance is placed on using theory, inquiry and personal reflection to inform classroom practice. The program prepares teachers to become decision makers capable of developing learner-centered curricula where each student's reading and writing abilities are assessed to address developmental or special needs.

Curriculum

Course offerings lead to an MA degree in curriculum and instruction with an emphasis in reading and writing, as well as a reading teacher endorsement, at one of two levels: K–6 or 7–12.

Those who have completed University of Colorado Denver's graduate teacher education licensure program must earn an additional 27 semester hours to obtain the MA and endorsement. Those who completed licensure through other means must earn an additional 36 semester hours to obtain the MA and endorsement.

Teachers may add a reading teacher endorsement to an already-earned master's degree in education by taking those courses listed under the chosen endorsement level. (In the state of Colorado, the reading teacher endorsement cannot simply be added to a bachelor's degree.) Electives and core courses are not required for those seeking the endorsement only. Two additional courses must be taken in other areas specified by the Colorado Department of Education. In many cases, previous master's degree courses will satisfy this requirement.

Requirements for Reading and Writing Program (Degree/Endorsement Options)

	ELEMENTARY (K-6)			**SECONDARY (7-12)**		
Course	**MA & CDE Endorsement**	**MA & CDE Endorsement** *(when added to CU Denver's graduate teacher education licensure program)*	**CDE Endorsement Only**	**MA & CDE Endorsement**	**MA & CDE Endorsement** *(when added to CU Denver's graduate teacher education licensure program)*	**CDE Endorsement Only**
Required		Required	Required	Required	Required	
LCRT 5810 - Wksp: Lang Acq & Development	Required	Required	Required	Required	Required	Required
LCRT 5010 - Foundations of Language	Required	Required	Required	Required	Required	Required
LCRT 5710 - Primary Literacy:	Required	Required	Required			

Pre-3rd Grade						
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12	Required	Required	Required	Required	Required	Required
LCRT 5730 - Language and Literacy Across the Curriculum	Required		Required	Required		Required
Children's literature course, per advisor approval	Select one	Select one	Select one			
LCRT 5201 - Adolescent Literature				Required	Required *(waived if taken as part of English Licensure)*	Required
LCRT 6910 - Seminar and Practicum in Literacy and Language, K-6	Required	Required	Required			
LCRT 6911 - Seminar and Practicum in Literacy and Language, 7-12+				Required	Required	Required
LCRT 5055 - Linking Assessment and Instruction in Language and Literacy	Required	Required	Required	Required	Required	Required
LCRT 6915 - Seminar and Practicum in Literacy	Required	Required		Required	Required	Required

Professional Development						
Core course in Research and Evaluation Methodology - see list below	Select one	5080		Select one	5080	
Interdisciplinary core course - see list below	Select one			Select one		
Graduate-level School of Education and Human Development elective				Select one		
Portfolio	Required	Required		Required	Required	
PLACE Exam	Required	Required	Required	Required	Required	Required
Total Semester Hours	36	27	27	36	27	27

Secondary English Education Option

The master's program in secondary English education is designed to enhance the preparation of middle and high school English/language arts teachers. Students complete course work in language development, assessment and field experiences. With the help of their advisor, they also select specific courses from the English Department or within the School of Education and Human Development that provide a well-rounded repertoire of knowledge and skills to fulfill the needs of an English educator. Special consideration is given to working with diverse ethnic populations.

Program Requirements

To earn a master of arts degree in curriculum and instruction with an emphasis in secondary English education, students must complete the following:

- 30 graduate semester hours in English education
- 6 graduate semester hours of core courses
- performance-based assessments that culminate in a portfolio finalized in the last semester of the program as fulfillment of the MA comprehensive exam requirement

Each student's course plan is developed in conjunction with his/her advisor. Please review www.ucdenver.edu/education/englished for recommended course sequence.

LCRT 5055 - Linking Assessment and Instruction in Language and Literacy Semester Hours: 3
LCRT 5201 - Adolescent Literature Semester Hours: 3
LCRT 5200 - Theory and Methods of English Education Semester Hours: 3
LCRT 5810 - Wksp: Lang Acq & Development Semester Hours: 3
LCRT 5010 - Foundations of Language Semester Hours: 3
LCRT 6911 - Seminar and Practicum in Literacy and Language, 7-12+ Semester Hours: 3
Research and Evaluation Methodology core course (see list below).
Interdisciplinary core course (see list below).
Four electives, per advisor approval, from the English department and/or the School of Education & Human Development. The following are recommended:
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12 Semester Hours: 3
-OR-
ENGL 5110 - Denver Writing Project Semester Hours: 3

Courses in working with English language learners and in instructional technology may also be helpful. For a technology course, please contact the professor about prerequisite knowledge.
Total: 36 semester hours

Program Requirements--When Added to CU Denver's Graduate Teacher Education Licensure Program

MA in curriculum and instruction with emphasis in secondary English education, when added to CU Denver's graduate teacher education licensure program:

- 18 graduate semester hours
- performance-based assessments that culminate in a portfolio finalized in the last semester of the program as fulfillment of the MA comprehensive exam requirement

Each student's course plan is developed in conjunction with his/her advisor. Please review www.ucdenver.edu/education/englished for recommended course sequence.

FNDS 5050 - Critical Issues in American Education Semester Hours: 3
-OR-
SPED 5300 - Collaborating in Schools and Communities Semester Hours: 3
RSEM 5080 - Research In Schools Semester Hours: 3
Four electives, per advisor approval, from the English Department and/or the School of Education and Human Development. The following are recommended:
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12 Semester Hours: 3
-OR-
ENGL 5110 - Denver Writing Project Semester Hours: 3
Courses in working with English language learners and in instructional technology may also be helpful. For a technology course, please contact the professor about prerequisite knowledge.
Total: 18 semester hours

Core Courses

Research and Evaluation Methodology

RSEM 5000 - Orientation to Research and Measurement in Education Semester Hours: 3
RSEM 5050 - Classroom Assessment Semester Hours: 3
RSEM 5080 - Research In Schools Semester Hours: 3
RSEM 5100 - Basic Statistics Semester Hours: 3
RSEM 5120 - Introduction to Research Methods Semester Hours: 3
RSEM 5110 - Introduction to Measurement Semester Hours: 3

Interdisciplinary

EPSY 5100 - Advanced Child Growth and Development Semester Hours: 3
EPSY 5140 - Advanced Adolescent Growth and Development Semester Hours: 3
EPSY 5220 - Adult Learning and Education Semester Hours: 3
EPSY 6200 - Human Development Over the Life Span Semester Hours: 3
FNDS 5050 - Critical Issues in American Education Semester Hours: 3
FNDS 5420 - History and Philosophy of Education: Twentieth Century America Semester Hours: 3
LCRT 5140 - Multicultural Education Semester Hours: 3
LCRT 5150 - Culture of the Classroom Semester Hours: 3
CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn Semester Hours: 3
CLDE 5820 - Techniques in Teaching English as a Second Language Semester Hours: 3

Cumulative Portfolio

The MA portfolio counts as the comprehensive exam for the master's degree. The portfolio is an accumulation of the performance based assessments completed during program courses and reflects on the student's development over the course of the degree program. Reading and writing students must include confirmation of Reading Teacher PLACE exam registration in their portfolios. Information about the PLACE is online at www.place.nesinc.com.

Course Scheduling

During the fall and spring semesters, most university courses are offered in the late afternoon and evening and meet for three hours once a week over a 16-week semester. Some alternative course schedules are available, such as meeting on five Friday-evening/all-day Saturday combinations. In the summer semester, three- to eight-week sessions are offered, and courses may be in the morning, afternoon or evening.

Planning

For practicing full-time teachers, we recommend taking one course each fall and spring semester, and up to two courses each summer. Plan carefully because courses are intended to build upon each other, and some courses are only offered once a year.

Active Status

Students must complete their programs within seven years, maintaining a GPA of 3.0. Students typically take four courses each calendar year. Failure to enroll over three contiguous semesters will result in a requirement to submit readmission materials.

Early and Adolescent Literacy Certificates

The early literacy certificate and adolescent literacy certificate each include three graduate-level courses (for a total of 9 semester hours) and are conveniently offered entirely online. They are specifically designed to help licensed teachers develop the skills necessary to reach student readers. To find out more, please visit www.ucdenver.edu/education/cpe or email cpe@ucdenver.edu.

Social Science MSS

► Graduate School Rules apply to this program

Requirements for Admission

General rules for admission into the Graduate School apply to admission into the MSS program.

For admission as a regular graduate student, applicants must:

- have earned a bachelor's degree
- submit two official copies of all transcripts, with an overall GPA of at least 3.0 out of 4.0
- have appropriate undergraduate training or professional background or indicators that supply evidence of ability to pursue the MSS degree
- include a writing sample
- submit three letters of recommendation (at least two from academic sources)
- submit a written statement specifying the goal of advanced study in the social sciences, expressed in clear, correct and effective English
- standardized test scores are not required, but will be considered if submitted

After meeting all other requirements for admission, applicants may be required to have an interview to discuss their interest in the program and their plans for study. For out-of-state applicants, an appropriate substitute for the interview may be determined by the director.

Provisional Admission:

Applicants may be admitted as provisional-status graduate students if their complete record indicates a high probability of success.

Non-degree Students:

Potential applicants may take graduate-level courses as nondegree students (unclassified student with a bachelor's degree) if they:

1. Wish to strengthen their record in order to demonstrate that they can successfully complete courses in the program
   –or–
2. Wish to start courses in the program prior to completing their application. Up to 12 semester hours taken as a nondegree student may be accepted by the program once a student has been admitted into the program (the 12-hour limit also includes graduate work from another university).

International Students:

International students must also meet UC Denver requirements for international admission. See the Information for International Students section of this catalog or call 303-315-2230 for further information.

Degree Requirements

The MSS is a 36-semester-hour program, of which 30 hours must meet all specifications of the Graduate School . Throughout their work toward the MSS degree, students must maintain at least a *B* (3.0) average in all courses. A grade below *B*- will not be counted toward the degree.

Students may pursue courses around any coherent theme with the approval of MSS program directors and advisors. In addition to the unlimited self-structured options, there are five tracks in place from which students can select: women's and gender studies, international studies, social justice, society and environment and community health science.

Three Required Core Seminars

The following two courses must be taken during the first year following entrance to the program:

- SSCI 5013 - Philosophical Problems in the Social Sciences and Humanities
  (Offered spring only)
- SSCI 5020 - Elements of Social Thought
  (Offered fall only)

The third required course should be taken later in the program when students are ready to write a proposal for the thesis or project:

- SSCI 5023 - Research Perspectives in Social Science
  (Offered spring only)

Total: 9 Hours

Electives

Additionally, students must complete a total of 21-24 semester hours comprising a coherent selection of courses from a variety of disciplines. All courses for the self-structured portion of the program must be selected with the approval of one of the MSS program directors.

A total of two independent study courses and two 4000-level undergraduate courses taken while enrolled in the program may count toward the degree. All independent study contracts must be approved by one of the program directors. The remaining course work must be 5000/6000-level courses offered through various departments.

Students completing a project take 24 hours of electives, while thesis students complete 21 hours of electives.

Total: 21-24 Hours

Thesis or Project

In order to proceed with a thesis or project, all students must submit a proposal approved by three faculty members (and approved by one of the program directors in cases where one of the directors is not serving on the committee). Students must also pass an oral comprehensive exam to graduate. Total hours required are: 3 hours of project and 6 hours of thesis.

- SSCI 6950 - Master's Thesis
- SSCI 6960 - Master's Project or Report

Total: 3-6 Hours

Degree Total: 36 Hours

Sociology MA

► Graduate School Rules apply to this program

Program Requirements

Two plans of study are available for students. Both options require a minimum of 36 hours. A thesis is required for the thesis option, and a project and internship are required for the nonthesis option.

Required Courses

Core courses are required for all graduate students, regardless of plan. Students who are officially admitted to the program are required to follow a sequential plan. SOCY 5000 must be taken in the first fall semester. Students must take SOCY 5014 before taking SOCY 5015. Similarly, SOCY 5024 must be taken before SOCY 5183. Students must earn a *B* or better in all core courses.

- SOCY 5000 - Professional Seminar: Sociological Inquiry
- SOCY 5014 - Classical Sociological Theory
- SOCY 5015 - Contemporary Sociological Theory
- SOCY 5024 - Seminar: Research Methods I
- SOCY 5183 - Seminar: Quantitative Data Analysis

Total: 15 Hours

PLANS OF STUDY

Students must also choose **one** of the following options:

Thesis Option Requirements

Core course requirements	15 Hours
Five elective courses	15 Hours
Master's thesis	6 Hours total required

- SOCY 5955 - Master's Thesis

Thesis Option Total: 36 Hours

Nonthesis Option Requirements

Core course requirements	15 Hours
Five elective courses	15 Hours
Internship	3 Hours
Master's project	3 Hours

- SOCY 5964 - Master's Report

Nonthesis Option Total: 36 Hours

Elective Credit Requirements (15 semester hours for both options)

Students can take an unlimited number of sociology graduate (5000-level) seminars to fulfill their 15 elective semester hours, or a combination of the following:

- Independent study: maximum 6 semester hours
- Courses in other departments: maximum 6 semester hours
- Internship: maximum 3 semester hours

For further information about the Department of Sociology or the MA program, visit the Sociology website.

Spanish MA

► Graduate School Rules apply to this program

The CU Denver modern languages faculty offers a Spanish master's degree program that is an alternative to the exclusively literary studies that traditionally lead to doctoral programs. By integrating language, literature and cultural studies with ancillary work in other disciplines, the degree provides a broader expertise that will lead to or enhance careers in teaching, government, social services, business and international trade. Students will tailor the program to their specific interests and needs by developing a topical focus and including courses from outside the Department of Modern Languages, through which they may develop a secondary emphasis that can be incorporated in a thesis project.

Requirements for Admission

In addition to the general admission requirements of the Graduate School, the Spanish MA program requires:

- an undergraduate GPA of at least 2.5, with a GPA of at least 3.0 in Spanish courses
- a bachelor's degree in Spanish is not required, although all candidates must demonstrate Spanish oral and written proficiency at the advanced level, as defined by the American Council on the Teaching of Foreign Languages
- two copies of all college transcripts
- three letters of recommendation
- a statement of the applicant's purpose in pursuing the degree, in Spanish; any gaps, weaknesses or special circumstances affecting an applicant's academic record should be addressed in the statement of purpose portion of the application
- a TOEFL score higher than 550 for students whose previous academic degree was completed in a non-English-speaking country

In special circumstances, the department may modify its admission standards.

Program Requirements

Candidates in Spanish must satisfy the general requirements of the Graduate School as outlined in this catalog and will be required to complete 33 hours of course work distributed with respect to one of the following two options:

Thesis option (course work + thesis):

- SPAN 5000 - Introduction to Graduate Studies in Spanish
  Literature/culture and linguistics, including at least 6 hours in literature/culture and 6 hours in linguistics: **15 semester hours**
  Courses outside the Department of Modern Languages, as approved by advisor: **6 semester hours**
  Elective, as approved by advisor: **3 semester hours**
  Thesis preparation and writing: **6 semester hours**
- SPAN 5950 - Master's Thesis

Thesis Option Total: 33 Hours

Nonthesis option (course work):

- SPAN 5000 - Introduction to Graduate Studies in Spanish
  Literature/culture and linguistics, including at least 6 hours in literature/culture and 6 hours in linguistics: **18 semester hours**
  Courses outside the Department of Modern Languages, as approved by advisor: **6 semester hours**
  Electives as approved by advisor (may include another course outside the Department of Modern Languages): **6 semester hours**

Nonthesis Option Total: 33 Hours

Notes:

1. No more than one undergraduate course (3 semester hours) may be applied toward the MA degree and then only in an ancillary field outside the Department of Modern Languages.
2. Students choosing the nonthesis option may elect to take three courses (9 semester hours) outside the department.

Financial Aid

The department offers a limited number of teaching assistantships for graduate students on a semester-by-semester basis. Appointment is competitive and is typically based on a student's academic credentials. Contact the department for details. For information on grants, federal work-study programs, scholarships and loans, contact the Office of Financial Aid (303-556-2886).

For further information concerning the master's degree in Spanish at CU Denver, direct inquiries to the graduate advisor.

Special Education MA

Special Education

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/education

Special Education Program Overview

The special education program within the initial professional teacher education division offers a special education generalist license and a special education endorsement as well as a master of arts degree in special education. All special education program options foster the development of critical reflection, inquiry about teaching and learning, as well as the breadth and depth in content knowledge necessary to work effectively in elementary and secondary classrooms. The program faculty promote the ability of teacher candidates to meet the needs of an increasingly diverse population of K–12 learners, as well as to participate productively in and lead school renewal.

The faculty in the program in special education value collaborative relationships between general and special educators, so we offer our teacher candidates the option of pursuing a dual endorsement in both general and special education to offer our teacher candidates the option of pursuing a dual endorsement in both general and special education.

Special Education Program Distinctions

Special Education Licensing Pathways

To be a licensed as a special education generalist for grades ages 5-21, a teacher candidate must hold a bachelor's degree from a four-year accepted institution of higher education, have completed the plan of study from one of the program options for the preparation of special education generalist, have passed the state special education assessment and have demonstrated all required state and national standards.

Program options for the special education generalist include: 1) initial licensure as a special education generalist; 2) dual licensure in either elementary or secondary education and as a special education generalist; and, 3) for those who already hold a Colorado teaching license, an added endorsement, which is also fully online. There is also an option to count these courses towards a masters in special education which will require an additional 12 semester hours of face to face course work and portfolio.

The time needed to complete the various special education generalist program options varies based on the needs of teacher candidates. In addition to traditional on-campus offerings, a wide selection of courses are available in online formats. During the academic year, core special education courses are scheduled in late afternoons and evenings to avoid conflict with teaching responsibilities.

Professional Development Schools

While in the licensure portion of the program, teacher candidates work in a partner school one to four days per week, depending on the internship. University courses are closely interrelated with the four internship experiences in which teacher candidates gradually assume responsibility for teaching. Special education teacher candidates engage in a series of four internships from the beginning of the program to the end of the program. Dual teacher candidates engage in two internships that result in a general education license at the elementary or secondary level and then two special education internships and additional course work; leading to an endorsement in special education. The partner schools are located in several Denver metropolitan districts with most serving large populations of low-income and/or minority students, as well as a sizeable number of students for whom English is a second language and students with special needs. Each partner school is supported by a site professor from the university one day per week and by a master teacher, called a site coordinator.

Assessment

In 2000, Senate Bill 154 required all Colorado teacher education institutions to become performance based. PBA stands for performance based assessment. PBAs are created that correspond to many of the teacher education courses and concurrent practice in the series of internships. In doing so, knowledge can be evaluated as a result of coursework and performance in schools simultaneously. As teacher candidates progress through the program, they will be introduced to Performance Based Assessments (PBAs) and will be guided and supported in both course work and internships. Students seeking dual licensure are responsible for four additional PBAs associated with their second endorsement in special education.

The PBAs are:

1. Literacy Instruction & Assessment (elementary and secondary versions)
2. Mathematics Instruction & Assessment (elementary)
3. Subject Matter Content (secondary)
4. Student Profile
5. Classroom Management
6. Teacher Work Sample (TWS)
7. Internship Performance Rubric (used at the end of each internship)

The four additional PBAs that all teacher candidates in the special education program are expected to proficiently complete include:

1. Assessment
2. Collaboration & Positive Behavior Supports
3. Literacy Instruction for Students with Identified Special Needs

4. The Individualized Education Program (I.E.P.) Process

Passing the PLACE special education generalist examination prior to the final internship is also required before a candidate is eligible for a provisional special education generalist teaching license in Colorado. Dual candidates must also pass state content knowledge exams prior to admission.

Programs of Study

Due to the complex nature of state mandated influences of teacher preparation courses and constantly evaluated the program to meet student's needs, please refer to the most current version of the Special Education Handbook for academic requirements for this program.

Requirements for Admission

The program conducts admissions each semester. Summer admission deadlines are January 15 and February 15; fall admission is March 15 and April 15. Spring admission deadlines are August 15 and September 15.

Teacher Education Information Sessions

All prospective teacher candidates are strongly encouraged to attend an information session before applying to the program. Information sessions are held twice a month lasting approximately 60-90 minutes. Advisors will be available to provide prospective students transcript reviews and pre-admission advising. To more effectively facilitate this process, please bring copies of all transcripts with you. A calendar of upcoming information sessions can be viewed on the CU Denver website. Go to www.ucdenver.edu/education and click on "Information Session" to reserve a space.

Teacher Education Program Requirements

- Applicants to the UCTE program must hold at least a bachelor's degree with a minimum undergraduate cumulative GPA of 2.75 for admission.
- Graduate candidates with a GPA less than 2.75 are required to take the GRE, with a combined score of 1000 on the verbal and quantitative sections; or the Miller Analogies Test, with an average score of 400–600, before consideration for admittance.
- All elementary education candidates must have a liberal arts major or equivalent content courses that provide a broad background of knowledge. *
- All secondary education candidates must have a major or major equivalent of at least 30 semester hours in their desired teaching field. *
- Copy of passing official scores for PLACE or PRAXIS II.
- A complete application on file that can be obtained at information sessions, online or through the Student Services Center.

*This is determined through transcript evaluations at information sessions.

Urban and Regional Planning MURP

Curriculum

Our curriculum balances a strong, comprehensive set of core courses with a self-directed path through a wide range of elective choices.

Unique Program Features

Integrated throughout our program are four distinguishing features:

Self-Directed Curriculum:

In our program, students have the ability to craft an education suited to their career goals and personal interests. Beyond the required core curriculum, students may choose any combination of elective courses, whether oriented towards one of our three Program Initiatives, a traditional specialization, or a generalist survey of the planning field.

Experiential Learning:

Throughout our program, students have significant opportunities to gain hands-on planning experience and have direct interaction with Colorado's planning professionals. We use Denver's diverse urban landscape as a real-world classroom for students to experience and analyze the built environment.

Physical Planning and Design:

We emphasize physical planning and design throughout our curriculum. Housed within the College of Architecture and Planning, we work closely with the College's Architecture, Urban Design, Landscape Architecture, and Historic Preservation programs.

Innovative Planning Technologies:

We integrate innovative planning technologies into many of our program's courses and activities. We capitalize on the Denver region's entrepreneurial spirit and tech-focused economy by providing access to state-of-the-art planning technologies and teaching students how these tools can support the planning process.

Program Initiatives

Our focus is on teaching students how to address critical issues and to solve the complex problems facing cities and regions today. In order for planners to take the lead in the city-building process, they need to understand the breadth of their field and know how to work in cross-disciplinary teams. By structuring our whole program—research, curriculum, faculty and student efforts, etc.—around issue areas, which we call Initiatives, we encourage broad understanding and creative problem-solving, rather than professional silos. The MURP Program's three Initiatives represent issues at the forefront of the planning profession today, and are also topics that are particularly prominent in Denver and Colorado.

Healthy Communities:

The link between human health and the built environment has become a key factor in planning cities and regions. Colorado is known for its physically fit and active adult population, but our vulnerable populations face significant challenges such as childhood obesity, disconnected neighborhoods, and lack of access to healthy food. Colorado has become a national leader in

finding ways to plan and design healthier environments, and the MURP Program's Healthy Communities Initiative is part of that effort. We work with partners at the local, state and federal levels, as well as the non-profit, educational and private sectors, to provide students comprehensive and interdisciplinary training in the tools, innovations and policies necessary for creating physically, socially and economically healthy communities.

Urban Revitalization:

After decades of suburbanization, segregated land uses, and automobile-dependent development, the US is now experiencing a resurgence of traditional urbanism and a reorientation toward central cities. Nowhere else is that phenomenon more evident than in Denver, where infill and transit-oriented development, historic preservation, adaptive reuse, and multi-modal transport are transforming the urban landscape. The MURP Program's Urban Revitalization Initiative gives students opportunities to engage with local developers, planners, designers and policymakers to help revive and enhance established cities, retrofit the suburbs, and plan sustainable new developments.

Regional Sustainability:

Climate change, environmental degradation, resource scarcity, and sprawling development present critical challenges to planners worldwide. In the Rocky Mountain West, the impacts are evident in habitat loss, wildfire risk, and conflicts over water and energy resources, among others. The MURP Program's Regional Sustainability Initiative explores ways that Colorado and its neighbors can tackle these issues together. At the metropolitan level, Denver and its adjacent communities already serve as a model for regional planning and cooperation, exemplified by the visionary FasTracks transit program. Our Initiative draws on Denver's success in regional land use, transportation, economic development and resource planning to help students understand how built and natural environments can co-exist more sustainably at various regional scales.

Program Requirements

Completing the MURP degree requires 54 credit hours, comprised of 36 credits of required "core" courses and 18 credits of elective courses. (Six of the 36 required credit hours represent a self-directed Capstone project or thesis.) Most full-time students complete the program in two years, while other students complete the program at a slower or part-time pace.

New students begin the program of study in the fall semester. Full-time students typically take approximately 12 credit hours per semester; taking more than 15 is generally ill-advised. Students are strongly encouraged to primarily take core courses during their first year of study. With the exception of the studio and capstone courses, most core courses are offered only one semester per year so it is important to pay attention to the scheduling to ensure your desired graduation date.

Potential Specializations

We encourage students to view their planning education through a fresh perspective aimed at a planning goal or agenda, rather than a "job description." However, we also recognize that some students may want their MURP degree to focus along a traditional specialization, such as Transportation Planning or Economic Development. To ensure all our students have the

educational experience they are seeking, we provide exceptional coverage across many traditional topics of specialization.

Advising

Given the self-directed nature of the MURP program, students are highly encouraged to seek advice on their curriculum path and career direction from an academic advisor. New students are assigned a faculty advisor, but are free to choose their own as they proceed through the program.

Students should work with their advisor to maintain and complete a MURP Program Planning Form. It is a useful tool for planning the student's progress through the program and ensuring that all graduation requirements have been fulfilled.

Advanced Standing

Students with prior education in urban planning may qualify for advanced standing. Up to 9 credits of course waivers may be granted when the prior coursework meets prescribed level, content and quality thresholds. To be awarded advanced standing, the student must complete a waiver form and provide documentation of their prior coursework; all waivers must be approved in writing by the Department Chair.

Core Courses

The MURP Program curriculum includes 10 required "core" courses totaling 36 credit hours. Together, these represent a broad and robust survey of the most critical topics in the planning field. The list below shows the 10 courses, the program year in which the course is intended to be taken, and the credit hours granted.

Year 1 - Fall

- URPL 5010 - Natural and Built Environments
- URPL 5000 - Planning History and Theory
- URPL 5040 - Planning Methods
- URPL 5030 - The Planning Profession

12 credits

Year 1-Spring

- URPL 5050 - Urban Development
- URPL 5020 - Planning Law and Institutions
- URPL 5070 - Planning Skills Workshop
- URPL 5060 - Planning Technologies Workshop

12 credits

Year 2

- URPL 6000 - Planning Project Studio
- URPL 6900 - Planning Capstone A
- URPL 6905 - Planning Capstone B

12 credits

Elective Courses

MURP students craft a self-directed educational path. Students may choose any combination of courses, whether aligned with one of our three Initiatives, a traditional specialization, or a generalist survey of the planning field. We offer MURP students a broad selection of elective courses within the program. In addition to these courses, numerous other elective courses applicable for MURP credit are available through our allied programs within the College (Architecture, Urban Design, Historic Preservation, and Landscape Architecture) and through cross-listed courses offered by other CU Denver programs, such as Public Affairs, Geography, and Business. Further, students can take up to 6 credit hours of courses entirely outside the MURP program.

Dual Degree Options

As part of encouraging among planners an appreciation for and knowledge of the perspectives and practices of the other disciplines that participate in planning and city-building, we offer several dual degree opportunities, both within the College of Architecture and Planning and with other units across the University of Colorado system. In every instance the total credit requirement of the Dual Degree is considerably less than would be needed if each degree were independently pursued.

Applicants to any dual degree option must apply to and gain separate admission to each degree program. Once admitted, the student cannot graduate from either program until the work is completed for both degrees.

The degrees that may be combined with the Master of Urban and Regional Planning include:

- Master of Architecture (MURP+MARCH)
- Master of Landscape Architecture (MURP+MLA)
- Master of Public Health (MURP+MPH)
- Master of Public Affairs (MURP+MPA)
- Master of Business Administration (MURP+MBA)
- Juris Doctorate (Law Degree) (MURP+JD—in collaboration with the CU Boulder Law School)

Certificate Programs

The College offers an official certificate program in geospatial information science (GIS). The Certificate builds upon the extraordinary depth of the GIS community in Colorado and the interdisciplinary teaching and research occurring at the Facility for Advanced Spatial Technology (FASTLab) at CU Denver.

The GIS certificate requires 18 credit hours of GIS-related coursework; 6 of these may count toward your MURP degree. The GIS certificate enables qualified students to develop highly technical expertise in GIS technology and skills, and is intended for students who wish to work in GIS-specific careers.

Internships and Mentorships

Internships are key elements in the MURP Program's approach to providing students with hands-on, experiential learning. Internships provide the opportunity to see planning professionals in action, which helps students develop a clearer understanding of their own career goals, educational needs, and personal passions. Mentorships provide an opportunity for students to connect personally with a practicing professional for guidance, advice and inspiration.

We strongly encourage students to experience a professional internship and/or mentorship during the course of the MURP Program. Students can receive individualized advising, resume writing and job search skills, as well as help securing internship positions. While the professional experience of an internship is in itself valuable, to receive academic credit for MURP internships, students will participate in regular colloquia, complete writing assignments in which they draw reflectively on their workplace experiences and connect them to their classroom work, and document their contributions to their employer. Three credits of the 54-credit MURP Program may be undertaken through internship work.

Urban Design MUD

► Graduate School Rules apply to this program

Program Information: Jeremy Németh
Telephone: 303-315-0069
Email: jeremy.nemeth@ucdenver.edu

Program Description

The master of urban design (MUD) is an intensive, calendar year, post-professional degree program for students already holding a first professional degree in architecture, landscape architecture or urban and regional planning (e.g., BArch, BLA, MArch, MLA or MCRP/MURP or equivalents). The interdisciplinary program uses Denver as an urban laboratory but the globe as a reference, educating future designers about the unique place the city holds in addressing the critical problems of our time.

The program began in 1969 and counts several hundred alumni practicing around the world. Our student body is extremely diverse, with recent students from Bangladesh, China, Colombia, India, Iran, Japan, Libya and Saudi Arabia. These students join our domestic students to examine contemporary urbanism and design practice through an interdisciplinary, studio-based curriculum taught by a multi-disciplinary faculty. Coursework is capped off by the International Studio held each summer in China's rapidly urbanizing Shanghai-Nanjing corridor.

The program is organized around three central themes reinforced by core studios and seminars:

Sustainable cities

We take a holistic approach to designing the livable city. Since more than half the world's population lives in cities, with that number set to increase to two-thirds by 2030, we must anticipate the ecological impacts of our design decisions. In preparation for a post-carbon era, we address concerns related to climate change, energy usage, public health, food production and resource availability through an integrated approach to the design of urban settlements. Our students re-imagine and re-interpret urban systems - from transportation networkds to hydrological systems to zoning codes to social movements - with the goal of creating cities that are at once socially just, economically diverse and ecologically resilient. These challenges are unprecedented and must be urgently addressed: we believe that urban designers are best positioned to meet them head on.

Local to global

We believe urban designers must recognize the interrelated local and global impacts of their actions and understand the interdisciplinary nature of urban problems. We address design issues at all scales, from the individual public space to the neighborhood, city, region, nation and world. This ecological approach acknowledges that all sites are embedded within larger systems, a concept we engage in all our studios. In the fall and spring, students examine the Denver metropolitan area, a progressive, yet prototypical, urban laboratory experiencing significant growth and development and home to every urban condition imaginable, from dense downtown infill to sprawling edge cities to the New Urbanism-inspired Stapleton airport brownfield redevelopment. The Front Range is a national leader in design and planning innovation, as

represented by the multi-billion dollar FasTracks transit project, Denver's groundbreaking new citywide form-based code, Boulder's open space acquisition policies and energy municipalization effort, Arvada's GEOS net-zero energy neighborhood, and Fort Collins' closed-loop brewery-oriented development. Students apply the skills and knowledge gained in their local study in the summer term via a five-week collaborative studio and design competition in China's Shanghai-Nanjing corridor with faculty and students from the nation's top schools of architecture and design at Tongji University and Southeast University.

Innovations in practice

We train our students to become critical, reflective professionals with a deep understanding of urban design theory and practice. All our graduates possess knowledge of contemporary urban thinking as well as exceptional technical, verbal and graphic communication skills. Our curriculum is informed by innovations in current practice: we undertake real projects with real clients, and all studios are taught by leading practitioners from the top design firms in the region. To address the most complex social-ecological problems of our time, we see high demand for graduates who possess multiple talents, a broad understanding of urban planning, architecture, landscape, real estate development, and urban politics and economics, and the ability to work not only with design professionals but also engineers, policy makers, environmental scientists and the public. Students take collaborative, multidisciplinary studios with all College of Architecture and Planning students in an environment that more accurately reflects professional practice, with shorter studios, team projects and design charrettes. Importantly, our MUD Internship Program aims to place all incoming students into an internship with the region's top design firms. Participating firms in the 2012-2013 academic year include: AECOM, Civitas, Design Workshop, Norris Design, RNL Design, OZ Architecture, studioINSITE and Tryba Architects. College units including the Colorade Center for Community Development (CCCD) frequently hire MUD students as research assistants (RAs) and the departments of Architecture, Landscape Architecture and Planning and Design often hire teaching assistants (TAs) from our incoming MUD students.

Prerequisites

Students are required to hold a first professional degree in architecture, landscape architecture or urban and regional planning (e.g., BArch, BLA, MArch, MLA, MURP/MUP or equivalents).

Admissions

The master of urban design admissions committee accepts applications for fall semester entry. The program does not allow entry to the program in any spring semester. Although the MUD program has a rolling admission process, the priority deadline is March 15. Applications will be reviewed on a space-available basis until June 30.

Pre-professional students can enter the MUD with advanced standing by first earning a professional master's degree in the College of Architecture and Planning. For more information on the MArch+MUD, MLA+MUD or MURP+MUD, visit the college website.

The requirements the admissions committee considers are:

- Evidence of a professional degree (BArch, BLA, MArch, MLA, MURP/MUP or equivalent)
- At least a 3.2 undergraduate or graduate cumulative GPA
- A portfolio (8.5 × 11-inch bound document) that includes:
    - Your statement of purpose (which should include your educational and professional goals)
    - Résumé (which describes your educational and professional background)
    - Examples of student or professional projects
    - A list of courses that you have taken that relate to design and planning
    - A writing sample from previous professional or academic work
    - Graduate Record Exam (GRE) scores if available (not required for admission)
    - A separate one-page statement indicating whether you would like to participate in the MUD Internship Program. NOTE: If you do agree to participate, your acceptance letter will indicate the firm with whom you have been matched.

Program Requirements

The requirements for the postprofessional master of urban design (MUD) degree depend on your current standing and educational background. The basic study plan is a 39-semester-hour plan that includes two elective courses. Students obtaining a first professional degree in the University of Colorado Denver College of Architecture and Planning may receive up to 12 semester hours of advanced standing.

Core Courses

The basic study plan is 36 semester hours including these core courses, plus two elective courses (could include an independent study or internship).

- URBN 6610 - Urban Design Studio I
- URBN 6611 - Urban Design Studio II
- URBN 6612 - International Studio
- URBN 6641 - Design Process/Practice
- URBN 6642 - Design Policy/Regulation
- URBN 6644 - Sustainable Urbanism
- URBN 6633 - Form and Formation of Cities

Total: 36 hours

Dual Degree Programs

Bioengineering Dual MS

► Graduate School Rules apply to this program.

Master of Science (MS) Dual Degree Program

This program is intended for students already enrolled or accepted into another MS program in the University of Colorado system. Please contact us for advising.

Bioengineering MD/PhD

► Graduate School Rules apply to this program.

MD/PhD Degree Program

For students already enrolled or accepted into the Medical Scientist Training Program (MSTP) in the School of Medicine at University of Colorado Anschutz Medical Campus. Degree completion in 7-8 years with highly individualized training pathway and multidisciplinary research dissertation. Please contact us for advising.

Business Administration/Business MBA/MS

The Business School also offers MBA/MS dual degree programs for each function of business. The program consists of a minimum of 66 semester hours of graduate work and leads to both an MBA degree and an MS degree, which must be completed within seven years and one semester. See MS program pages for a list of functional areas. Contact a graduate academic advisor for details, 303.315.8200.

Business Administration/Global Management MBA/MGM

This unique combined degree is offered in cooperation with the Thunderbird School of Global Management located in Glendale, Arizona, a suburb of Phoenix. Thunderbird has established eight dual programs with universities in the United States. The student applies independently to both schools and, if admitted, earns the MBA from CU Denver and a Master of Global Management degree from Thunderbird. The student begins the program at CU Denver and, after completing 36 semester hours (12 courses) required for the MBA, transfers to the Thunderbird campus and takes a minimum of 30 semester hours (10 courses) for the MGM. When all dual degree requirements are finished, the student is awarded a diploma from each school. For more information about admission to the MBA on the Denver campus, refer to the appropriate section of this chapter. For specifics about the dual MGM application process, call Felicia Welch, the associate director of academic and international services at Thunderbird, 1-800-848-9084.

Business Administration/Medicine MBA/MD

The MBA/MD is for medical students at the University of Colorado School of Medicine who wish to pursue a career in administrative medicine or who seek additional training in administration or business. The program is designed to be completed in five years, at which time both the MD and MBA degrees would be awarded. Candidates for the MBA/MD complete 36 semester hours of course work in the business school and all requirements for the MD.

Business Administration/Urban and Regional Planning MBA/MURP

This dual degree enables students to obtain both the Master of Urban and Regional Planning offered by the College of Architecture and Planning and the Master of Business Administration offered by the Business School upon completion of 78 semester hours. The dual degree program is composed of the core curricula in each program plus a set of electives jointly approved by the student's advisors.

Business/Business MS/MS

Students may concurrently pursue dual MS degrees in any two fields of business. The program consists of a minimum of 51 semester hours of core course work, which must be completed within a period of seven years and one semester. In addition, candidates for the dual degree must satisfy all common body of knowledge (CBK) and background requirements prescribed for each degree. Waivers may be approved for some of the CBK or background upon transcript evidence of equivalent undergraduate or graduate course work. For more information contact a graduate academic advisor, 303-315-8200.

Chemistry BS/MS

While students are completing a BS degree in chemistry, they may also complete some of the requirements for an MS degree in chemistry under the following guidelines:

- The student must apply and be accepted for participation in the BS/MS program prior to completion of the BS degree and be advised by both the undergraduate and graduate advisors.
- Up to 9 semester hours of graduate-level course work may be taken as an undergraduate and applied toward the MS degree. This course work may not be applied toward the BS degree or ACS certification requirements for the BS degree.
- Up to 3 semester hours of independent study (research) may be applied toward the graduate degree if that research is expanded and continued for a portion of the master's thesis research. This requires approval of the student's graduate research advisor in chemistry, the chemistry graduate program director and the CLAS associate dean for graduate studies.
- The chemistry department will waive the requirement for qualifying examinations in each area of chemistry for which the student has completed the undergraduate sequence of courses and laboratories at the Downtown Campus with grades of *B* or better for each course.
- The student must apply for and be admitted to the graduate program in chemistry beginning the semester immediately following completion of the BS degree in chemistry at the Downtown Campus.

This program allows undergraduate students who have begun their research as undergraduates to complete up to 12 semester hours (with approval of the graduate dean) toward the 30 semester hours required for a Plan I MS degree in chemistry while they are still completing their BS degree. This makes it possible for students to complete an MS degree in chemistry in only one year beyond the BS degree in chemistry. Students entering the program through the BS/MS program option must fulfill all of the requirements of the Plan I or Plan II graduate programs.

Criminal Justice BA/MCJ

The dual BA/MCJ program is designed to allow students to work concurrently toward the BA in criminal justice and the master in criminal justice (MCJ). Graduate credit hours earned while enrolled in the BA/MCJ program can be counted toward both the bachelor of arts and master of criminal justice. This program offers high-achieving students the opportunity to complete their undergraduate and graduate degrees in criminal justice in five years.

Admissions Requirements and Process

Interested students should contact their BA academic advisor as early as possible to ensure proper planning for the five year degree.

Eligibility Requirements

Both current CU Denver students and new transfer students are eligible to apply after meeting the following:

- Currently enrolled in the School of Public Affairs as a criminal justice major
- Completed the University of Colorado Denver's undergraduate core curriculum
- Completed 60 semester credit hours
- Completed the following 12 semester credit hours in criminal justice: CRJU 1000 Introduction to Criminal Justice, CRJU 2041 Crime Theory and Causes, CRJU 3100 Criminal Justice Research Methods, and CRJU 3150 Statistics for Criminal Justice (transfer criminal justice courses must have been approved and accepted toward the major).
- Minimum 3.0 cumulative GPA
- Minimum 3.5 cumulative GPA in criminal justice courses
- Completed or scheduled official GRE or LSAT exam

Application Process

Students must apply no later than the semester in which they first earn 20 credits toward the BACJ degree, most likely the second semester of their junior year. For full consideration, students must submit all application materials by Oct. 15 for admission to the following spring semester and by March 15 for admission to the fall semester. The following steps should help in the application process:

1. Plan ahead when scheduling courses through the junior year. All four of the required criminal justice courses listed above and all of the student's core education requirements must be completed by the end of the student's junior year.
2. At the beginning of the semester in which the student is applying to the program, the student should approach a criminal justice faculty member about writing a letter of recommendation. The student should also begin working on a personal statement of purpose. The following guidelines should help with writing the statement.
    - Length: 1 to 2 pages
    - The statement should describe:
        - Applicant's reasons for undertaking graduate study in criminal justice
        - Applicant's future career plans
        - Planned area of concentration within criminal justice
3. By Oct 15 of the fall semester or March 15 of the spring semester the student must submit the following items to the undergraduate coordinator:
    - Personal statement of purpose
    - One letter of recommendation from a faculty member
    - School of Public Affairs' BA/MCJ application form
    - Official GRE or LSAT scores

Admission Criteria

Admission to the BA/MCJ program is competitive. Applicants will be evaluated on the following:

1. Grade point average (overall and in criminal justice course work)
2. Grade trend (improving, consistent, or declining)
3. Total number of credit hours completed
4. Likelihood of success and persistence based from the Statement of Intent and Reference Letter
5. Official GRE or LSAT scores

Students who are not admitted to the BA/MCJ program are eligible to reapply after completing an additional 12 semester credit hours. *Students can apply and be considered for admission to the dual BACJ/MCJ program a maximum of two times.*

BA/MCJ Program Matriculation

Students must successfully complete (*B*, or better) a minimum of 3 semester credit hours of graduate criminal justice course work each semester following admission to the BA/MCJ program. A maximum of 18 graduate semester credits can be completed as a BA/MCJ student, for dual credit.

Students must maintain a minimum 3.0 cumulative grade point average for all course work and a 3.0 grade point average for courses in criminal justice.

The School of Public Affairs reserves the right to rescind a BA/MCJ student's admittance to the dual program *if at any point the students' grade point average falls below the requirements lists above.*

Tuition and Fees

Students will be assessed tuition and fees at the undergraduate rate until the bachelor of arts in criminal justice degree is conferred.

Students will assess tuition and fees at the graduate level upon formal acceptance to the master of criminal justice program.

Program Requirements

General BA/MCJ Degree Program Requirements

- 144 total semester credit hours successfully completed
- 37-38 semester credit hours in the general education core curriculum
- 46-48 semester credit hours in general electives
- 21 semester hours of undergraduate criminal justice course work
- 18 upper-level (3000 or higher) semester credit hours in criminal justice
- 45 total semester hours of upper-division course work (3000 and above)
- Minimum 3.0 CU cumulative grade point average in undergraduate criminal justice courses
- Full acceptance to the Graduate School and the master in criminal justice program
- Minimum 36 semester hours of graduate-level course work (5000 and above)
- Minimum of 30 hours of resident credit; 21 out of the last 30 hours in resident course work
- Minimum of a B (3.0) in each required core MCJ course
- Minimum of 3.0 CU cumulative grade point average in all graduate level courses
- Successful completion of master of criminal justice capstone or thesis
- Fulfillment of all college and major requirements

Degree Confirmation

Students are eligible to receive the BA in criminal justice degree once they have successfully completed 120 semester hours and all CU Denver undergraduate degree requirements. The MCJ will be conferred once the student has completed all requirements of the master of criminal justice degree.

Economics BA/Mathematics BS Dual Degree

A solid training in the mathematical and statistical sciences is fundamental to optimally prepare economics students for graduate school. A dual degree in economics and mathematics will substantially increase program quality and career prospects for our students, as well as enhance the reputation of the economics program at UCD. Similarly, a solid training in quantitative and qualitative economic principles offers significant benefits to mathematics majors who seek industrial and/or consulting positions.

Program Requirements

Students majoring in economics and mathematics for the BA/BS dual degree must declare such by the time they have completed 60 semester hours. No pass/fail grades may count toward the dual degree. The minimum grade for all economics classes taken at CU-Denver and applied toward the major is *C*- (one *D*- grade is allowed for one economics elective); a minimum GPA of 2.5 is required for all CU-Denver economics classes applied to the major. The minimum grade for all mathematics classes taken at CU-Denver and applied toward the major is *C*-; a minimum GPA of 2.25 is required for all CU-Denver mathematics classes applied to the major.

Economics Course Requirements

Required Economic Courses for the Dual-Degree

- ECON 2012 - Principles of Economics: Macroeconomics
- ECON 2022 - Principles of Economics: Microeconomics
- ECON 4071 - Intermediate Microeconomic Theory
- ECON 4081 - Intermediate Macroeconomic Theory
- ECON 4091 - History of Economic Thought
- ECON 4811 - Introduction to Econometrics

Total: 18 Hours

Economics Electives for the Dual-Degree

Any five 3-semester-hour courses taken in economics may satisfy this requirement, other than internships and independent studies (which require the approval of the department chair). Note: ECON 3801 and ECON 3811 cannot be counted as electives.

One of the following mathematics courses can be counted as one economics elective (it may also be counted as one mathematics required course or one mathematics elective):

- MATH 3301 - Introduction to Operations Research I - Deterministic Systems
- MATH 3302 - Operations Research II
- MATH 4101 - Applied Statistics Using SAS and SPSS I
- MATH 4387 - Regression Analysis, Modeling and Time Series
- MATH 4390 - Game Theory
- MATH 4450 - Complex Variables
- MATH 4733 - Partial Differential Equations

- MATH 4830 - Applied Statistics
- MATH 5350 - Mathematical Theory of Interest

Total: 15 Hours

(four economic courses plus one mathematics course, or five economics courses)

Senior Exercise

Graduating seniors must submit the three best papers that the student wrote in any three separate courses taken in the economics department for the outcomes assessment of the economics program. The three papers should be handed in at one time in a folder to the economics office, before the first day of the month in which the student plans to graduate.

TOTAL ECONOMICS: 33 Hours

Mathematics Course Requirements

Required Core Courses for All Mathematic Majors

Lower-Division Courses

- MATH 1401 - Calculus I
- MATH 2411 - Calculus II
- MATH 2421 - Calculus III

Upper-Division Courses

- MATH 3000 - Introduction to Abstract Mathematics
- MATH 3191 - Applied Linear Algebra
- MATH 4310 - Introduction to Real Analysis I

Total: 21 Hours

Required Courses for the Dual-Degree

- MATH 3200 - Elementary Differential Equations
- MATH 4650 - Numerical Analysis I
- MATH 4779 - Math Clinic
- MATH 4810 - Probability
- MATH 4820 - Statistics

Applied/Modeling Elective (one course chosen from the following):

- MATH 3301 - Introduction to Operations Research I - Deterministic Systems
- MATH 3302 - Operations Research II
- MATH 4387 - Regression Analysis, Modeling and Time Series
- MATH 4409 - Applied Combinatorics
- MATH 4733 - Partial Differential Equations
- MATH 4791 - Continuous Modeling
- MATH 4792 - Probabilistic Modeling

- MATH 4793 - Discrete Math Modeling
- MATH 4794 - Optimization Modeling

Depth in Proof-Writing Elective (one course chosen from the following):

- MATH 4110 - Theory of Numbers
- MATH 4140 - Introduction to Modern Algebra
- MATH 4201 - Topology
- MATH 4220 - Higher Geometry II
- MATH 4320 - Introduction to Real Analysis II
- MATH 4408 - Applied Graph Theory

Total: 21 Hours

Mathematics Electives for the Dual-Degree

Students must choose two approved mathematics electives (at lest 3 semester hours) above 3000, excluding MATH 4012, 4013, 4014, and 4015.

One of the following economics courses can be counted as one mathematics elective (and can also be counted as one economics elective):

- ECON 4030 - Data Analysis with SAS
- ECON 4110 - Money and Banking
- ECON 4150 - Economic Forecasting
- ECON 4320 - Financial Economics
- ECON 4430 - Economic Growth
- ECON 4550 - Game Theory and Economic Applications
- ECON 4610 - Labor Economics
- ECON 4740 - Industrial Organization

Total: 6 Hours

(one mathematics course plus one economics course, or two mathematics courses)

Portfolio, Interview, Survey

In the semester of graduation, students must

- submit a portfolio consisting of two papers, typically written for previous courses, that demonstrate mathematical and writing proficiency;
- participate in an exit interview, which may be scheduled by the department administrative assistant;
- complete a senior survey, available from the department administrative assistant.

TOTAL MATHEMATICS: 48 Hours

Residence Requirements

In addition to the CLAS residence requirements, the economics department requires that:

- at least six of the major courses (18 semester hours), including at least three courses chosen from ECON 4071, 4081, 4091 and 4811, must be taken from economics faculty at CU Denver;
- once a student has enrolled at CU Denver, no courses in the major may be taken outside the economics department without permission from the undergraduate advisor.

Additionally, the mathematics department requires that

- at least 15 upper-division mathematics credits must be taken at CU Denver.

Economics MA/Applied Mathematics MS Dual Degree, with a focus in Applied Statistics

► Graduate School Rules apply to this program.

Admissions Advisor: Brian Duncan (brian.duncan@ucdenver.edu)
Schedule Advisor: Dan Rees (daniel.rees@ucdenver.edu)

The fields of mathematics and economics are inextricably linked. In economics, mathematics and statistics are used extensively in theory construction, tests of existing theories and discovery of regularities to inform new theories. Economics also gives mathematicians/statisticians new challenges, new outlets and new ideas to incorporate in mathematics. These complementarities have long been recognized and economics graduate students have always been advised to take advanced courses in statistics.

There are an increasing number of economics MA students wishing to obtain graduate training and a degree in statistics. Having an MA degree in economics and an MS degree in Statistics will make a student highly employable in the job market and provide them an edge in applying for elite PhD programs.

Admission Requirements

Deadlines for Application:	**Fall**	**June 1**
	Spring	**December 1**

Applicants must:

- Meet all general requirements of the Graduate School (including a 2.50 undergraduate grade-point average).
- Submit three letters of recommendation (at least two of your letters of recommendation should come from individuals who are familiar with your scholarly record)
- Submit two copies of official transcripts from all colleges attended
- Have completed 15 credit hours of undergraduate economics (including intermediate microeconomic theory and intermediate macroeconomic theory)
- Have completed courses in calculus and statistics
- All applicants, international and domestic, must submit GRE scores regardless of prior degrees, course work, or work experience. **The institution code for CU Denver is 4875**. Most students admitted to the MA program score 690 or above on the quantitative section of the GRE, but there is not a minimum GRE cutoff score.
- International students must submit TOEFL scores. The required minimum score is 203 (computer-based TOEFL), 75 (IBT-based TOEFL), 537 (paper-based TOEFL), or 6.5 (IELTS). **The institution code for CU Denver is 4875.**

The Department of Economics accepts late applications after these official deadlines. However, there is no guarantee that a late application will be processed in time for the start of the semester. Students are encouraged to apply well before the application deadline.

International students who apply after the June 1 or November 1 deadline may not have time to obtain a student visa. Being admitted to the MA program in economics does not guarantee that a student will receive a student visa in time for the start of the semester. International students who are admitted to the MA program, but fail to obtain a visa in time, may defer admission for up to one year. All questions about student visas should be directed to the Office of International Education.

Course Requirements

42 credit hours: 21 in Economics and 21 in Mathematics and Statistical Sciences

Core Courses

A grade of *B*- or better is required in all core courses, with a cumulative grade point average of *B* (3.0) or above. No course may be taken more than twice.

- ECON 5073 - Microeconomic Theory
- ECON 5083 - Macroeconomic Theory
- ECON 5813 - Econometrics I
- ECON 5823 - Econometrics II
- ECON 6053 - Seminar In Applied Economics
- ECON 6054 - Seminar In Applied Economics II
- MATH 5070 - Applied Analysis
- MATH 5718 - Applied Linear Algebra
- MATH 6330 - Workshop in Statistical Consulting
- MATH 6388 - Advanced Statistical Methods for Research
- MATH 7381 - Mathematical Statistics I
- MATH 7382 - Mathematical Statistics II
- ECON 6073 - Research Seminar
  This course satisfies the final examination for MA in Economics thorough a research project and presentation.
  A final examination in mathematics consisting of an oral presentation is required (no associated course or credit).

Core Total: 36 Hours

Electives

Take one additional three-credit-hour course in each of economics and mathematics, at the 5000-level or above.

Electives Total: 6 Hours

Dual Degree Total: 42 Hours

The following courses do not count toward any graduate degree in applied mathematics: MCKE 5000-5009, MCKE 5011, MATH 5010, MATH 5012-5017, MATH 5198 AND MATH 5250.

Economics MA/Finance MS Dual Degree

► Graduate School Rules apply to this program

Admissions Advisor: Brian Duncan (brian.duncan@ucdenver.edu)
Schedule Advisor: Dan Rees (daniel.rees@ucdenver.edu)

For students interested in combining the quantitative skills of an economics degree with the specific applications of a business degree, we offer an MA economics/MS finance dual degree. This 42-semester-hour program is offered jointly with the Business School. It is a "dual" degree, meaning that students who complete the program earn two master's degrees: MA in economics and MS in finance. Students must be admitted separately to both the MA program in economics and MS program in finance; they may apply to both programs at the same time or apply to the economics program first, and then to the finance program at the end of their first semester, or vice versa. Both programs must be completed in the same semester to take advantage of the dual degree program. Further information about this program can be obtained from either the Department of Economics or the Business School. Click here for admissions information for economics.

The dual degree program is intended to create highly-skilled research professionals with considerable econometric skill as well as familiarity with their chosen financial institutions. Given the similarity in course work within the two programs, there can be considerable time savings for the student. Essentially, the program allows students to complete the two programs that separately would require 60 hours of course work with 42 hours of combined course work.

Course Requirements

Core Courses

- ECON 5073 - Microeconomic Theory
- ECON 5083 - Macroeconomic Theory
- ECON 5803 - Mathematical Economics
- ECON 5813 - Econometrics I
- ECON 5823 - Econometrics II
- ECON 6073 - Research Seminar
- BUSN 6640 - Financial Management
- FNCE 6300 - Macroeconomics and Financial Markets
- FNCE 6330 - Investment Management Analysis

Total: 27 Hours

Electives

Four 6000-level finance elective courses: **12 semester hours**

One 5000-level or above economics elective course: **3 semester hours**

Total: 15 Hours

Dual Degree Total: 42 Hours

Economics MA/Public Administration MPA Dual Degree

► Graduate School Rules apply to this program

Admissions Advisor: Brian Duncan (brian.duncan@ucdenver.edu)
Schedule Advisor: Dan Rees (daniel.rees@ucdenver.edu)

The fields of public administration and economics are inextricably linked. Economists provide much of the theory and analytic foundation that administrators use to evaluate and implement policy. Given that the capital of the state of Colorado is in Denver, there is great need for administrators that fully understand methods of program evaluation and have the theoretical background needed to forecast how individuals and institutions will respond to new proposals. Similarly, good theory and practice must take into account how the proposals will be implemented and results interpreted. Both administrators and economists need to be engaged in constructive dialogue for either to be fully effective.

Students interested in completing the dual degree in economics and public administration *must apply separately* to each program, meet the admission requirements of each program, and *be accepted by* each program. If one program accepts a student for the dual degree but the other program does not, then the student may not graduate under the dual degree program. It is possible for students currently admitted to one program to learn about the dual degree and choose to apply after admission to either economics or the School of Public Affairs (SPA). Both degrees must be completed in the same semester to take advantage of the dual degree program.

Admission Requirements

Deadlines for Application:	**Fall**	**June 1**
	Spring	**December 1**

Applicants must:

- Meet all general requirements of the Graduate School (including a 2.50 undergraduate grade-point average).
- Submit three letters of recommendation (at least two of your letters of recommendation should come from individuals who are familiar with your scholarly record)
- Submit two copies of official transcripts from all colleges attended
- Have completed 15 credit hours of undergraduate economics (including intermediate microeconomic theory and intermediate macroeconomic theory)
- Have completed courses in calculus and statistics
- All applicants, international and domestic, must submit GRE scores regardless of prior degrees, course work, or work experience. **The institution code for CU Denver is 4875**. Most students admitted to the MA program score 690 or above on the quantitative section of the GRE, but there is not a minimum GRE cutoff score.

- International students must submit TOEFL scores. The required minimum score is 203 (computer-based TOEFL), 75 (IBT-based TOEFL), 537 (paper-based TOEFL), or 6.5 (IELTS). **The institution code for CU Denver is 4875**.

The Department of Economics accepts late applications after these official deadlines. However, there is no guarantee that a late application will be processed in time for the start of the semester. Students are encouraged to apply well before the application deadline.

International students who apply after the June 1 or November 1 deadline may not have time to obtain a student visa. Being admitted to the MA program in economics does not guarantee that a student will receive a student visa in time for the start of the semester. International students who are admitted to the MA program, but fail to obtain a visa in time, may defer admission for up to one year. All questions about student visas should be directed to the Office of International Education.

Course Requirements

The requirements for the dual degree in economics and public administration include completing 21 credit hours in ECON and 27 credit hours in public administration course work (48 total credit hours).

Core Courses

- ECON 5073 - Microeconomic Theory
- ECON 5083 - Macroeconomic Theory
- ECON 5803 - Mathematical Economics
- ECON 5813 - Econometrics I
- ECON 5823 - Econometrics II
- PUAD 5001 - Introduction to Public Administration and Public Service
- PUAD 5002 - Organizational Management and Behavior
- PUAD 5003 - Research and Analytic Methods
- -OR- PUAD 5004 - Economics and Public Finance
- PUAD 5005 - The Policy Process and Democracy
- PUAD 5006 - Leadership and Professional Ethics
- ECON 6073 - Research Seminar
- -OR- PUAD 5361 - Capstone Seminar

Core Total: 33 Hours

Electives

If the student takes ECON 6073, then 3 hours of elective credits must come from economics and 12 hours from public administration.

If the student takes PUAD 5361, then 6 hours of elective credits must come from economics and 9 hours from public administration.

All elective courses must be at the 5000 level and above.

Electives Total: 15 Hours

Dual Degree Total: 48 Hours

Finance/Economics MS/MA

Students may concurrently pursue an MA in Economics offered by the College of Liberal Arts and Sciences and the MS in Finance offered by the Business School. Students must complete 27 semester hours of a combination core, 15 semester hours of combination electives and 3 semester hours of a 5000- or 6000-level economics elective. Students apply to each program seperately and admission into one of the programs does not guarantee admissions into the second program.

Political Science MA / Master of Business Administration (MBA) Dual Degree

► Graduate School Rules apply to this program.

In the 21st century, the fields of business administration and political science intersect, in that sustainable business development requires an understanding of the political environment, while political theory and practice must address the role of the business community in economic development. Providing students with both the business foundation and the political knowledge enhances their ability to succeed in our ever-changing political world.

The UCD Master of Arts in Political Science (MA) degree offers an in-depth understanding of the political environment, locally, nationally and globally, emphasizing the development of academic and practical skills in key areas of the discipline, and centering on the major fields of American politics, comparative politics, international relations, political theory and public policy. The UCD Master of Business Administration (MBA) degree provides a strong foundation in business knowledge in such areas as organizing teams, developing marketing plans, using data analysis and technology in decision making, economics, financial management and strategic planning. The MBA develops skills required for competent and responsible administration of an enterprise viewed in its entirety, within its social, political and economic environment.

The Dual Master's Degree in Political Science (MA) and Business Administration (MBA) is designed for students whose interests overlap business and politics or business and international affairs. This program is jointly sponsored by the Department of Political Science of the College of Liberal Arts and Sciences and the Business School. This program enables students to simultaneously earn an MA in Political Science with an MBA.

The dual degree program provides a more comprehensive education to the next generation of professionals in the non-profit sector, corporate arena and governmental organizations. Dual degree students are able to complete both degree programs in less time, and with fewer total credit hours (66 for both), than if both degrees were pursued separately (48+33 = 81). The program keeps the core of each program intact, including some electives from both programs, and enables students to choose two additional electives from either business or political science to best suit their career and personal goals. Furthermore, the interactions between the students enrich the students in both programs, as well as the organizations that employ them.

Admission Requirements

Students must apply separately to, meet the admission requirements of, and be accepted by each program. It is possible for students currently admitted to one program to learn about the dual degree and choose to apply after admission to the other program.

GPA Requirements

Students must maintain a cumulative GPA of 3.0 or higher across all courses that are applied to the dual degree. Any political science course in which a student receives a final grade lower than *B-* cannot be counted toward the total credits for the dual degree. Any business course in which a student receives a final grade lower than *C* cannot be counted toward the total credits for the dual degree. All graduate courses will be included in the cumulative GPA.

Transfer Credits

No more than 9 semester hours of business credits from an AACSB Business School with a grade of *B* or better and no more than 6 semester hours of political science credits may be transferred into this dual degree program. The Business School will evaluate transfer hours in business and the Political Science Department will evaluate transfer hours in political science.

Graduation

Students must complete all the requirements for both programs before they apply to graduate, and must apply to graduate in the same term for both programs.

Degree Requirements

MBA Core (30 Hours)

- BUSN 6520 - Managing Individuals and Teams
- BUSN 6530 - Data Analysis for Managers
- BUSN 6540 - Legal and Ethical Environment of Business
- BUSN 6550 - Analyzing and Interpreting Accounting Information
- BUSN 6560 - Marketing Management
- BUSN 6610 - Information Systems Management and Strategy
- BUSN 6620 - Applied Economics for Managers
- BUSN 6630 - Management of Operations
- BUSN 6640 - Financial Management
- BUSN 6710 - Strategic Management

International Elective (3 Hours)

Any course numbered 6000 or higher with the INTB prefix

OR ENTP 6826 - International Entrepreneurship

OR any graduate-level business course that is cross-listed with an INTB prefix. Travel study offered by the Business School will also apply.

Political Science Core (18-21 Hours)

- PSCI 5000 - State of the Discipline
- PSCI 5468 - Research Methods in Political Science
  Graduate Seminar in American Politics subfield
  Graduate Seminar in Comparative or International Politics subfield
  Graduate Seminar in Political Theory subfield
  PSCI 5950 - Master's Thesis (6 credits)
  OR
  PSCI 5960 - Master's Project (3 credits)

Political Science Electives (6-9 Hours)

PSCI graduate seminars [must complete 6 hours if thesis, or 9 hours if project (from Political Science Core)]

Free Electives (6 Hours)

Courses must be from either the Business School or Political Science department, meeting the descriptions below. A combination of both is also acceptable.

Business Free Electives: Any course numbered 6800 or higher with a BUSN prefix or any course numbered 6000 or higher with a prefix of ACCT, DSCI, ENTP, FNCE, HLTH, INTB, ISMG, MGMT OR MKTG.

***P*olitical Science Electives:** *Any course numbered 5000 or higher with a PSCI prefix.*

Public Administration MPA/JD

The School of Public Affairs and the University of Colorado at Boulder School of Law jointly sponsor a dual degree program leading to the simultaneous granting of the master of public administration (MPA) and juris doctor (JD) degrees. The program may be of particular interest to students who wish to practice law within the public sector, obtain a senior administrative post, represent public-sector clients, represent private-sector clients in transactions with government agencies and institutions and/or develop scholarly expertise in the relationship between law and public administration.

Interested persons must separately apply to and be admitted by both SPA and the School of Law. Upon admission, students may begin full-time study at either SPA or the School of Law; however, law study must be initiated no later than the beginning of the second year of enrollment in the program, and the first year of law study must be taken in its entirety and exclusive of nonlaw course work.

Through the choice of electives, students may develop a limited substantive specialization within the study of law and public administration. The dual degree program is structured to allow for 12 semester hours from the law school to be accepted as electives in the 36-semester-hour MPA program, and 12 semester hours from SPA to be accepted into the law school's 89-semester-hour JD program. Students are thus simultaneously awarded both degrees with a cumulative total of 101 semester hours; the program therefore allows students to complete all dual degree requirements in approximately four years of full-time study. Students without prior public-sector work experience will be required to complete an internship in an appropriate governmental institution or closely related nonprofit organization.

Public Administration/Criminal Justice MPA/MCJ

The fields of public administration and criminal justice are closely connected. While the MPA is a generalist degree designed to prepare graduates for a variety of positions in administration and policy analysis, criminal justice studies prepare graduates to work in public service organizations within the substantive policy area. By providing an opportunity for students to complete both a generalist master's degree as well as a specialist master's degree, graduates will be equipped not only with administrative skills applicable to a number of public service settings, but also will have deep knowledge of work that pertains to criminal justice settings.

Admission

Students pursuing the joint degree program must apply separately to each of the programs and be admitted to each of the programs. If one program accepts student for the dual degree but the other program does not, then the student will not be accepted for the dual degree. It is possible for students currently admitted to one program to learn about the dual degree and choose to apply after admission to the other.

The MPA and MCJ Program Directors serve as advisors for this program. Interested applicants should consult one of the Program Directors before applying.

Course Requirements

Students enrolled in the dual degree program must complete a minimum of 24 credit hours in each of the two programs (not counting Internship or Field Study if required). Because each program requires 36 (not counting Internship or Field Study) credit hours, the student will be able to complete 48 hours and earn two degrees. This means that the student can earn two degrees by completing 66% of the credit hours that would be required if the student were pursuing each degree separately.

Interested students should contact the School of Public Affairs directly for specific information on course sequencing and requirements.

Public Administration/Economics MPA/MA

The fields of public administration and economics are inextricably linked. Economists provide much of the theory and analytic foundation that administrators use to evaluate and implement policy. Given that the capitol of Colorado is in Denver, there is great need for administrators that fully understand methods of program evaluation and have the theoretical background needed to forecast how individuals and institutions will respond to new proposals. Similarly, good theory and practice must take into account how the proposals will be implemented and results interpreted. Both administrators and economists need to be engaged in constructive dialogue for either to be fully effective.

Therefore the Department of Economics of the College of Liberal Arts and Sciences and the School of Public Affairs jointly sponsor a dual degree program. This program enables students to simultaneously earn an MA degree in economics with a master of public administration (MPA).

The dual degree program provides students to opportunity to take the core of both programs and choose electives that suit their career and personal goals best. Electives in one program are allowed to count as an elective in the other. The net result is that while both degrees separately require 66 hours, the dual degree program provides a more comprehensive and effective education in 48 hours or 73 percent of the dual degree total.

Degree Requirements

Admission into both programs

Students must apply separately to each program, meet the admission requirements of each program and be accepted by each program. If one program accepts a student for the dual degree but the other program does not, then the student will not be accepted for the dual degree. It is possible for students currently admitted to one program to learn about the dual degree and choose to apply after admission to either economics or SPA.

Other policies

Minimum Grade for Graduation

Students must maintain a GPA of 3.0 or higher across all courses that are applied to the dual degree. Students who fail to maintain a GPA of 3.00 will be placed on probation for a semester, after which they may be dropped from the dual degree program if the GPA is not increased to 3.0 or above. Additionally, any core course in which a student receives a final grade lower than B- cannot be counted toward the total credits required for the dual degree; in such a case, the student must retake the course.

Capstone Advising

All students are required to complete a capstone paper and obtain the signatures of three graduate faculty. Every dual degree student, regardless of the capstone course they choose (ECON 6073 or PUAD 5361) must select a committee composed of faculty from both programs.

Course Credit Transfers from Other Universities

No more than 6 hours may be transferred, and both SPA and economics program directors must approve any transfers.

Sample Plan of Study for the MPA/MA Economics

Total: 48 semester hours with 21 in economics and 27 in public administration

Core

(33 semester hours)

A grade of B- or better is required in all core courses, with a B average overall. No public administration course may be taken a third time.

- ECON 5073 - Microeconomic Theory
- ECON 5083 - Macroeconomic Theory
- ECON 5803 - Mathematical Economics
- ECON 5813 - Econometrics I
- ECON 5823 - Econometrics II
- PUAD 5001 - Introduction to Public Administration and Public Service
- PUAD 5002 - Organizational Management and Behavior
- PUAD 5003 - Research and Analytic Methods
  or
- PUAD 5004 - Economics and Public Finance
- PUAD 5005 - The Policy Process and Democracy
- PUAD 5006 - Leadership and Professional Ethics
- ECON 6073 - Research Seminar
  or
- PUAD 5361 - Capstone Seminar
  To be completed after all other core courses or with instructor and advisor consent.

Electives

(15 semester hours)

If the student takes PUAD 5361, then they are required to take 6 semester hours of economics electives and 9 semester hours of electives from SPA labeled 5000 or above.

If the student takes ECON 6073, then they are required to take 3 semester hours of economics electives and 12 semester hours of electives from SPA labeled 5000 or above.

Public Administration/Public Health MPA/MPH

Applying for the Program

Students need to apply to the School of Public Health with a separate application. Students must be admitted to both programs to participate in the dual degree.

Course Requirements

To complete the dual degree, students take all the core courses in each program, 9 elective credits from the School of Public Affairs, 9 elective credits from the School of Public Health, and the School of Public Health's capstone course requirements. Total credits required: 60 semester credit hours. For more information, see the course map provided on the School of Public Affairs website; spa.ucdenver.edu.

When to Enroll

Students should indicate intention to complete the dual degree upon application to the School of Public Affairs and simultaneously complete the application for the School of Public Health. SPA does not have a limit on the number of students who can enroll. Students already enrolled in the School of Public Affairs student may begin the SPH application right away (see the SPH for application deadlines), while taking MPA classes. It is best to get started on the application process right away, so that advising matches graduation goals.

Advising

Once admitted to the dual degree program, students have an advisor from each school.

Public Administration/Urban and Regional Planning MPA/MURP

Background and Purpose

Public administration and urban and regional planning have many aspects in common. To provide students with an excellent education through understanding of both professions, the School of Public Affairs and the College of Architecture and Planning have developed a dual degree program. Students can obtain both master of public administration (MPA) and master of urban and regional planning (MURP) degrees with a minimum of 63 semester hours, as compared to a total of 87 semester hours to complete both degrees independently.

To be eligible for the dual MPA/MURP degree program, students must be admitted to each of the two schools under their respective admission procedures and standards and indicate an intention to pursue the dual degree. Students will take all the core courses and the capstone required for an MPA, plus the core and concentration requirements necessary for the MURP.

Students in each school must apply to the other school before completing 18 hours in their respective programs. Upon admission to both schools, students will be assigned an advisor in each school to work out a specific degree plan.

Core and Elective Requirements

Core Courses (42 semester hours)

MURP

- URPL 5000 - Planning History and Theory
- URPL 6220 - Advanced Research Techniques
- URPL 6215 - Analyzing the Built Enviroment
- URPL 5020 - Planning Law and Institutions
- URPL 6630 - Planning Studio I
- URPL 6000 - Planning Project Studio

Total: 18 Hours

MPA

- PUAD 5001 - Introduction to Public Administration and Public Service
- PUAD 5002 - Organizational Management and Behavior
- PUAD 5004 - Economics and Public Finance
- PUAD 5005 - The Policy Process and Democracy
- PUAD 5006 - Leadership and Professional Ethics

Total: 15 Hours

Take one of two

- PUAD 5003 - Research and Analytic Methods
- URPL 5040 - Planning Methods

Total: 3 Hours

Additional Course Work (21 semester hours)

MURP

12 hours if URPL 5510 elected, or 15 hours if PUAD 5003 elected. Courses are to be selected with MURP advisor's approval.

- URPL 5040 - Planning Methods
- PUAD 5003 - Research and Analytic Methods

Total: 12-15 Hours

MPA

6 hours if PUAD 5003 elected, or 9 hours if URPL 5510 elected.

- PUAD 5003 - Research and Analytic Methods
- URPL 5040 - Planning Methods

Total: 6-9 Hours

Practicum

- PUAD 5361 - Capstone Seminar (3 hours required)

Total: 3 Hours (required)

Electives

Take one of the following or another option with MPA advisor's approval (3 hours):

- PUAD 5250 - Intergovernmental Management
- PUAD 5410 - Administrative Law
- PUAD 5440 - Negotiation and Conflict Resolution
- PUAD 5502 - Public Financial Management and Policy
- PUAD 5503 - Governmental Budgeting
- PUAD 5540 - Organization Development
- PUAD 5625 - Local Government Management
- PUAD 5626 - Local Government Politics and Policy

- PUAD 5631 - Seminar in Environmental Politics and Policy
- PUAD 5632 - Seminar in Environmental Management

Total: 3 Hours

Public Affairs BA/MPA

The BA/MPA degree program offered by the College of Liberal Arts and Sciences and the School of Public Affairs provides students the opportunity to complete both a bachelor's degree and master's degree in five years rather than the usual six years. The program combines undergraduate general education and major studies with a specialized curriculum in public affairs and strives to develop intellectual and professional skills in a coordinated manner. The five year BA/MPA program decreases the time and number of semester hours required to earn both degrees by allowing students to count graduate level courses in the School of Public Affairs toward the bachelor's degree requirements. The program is designed to give students an opportunity to prepare for professional positions and advancement with federal, state or local governments, nonprofits or private sector firms concerned or involved with public affairs.

Admissions Requirements and Recommendations

Interested students should contact their CLAS advisor and the School of Public Affairs' MPA director as early as possible to ensure proper planning for the five year degree. To qualify, students must have a 3.5 or higher GPA in CLAS.

Students may apply to the program during the semester in which they will successfully complete 90 semester hours, and should have most of their general education and major requirements completed by this time. Students must complete all the required MPA application materials for the School of Public Affairs.

Program Requirements

Students must fulfill all the requirements for graduation for CLAS:

- Total of 120 hours (includes hours in public affairs)
- 30 hours in the core curriculum
- 30-48 hours to satisfy major requirements
- Writing proficiency (1 – 7 hours)
- Mathematics proficiency (0 – 3 hours)
- Level III foreign language (0 – 13 hours)
- It is highly recommended that students complete a course in American government, statistics and economics before applying to the MPA program

Students must maintain a 3.5 GPA in CLAS course work.

Students may complete a maximum of 18 semester hours of SPA graduate course work while classified as an undergraduate student.

Students must fulfill all the requirements for graduation from SPA:

- Total of 36–39 semester hours in public affairs
- Six core courses (PUAD 5001 – PUAD 5006)
- Five elective courses at the graduate level (5000 and 6000 level courses)
- Nine of the 15 elective semester hours must be PUAD courses
- An internship (3 hours) is required from those who do not have significant work experience in the field

- Successful completion of the capstone course taken in a semester AFTER all core courses are completed. A thesis option is available. Interested students should contact their SPA faculty advisor.

Students must maintain a 3.0 or higher GPA in public affairs course work.

Program Options

BA/MPA students may choose from any CLAS major.
BA/MPA students may choose to do a general MPA or select a MPA concentration in local government, nonprofit management, environmental policy, emergency management and homeland security or domestic violence.

Degree Confirmation

Students are eligible to receive a bachelor's degree once they have successfully completed 120 semester hours and all CLAS requirements. The BA/MPA will be conferred once the student has completed all requirements of the master of public administration degree, including at least 36 hours of graduate level course work.

Doctoral Programs

Applied Mathematics, PhD

► Graduate School Rules apply to this program.

Program Requirements

The Department of Mathematical and Statistical Sciences offers a PhD in applied mathematics. The degree is designed to give candidates a contemporary, comprehensive education in applied mathematics and to provide research opportunities in the special fields of graph theory, combinatorics, optimization, applied probability, computational mathematics, and applied statistics.

There are six phases of the PhD program. A candidate must fulfill course requirements, pass the preliminary examinations, establish a PhD committee, meet the academic residency requirement, pass the comprehensive examination and write and defend a dissertation.

- Students must complete 42 semester hours of non-thesis course work at the graduate level (up to 30 hours of this course work may be transferred in, including courses taken as part of a master's degree). In addition, 30 hours of dissertation credit must be taken. The following courses are required as part of the formal course work: the math clinic and three readings courses (1 semester hour each). Students must also satisfy a **breadth requirement** by completing a total of six graduate math courses from among several areas of mathematics, with no more than three of these courses from any one area. A 3.25 GPA must be maintained throughout all course work. [The following MATH courses will NOT count toward a graduate degree: MATH 5000-5009, 5012, 5017, 5198 and 5250.]

- The preliminary examinations are designed to determine that students who intend to pursue the PhD program are qualified to do so. These four-hour written examinations are in the areas of applied analysis and applied linear algebra. Students must pass these exams within two years of entering the program. Exception: students admitted with prerequisite deficiencies must pass these exams within three years.
- Six semesters of full-time scholarly work are required, as specified in the rules of the Graduate School. All students are strongly advised to spend at least one year doing full-time course work or research with no outside employment.
- The comprehensive examination is taken after completion of the preliminary exams, completion of at least three semesters of residency, and upon completion of all nonthesis coursework. The exam is designed to determine mastery of graduate-level mathematics and the ability to embark on dissertation research. It consists of a six-hour written examination and an oral follow-up examination. Students must pass the comprehensive exam within 4 years of admission. Within six months after passing the comprehensive examination, the candidate must present a dissertation proposal to their dissertation committee.
- Each student must write and defend a dissertation containing original contributions and evidence of significant scholarship. The dissertation defense is public and must be given before an examining committee approved by the Graduate School.

For more detailed information about the applied mathematics PhD, see the Mathematical & Statistical Sciences Graduate Handbook (June 2012).

Bioengineering PhD

► Graduate School Rules apply to this program.

Doctor of Philosophy (PhD) Degree Program

For students with undergraduate or graduate degree in life sciences, engineering, computer science, or relevant field. Degree completion in 3-5 years with highly individualized training pathway and multidisciplinary research dissertation. More information is available on the Department of Bioengineering website.

The department also offers an MD/PhD degree program for students already enrolled or accepted into the Medical Scientist Training Program (MSTP) in the CU School of Medicine. Degree completion in 7-8 years with highly individualized training pathway and multidisciplinary research dissertation.

Civil Engineering PhD

► Graduate School Rules apply to this program

The PhD degree in civil engineering is offered through a coordinated program with University of Colorado Boulder.

Specialty Areas for Degrees:

- Environmental and Sustainability Engineering
- Geotechnical Engineering
- Hydrologic and Hydraulic Engineering
- Structural Engineering
- Transportation Engineering
- Civil Engineering Systems

NOTE: The multidisciplinary engineering and applied science PhD is also offered through the Department of Civil Engineering.

What is civil engineering systems?

The doctoral program in civil engineering systems has different rules than the five other traditional doctoral tracks in order to facilitate more interdisciplinary research. This doctoral track can be the degree that would follow a master's of engineering.

Additional Doctoral Admissions Requirements

In addition to the admissions requirements listed for master's students, doctoral applicants need to have the support of a faculty advisor before they are admitted. Once doctoral students are approved by the graduate admissions committee, their application must be reviewed again by the Department of Civil, Environmental and Architectural Engineering at CU Boulder as the programs are jointly administered. Prospective PhD students should contact the Department of Civil Engineering at CU Denver to inquire about application requirements and to obtain the “Rules and Policies for the Coordinated PhD Program.”

Requests for applications for graduate study in civil engineering should be addressed to

CU Denver Department of Civil Engineering
Campus Box 113
P.O. Box 173364
Denver, CO 80217-3364

Computer Science and Information Systems PhD

► Graduate School Rules apply to this program

Program co-directors: Gita Alaghband (CSE) and Mike Mannino (Business School)

Website: http://engineering.ucdenver.edu/CSISPhD

The Department of Computer Science and Engineering (CSE) and the Business School offer a joint doctor of philosophy degree program in computer science and information systems (CSIS). The program targets students with a master's-level education in either computer science, information systems or related disciplines, although highly qualified students with undergraduate degrees may also apply. The program provides research training that combines computer science and information systems along with strong industry interaction. Students completing the joint PhD program may qualify for academic positions, industrial research positions and senior consulting positions. The specific goals of the program complement these general goals:

- create a pool of graduates with CSIS research training who are qualified for academic and nonacademic careers
- meet student demand for advanced training in CSIS with accommodations for full-time and part-time students
- promote interdisciplinary research between CSE and the Business School
- enhance technology transfer between CSIS academic units and Front Range technology businesses through joint research, student internships, faculty externships and committee participation

Advisor

Upon entering the program, each student chooses an advisor to provide mentoring and guidance throughout the program and work with the student to prepare a program of study. Requests to change advisors must be approved by the program co-directors, and this happens in very rare circumstances.

Doctoral Committee

The advisor and four other members form a doctoral committee. To foster interdisciplinary work, you may have your doctoral research co-supervised by two faculty members. At least one co-supervisor must be a full-time current graduate faculty member in the CSE department or Business School. The committee must contain at least one faculty member from the CSE department and at least one from the Business School. At least one committee member is from outside of the CSE department and the information systems faculty.

Program Components

Plan of Study

A list of course work and other requirements for the degree should be prepared with the advisor and then submitted to the co-directors for approval. The successful completion of all work indicated on the plan of study is an important prerequisite for the conferring of the degree. A plan of study should be submitted for approval by the end of the first semester of the program. The current plan of study should be updated before the beginning of the second year of the program and submitted for reapproval by the co-directors.

Preliminary Exam

According to Graduate School Rules, students are required to demonstrate their basic knowledge and preparation toward more advanced doctoral level work. For more information visit the PhD CSIS website.

Comprehensive Exam

Students will submit a paper to fulfill the graduate school's comprehensive exam requirement. The paper should describe an area of research including literature review, problem definition, and possible methodologies/models to study a significant problem in computer science or information systems. The paper will be evaluated by a committee of three faculty members. An oral presentation of the paper will be open to the entire CSIS faculty. The committee may adopt additional guidelines to evaluate the paper and presentation. According to graduate school rules, the comprehensive exam must be completed by the end of the fourth year in the program. In addition to these requirements, the comprehensive exam must meet the other graduate school requirements.

Dissertation Proposal

A student's doctoral committee can require a dissertation proposal after the student completes the comprehensive exam. The doctoral committee may consider the quality and level of detail in the comprehensive paper and other factors in determining the need for a student to prepare a dissertation proposal. If the doctoral committee requires a dissertation proposal, the student must prepare a proposal that will be evaluated by the doctoral committee.

Dissertation Completion

Once the dissertation proposal is approved, each student prepares and submits a dissertation. The dissertation is defended before the doctoral committee in a public meeting. Final approval for the dissertation is given by a vote of the dissertation committee after the public defense.

Graduation

Upon completion of all degree requirements including the dissertation defense, the student receives the degree of doctor of philosophy. Students applying through CSE receive the PhD from the College of Engineering and Applied Science, while students applying through information systems receive the PhD from the Business School.

Computer Science and Information Systems PhD (Business School)

► Graduate School Rules apply to this program.

Program Components

Plan of Study

A list of course work and other requirements for the degree should be prepared with the advisor and submitted to the program co-directors for approval. The successful completion of all work indicated on the plan of study is an important prerequisite for the conferring of the degree. A plan of study should be submitted for approval by the end of the first semester of the program. The current plan of study should be updated before the beginning of the second year of the program and submitted for reapproval to the co-directors.

Preliminary Exam

According to Graduate School rules, students are required to demonstrate their basic knowledge and preparation toward more advanced doctoral level work. For more information visit the CSIS program website.

Comprehensive Exam

Students will submit a paper to fulfill the graduate school's comprehensive exam requirement. The paper should describe an area of research including literature review, problem definition and possible methodologies/models to study a significant problem in computer science or information systems. The paper will be evaluated by a committee of three faculty members. An oral presentation of the paper will be open to the entire CSIS faculty. The committee may adopt additional guidelines to evaluate the paper and presentation. According to graduate school rules, the comprehensive exam must be completed by the end of the fourth year in the program. In addition to these requirements, the comprehensive exam must meet the other graduate school requirements.

Dissertation Proposal

As the first phase of the dissertation, each student should prepare a proposal that will be evaluated by the doctoral committee. A proposal should be ready for review at least one semester before the expected completion date of the degree. The proposal is submitted for review and approval by the doctoral committee. An oral presentation of the dissertation proposal before the doctoral committee is required for approval. An approved proposal is then submitted to the co-directors of the program for final approval.

University-Level Instructional Training

During the program, each student will obtain training for university-level instruction. This requirement can be fulfilled by working with a faculty member as a teaching assistant, attending university-level teacher training or teaching a university-level class. Students who plan a university career will be encouraged to teach one or more courses and participate in training. When teaching or working as a teaching assistant, a student will be compensated according to standard university salaries.

Dissertation Completion

Following completion of the approval of the dissertation proposal, each student prepares and then submits a dissertation. The dissertation is defended before the doctoral committee in a public meeting. Final approval for the dissertation is given by a vote of the dissertation committee after the public defense of the dissertation.

Graduation

Upon completion of all degree requirements, including the dissertation defense, the student receives the degree of doctor of philosophy. Students applying through the CSE receive the PhD from the College of Engineering and Applied Science, while students applying through the information systems program receive the PhD from the Business School.

Design and Planning PhD

► Graduate School Rules apply to this program

Program Director: Osman Attmann
Telephone: 303-315-0032
Email: o.attmann@ucdenver.edu

Overview

The PhD in Design and Planning at the University of Colorado is a research-oriented degree offered by the College of Architecture and Planning (CAP) at the University of Colorado Denver. Initiated in 1997, the program is dedicated to the education of future architects, landscape architects, and urban planners who are intellectual leaders, and who have a critical understanding of the social, political, and global conditions that influence their profession.

It is the intent of the program to prepare students to excel in the planning and design of built environments through the incorporation of intellectual, analytical, and integrative aspects of the involved professions. Within this context, students and faculty seek to creatively shape the built environment and understand it in relation to institutional, political, economic, social, and natural environments.

Admission to the program is competitive and based on merit and available funded projects in the program. Excellent academic performance, references, and GRE scores are prerequisites. In the first two years of residence, students take courses to satisfy the requirements of a major and a minor field of study and the core requirement of the program, as well as additional electives.

The minimum residency requirement is four semesters, not including summer semesters. The first major step in their progress through the program is the completion of the course work required by the candidate's selected major and minor fields of study. The second major step is the completion of the comprehensive examinations in the selected major and minor fields of study.

After satisfying program requirements, students move on to preparing a thesis topic and research proposal which is presented and defended in a public event. With the successful defense of the thesis topic and research proposal, students are admitted to candidacy. Finally, the completed thesis is defended in a public examination involving external examiners in addition to the members of the committee. Upon successful completion of the thesis defense the program recommends the awarding of the PhD degree.

One of the strengths of the College of Architecture and Planning PhD program is that students can take advantage of resources in all departments and fields in the College and elsewhere in the university. The program is a unique, joint program in which students may choose to focus in Architecture, Planning, or Landscape Architecture, or work in any combination of these disciplines. Interdisciplinary study and cross-disciplinary inquiry occur in a congenial work environment, drawing upon a wealth of faculty and resources in a range of campus units. The main mission of the program is to provide a foundation for scholarship in planning and design

drawing from scientific, critical, historical, and creative modes of inquiry.

The PhD degree in Planning and Design is appropriate for those seeking careers in research and teaching or in roles in government or professional consultation, all of which require a research specialization. So far, over 40 graduates of the program have gone on to faculty positions at universities in the United States and elsewhere, post-doctoral work, and into private consulting, non-profit organizations, and the federal government.

Admission Requirements

Prerequisites

Applicants admitted to the PhD Program normally will have completed the requirements for the Master of Architecture, Master of Planning, Master of Landscape Architecture, or a related master's degree program. Students from allied fields are also encouraged to apply. Field specialization and background are open. However, students will preferably have completed a program in planning or a design-related field, such as:

- Architecture
- Architectural Engineering
- City and Regional Planning
- Landscape Architecture
- Urban Design
- Environmental Studies

GPA, GRE and TOEFL Scores

Consistent with the University requirements, applications are evaluated based on Grade Point Average (GPA) scores, Graduate Record of Examination (GRE) scores, and the Test of English as a Foreign Language (TOEFL) scores (where applicable). All exams must have been taken within a year before applying to the program:

- Academic achievement as evidenced by an undergraduate grade point average of 3.0 (on a 4.0 scale) or better, and a graduate grade point average of 3.5 or better.
- The program looks for GRE scores of 158 or better on each of verbal and quantitative reasoning tests and for a minimum of a 4.00 score on analytical writing, unless a student's record documents substantial professional or scholarly achievement as evidence of exceptional ability.
- Applicants whose native language is not English must take either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) exam, or have a graduate degree from a university in the U.S. or another English-speaking country. The minimum TOEFL score required for acceptance by the University of Colorado at Denver is 80 or higher on the TOEFL (sub-scores of 20 in Reading, Listening, and Speaking, and 24 in Writing) or 6.5 on the IELTS (sub-scores of 5.5 in each area). However, the Ph.D. program typically does not accept a student with a score lower than 85 on the TOEFL and 6.8 on the IELTS.

Application Checklist

The following documents must be submitted before an application will be considered:

- Application Forms - Apply online!
- Application Fee
- Three Letters of Recommendation
- Examples of previous research and written works
- Official transcripts from all previously attended institutions of higher learning
- Statement of Personal and Professional Goals
- Scores of Test of English as a Foreign Language (TOEFL) for non-U.S. residents whose native language is other than English
- Graduate Record Examination (GRE) score
- Financial Statement (for non-U.S. residents/citizens)

Program Requirements

Overview

Successful completion of the PhD program requires fulfilling course requirements, passing the comprehensive examinations, preparing and defending a dissertation proposal, and undertaking research, writing and defending a dissertation. This is a multi-year process that involves a close mentoring relationship with the student's advisor. The Checklist that follows summarizes the major requirements of the program.

A student's program of study must include:

- at least 12 credit hours of PhD Program core classes,
- 15 credit hours of study in a Major field, and
- 9 hours in a Minor field.

The Major and Minor requirements are minimums; the particular field of study may require additional work.

Based on these and other requirements, students shall complete a minimum of 36 credit hours in their Major and Minor fields, and PhD Program core requirements prior to advancement to candidacy. This is the equivalent of four semesters (two years) of coursework.

Students must maintain a 3.0 GPA in all their coursework. A grade of less than B in any PhD Program requirement (Core, Major and Minor) will not be accepted as meeting those requirements. For Program Core courses, the student must retake the course. A Program Core course may only be retaken once. The student will be terminated from the program if a grade less than B is received more than once in a PhD Program Core course.

In addition, students must pass a comprehensive exam as well as write and defend a dissertation proposal and dissertation.

Residency and Enrollment Requirements

The minimum enrollment requirement at CU Denver for doctoral students is six semesters of full time scholarly work beyond the attainment of a bachelor's degree. Two semesters of enrollment credit may be allowed for an earned Master's degree from another institution however, at least four semesters of credit must be earned for work performed while enrolled at CU Denver.

The doctoral program requires a minimum of two years of residency (not fewer than four semesters enrolled in a minimum of six credit hours each, excluding summer) devoted to coursework and other preparation for advancement to doctoral candidacy status. Ordinarily, research for the dissertation will also be completed while in residence. After that time, special arrangements can be made with the CAP PhD Committee if substantial work needs to be performed elsewhere.

Students must complete the comprehensive examinations and dissertation proposal within four years from the beginning of their first semester in which they are enrolled as a PhD student at University of Colorado Denver. In addition, University of Colorado Denver requires that all degree requirements be completed within eight years of matriculation.

Active Status

To remain actively enrolled, students must register for six credit hours or more each academic semester (excluding summer) until they become a doctoral candidate. Students who are not so registered are automatically withdrawn from the University of Colorado Denver and must apply for readmission to the program. The readmission decision will depend on the student's academic record and progress toward the degree.

Doctoral students must register for a minimum of one hour of dissertation credit in the term of graduation. If all requirements for graduation, including submission of the final approved dissertation, have been completed prior to the last day of registration, and the student was registered for the preceding term, the student may apply for a waiver of the enrollment requirement.

Advising and Committees

Overview

Each student entering the program will have a PhD advisor. Students wishing to change their Advisor should do so during their first year. All appointments of advisors must be approved by the PhD Program Director. Students wishing to change their Advisor after the first year must petition the PhD Program Director for approval.

The Advisor

The advisor guides the student through the completion of the course requirements, the preparation for the comprehensive examinations, the dissertation proposal, and the dissertation. The advisor must have a doctoral degree and be a tenured/tenure-track member of the CAP PhD program.

Dissertation Advisory Committee

The Dissertation Advisory Committee provides guidance for the investigated dissertation topic, comprehensive examination, dissertation, and the final dissertation examination.

This committee includes at least three faculty members: the Advisor and two additional members. The members must have a PhD degree and at least one member must be a full-time faculty of CAP. For the comprehensive examination, at least one member represents the student's major field of study, and at least one member represents the minor field of study.

Membership of this committee may change if the student's interests and needs change. Any changes should be developed in consultation with the student's advisor, and must be approved by the PhD Program Director.

Final Dissertation Examination Committee

This committee consists of a minimum of five members, including the Advisor, the Dissertation Advisory Committee for the dissertation, and at least two additional external members, with at least one from outside the University of Colorado Denver. External members must be full time faculty members in a degree-granting institution and must have PhD degrees.

Special Circumstances

If the advisor leaves the faculty of CAP before the comprehensive exam and/or thesis topic is approved, the PhD Program Director will work with the student to identify a new advisor for the committee.
If the advisor leaves the faculty of CAP after the comprehensive exam and/or thesis topic is approved, and both the advisor and the student wish to continue in the advising relationship, there will be no change of advisor. The advisor may be appointed as adjunct faculty in the School, in order to recognize his or her continuing role, with approval of the PhD Program Director.

If a member of the dissertation committee other than the advisor is unable to continue in this role, for any reason, the advisor will work with the student to identify a new member for the committee. Upon accepting to serve in this role, the new member of the committee must sign on the dissertation topic and dissertation proposal documents as they were previously approved.

Typical Course of Study

FIRST YEAR

Students develop their degree plan, take six credit hours of the required Core Curriculum, complete additional courses in their specialty area, and any prerequisite courses.

SECOND YEAR

Students take the remaining core courses, continue to take electives in their minor and specialty areas, begin literature surveys and reviews, and prepare for their comprehensive exam.

THIRD YEAR

Students complete their specialization papers, prepare a dissertation proposal, complete literature review, and take the comprehensive exam.

FOURTH/FIFTH YEAR

Fourth and fifth years are spent researching and writing the dissertation.

PhD Degree Time Limit: Eight Year Completion Requirement

University of Colorado Denver requires that doctoral students, whether enrolled full time or part time, must complete all degree requirements within eight years of matriculation. Students who fail to complete the degree in this eight-year period are subject to termination from the Graduate School upon the recommendation of the program director and concurrence of the Dean. For a student to continue beyond the time limit, the program director must petition the Dean for an extension and include:

1. reasons why the program faculty believes the student should be allowed to continue in the program and
2. an anticipated timeline for completion of the degree.

Approved leaves of absence do not automatically extend the time limits for earning a degree, but they may be used as a reason to request an extension if needed.

For more information on the PhD in Design and Planning, visit the College of Architecture and Planning website.

Educational Studies and Research PhD

► Graduate School Rules apply to this program

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/education/doctorate

The PhD in educational studies and research links an intensive research-based course of study with a content area in order to prepare candidates to assume positions in institutions of higher education or research-based organizations. Successful applicants will be paired with a faculty mentor with whom the student will engage in research and developing content expertise over time. The preparation model will require students to be available for about 20 hours per week in research and to enroll in 2-3 courses per semester.

Students complete a plan of study that includes at least 45 semester hours of course work (including all required core courses) and 30 semester hours of dissertation and labs. PhD students are expected to be full-time, typically working (research assistantships, teaching assignments, internships, grants, etc.) at the university while completing their course work. This allows for induction to the university research and teaching culture.

Overview of Course Work:

Foundations: Equity and Diversity, Learning, Epistemology, and Teaching in Higher Education - 4 Courses; 12 Semester Hours

Research Methods – 6 Courses; 18 Semester Hours

Concentration Area – 5 Courses; 15 Semester Hours**

Dissertation: 30 semester hours total (6-9 research lab credits and 21-24 dissertation credits)

**Doctoral students will complete a series of courses/experiences in a specified concentration area. Content domains that align to prospective positions in institutions of higher education will be the basis for concentration areas. We define a concentration area as a line of courses that leads to increasing subject matter expertise. Concentration areas are designed to help students focus on a defined discipline or content area in preparation for professional roles as researchers and faculty members. Following, we list the current areas of concentration in which students can be admitted. These areas may change over time as they are tied to faculty research and externally funded grant projects; prospective students will find updated information regarding current availability on the School of Education & Human Development website.

- **Math Education**. Students and faculty in this concentration area focus on teacher learning and professional development experiences. Specifically, projects investigate the ways that particular interventions used in professional development for mathematics teachers impacts their content knowledge and pedagogical practices in their classrooms. Work in this area is framed by a situative perspective of learning and incorporates mixed

methods to answer questions around the ways particular interventions support teacher and student learning. Video data is prominent in both the design of professional development interventions as well as a major data source for analyses. Analytic methods vary based on the research question and grain size.

- **Science Education**. The goal of this area is to prepare students to explore, understand, and think critically about the nature of science and science education from a largely research-oriented perspective. Students may elect to focus on environmental science education as an area of specialization within this concentration area through electives and discipline- specific research agendas.
- **Urban Ecologies**. This concentration area brings together several faculty members in interdisciplinary study of education in urban ecologies. Participating faculty members are aligned with the interdisciplinary concentration area as a whole, rather than specific threads or foci. The philosophical assumptions underlying work in this concentration area are: 1) Cultural groups are not monolithic, 2) Urban life and learning, including Pre-K-20 education, complex phenomena that benefit from the multiple lenses offered by multi-disciplinarity, and 3) Trans-nationalism characterizes the cultural experiences and political/economic realities of many communities in cities and contributes to the hybrid identities of residents. These assumptions contribute to a conceptual frame for investigating diversity within the city that is not focused on specific groups and is concerned with the influence of globalization on communities in general within the city. Experiences of and issues confronting different cultural and ethno-linguistic groups will be the key content of this concentration area.
- **Assessment and Measurement**. The goal of this concentration area is to introduce students to the theory, methods, practices and problems in the development and technical evaluation of assessments in education at both large-scale and classroom assessment levels, considering issues of diverse learners, including English Language Learners and students with special educational needs. The arena of assessment is playing in increasingly important part in P-20 education. This ranges from issues of accountability, student achievement, growth- models, common/benchmark assessments to classroom assessment. In addition to the need for researchers in this area, there are needs for individuals with advanced skills in developing and evaluating the technical quality of instruments in education for different purposes, from developing and implementing surveys to collecting information about teachers to implementing and analyzing achievement assessments to make decisions about the efficacy of educational programs. These individuals need to know how to analyze the information gathered from these instruments and make appropriate decisions based on the information collected. They need to understand the limitations of assessment instruments based on the evaluation on their technical quality.
- **Administrative Leadership and Policy**. This concentration serves as key area for those concerned about leadership in schools and a key focus for research by scholars in higher education. A crucial assumption the underlies this concentration area is that school leadership makes the difference in how schools succeed in improving learning outcomes for all students, but we are only beginning to scratch the surface in understanding why leadership is successful when it is, what the interactions are between

effective leadership and effective teaching, and their collective impact on learning outcomes at all levels in schools.

Engineering and Applied Science PhD

Graduate School Rules apply to this program

The multidisciplinary Engineering and Applied Science Doctor of Philosophy degree program is offered by the College of Engineering and Applied Science and consists of a primary and secondary concentration. Applicants apply and enter the program through one of four departments–called the host department, which is chosen based on the applicant's intended primary concentration of study. The four departments that serve as host departments are:

- Civil Engineering
- Computer Science and Engineering
- Electrical Engineering
- Mechanical Engineering

Each host department offers several concentrations. A list of concentrations can be found on each department's website.

The required secondary concentration can be chosen from any remaining department within the college, including the Department of Bioengineering. The secondary concentration may also be chosen from another CU Denver school or college. A student chooses his/her secondary concentration with the help of a faculty advisor after entering the program.

Requirements for Admission

Requirements for admission to the Engineering and Applied Science PhD program can be found under the Degree Programs link on each host department's website.

- Civil Engineering
- Computer Science and Engineering
- Electrical Engineering
- Mechanical Engineering

Degree Requirements

The minimum degree requirements consist of 30 semester hours of course work in the primary and secondary areas of concentration, as well as 30 semester hours of research/dissertation credit. Each candidate for the degree is expected to take a preliminary examination by the end of the second year. After successful completion of this exam, the student is required to take the comprehensive examination and the doctoral dissertation defense examination. Additional requirements are outlined in the Rules and Regulations document that each student signs after being admitted to the program. Each student must also satisfy the degree requirements of the CU Denver Graduate School.

Health and Behavioral Sciences PhD

► Graduate School Rules apply to this program

Requirements for Admission

A master's or equivalent graduate degree is required for admission to the PhD program. In addition, we encourage prior graduate training in the areas noted below. Students applying without prerequisites may be admitted, but will be required to complete appropriate courses before being permitted to complete the core curriculum.

In addition to the general admission requirements of the Graduate School, the specific admission requirements for the PhD in health and behavioral sciences are as follows:

1. Knowledge from prior course work or vocational experience at the equivalent of college senior or graduate level in each of the following areas.

Social or behavioral sciences (15 semester hours minimum): knowledge of essential facts and concepts concerning the relationship among individuals and society, social organization, individual psychology and the relationship among culture, belief and behavior. This could be satisfied by course work in psychology, sociology and anthropology.

Human biology or physiology (6 semester hours minimum): familiarity with the functioning of the human body in health and disease states, including an understanding of cellular and organ system processes; an appreciation of evolutionary theory and the mechanisms by which evolution operates on both cellular and population levels; and an understanding of the interplay between the evolution of disease and host response. This could be satisfied by course work in human biology, physiology, pathophysiology or biological anthropology.

Statistics (3 semester hours minimum): prior course work and current familiarity with statistics including probability theory, parametric and nonparametric methods and acquaintance with basic multivariate techniques.

Epidemiology (3 semester hours minimum): prior course work at the advanced undergraduate or graduate level with the basic concepts and methods of epidemiology, including measures of risk, mortality, distribution of disease, role of bias and confounders and study design.

2. Demonstrated academic excellence as evidenced by an undergraduate GPA of 3.25 (out of a possible 4.0 points) or better, a graduate GPA of 3.5 or better, and scores in the top 30th percentile (averaged) of the GRE. Admission to the program is highly competitive; minimum GPAs and GRE scores for acceptance in any given year may be higher than the minimum levels indicated here.

The applicability of a student's prior course work will be decided by the program executive committee after reviewing the student's transcript and additional materials. If the student does not have the requisite educational background or GPA, the student may be admitted on a conditional or provisional basis and additional course work required in accordance with Graduate School Rules.

Prospective students should not be dissuaded from applying to the program if they do not meet all of the requirements for admission. In some cases, employment experience may be counted toward meeting a requirement. In other cases, students may be admitted conditionally upon their completion of a list of prerequisite courses that will be established at the time of admission. Students should be sure to address this issue in completing the graduate application by specifying the academic and vocational experience they possess that meets, in part or full, the admission requirements described above.

MASTER'S LEVEL PREPARATION FOR THE DOCTORAL PROGRAM IN HEALTH AND BEHAVIORAL SCIENCES

The program does not currently offer master's-level training in HBSC. Instead, we urge interested applicants to pursue relevant master's degree training in one of the social, behavioral or health sciences disciplines. In addition, we work closely with two master's programs at CU Denver. These are the concentrations in medical anthropology within the anthropology MA program offered by the anthropology department and the master of public health offered by the Colorado School of Public Health. Contact the respective programs for more information on these degree options and our program for how their requirements articulate with those for the health and behavioral sciences PhD.

TO APPLY FOR ADMISSION

At the Denver campus, all graduate applications are now submitted electronically. To begin the application process, go to the online admissions website. If you have any difficulties, call the program assistant at 303-556-4300. The program admits students only for the fall semester, which typically begins in mid- to late August. The deadline for the receipt of all application materials is **February 15** for admission the following August.

Applicants should invest considerable thought and effort in preparing their application. For instance, in the essay (Part II, question six) applicants should provide information on: (a) their academic training and any employment related to public health or health care; (b) their experiences with inter- and multidisciplinary perspectives, and (c) how they envision using their doctoral degree to improve the health status of human populations and individuals. Students should also indicate the kinds of research *foci* that interest them the most.

In addition to the required recommendation form, letters of recommendation are required from at least three individuals in a position to judge the applicant's ability to complete the program. Recommenders may be employers, colleagues or professors; however, the applicant should be sure that the letters address the quality of and aptitude for academic work as well as personal characteristics and qualities.

Financial Aid

There are four kinds of financial aid available: graduate student stipends/fellowships; tuition assistance; research assistantship positions funded by grants to specific program faculty; and the regular package of financial aid (primarily loans) available through the financial aid office.

Newly admitted, out-of-state and students demonstrating outstanding scholastic achievement receive priority when assigning departmental sources of funding. Students interested in research

assistantships should contact the individual faculty member with whom they wish to work regarding potential assistantship positions.

All other aid should be requested through the CU Denver Financial Aid Office, North Classroom, 1030, Campus Box 125, P.O. Box 173364, Denver, CO 80217-3364. Telephone: 303-556-2886.

Program Requirements

There are three dimensions to the required curriculum:

a. A core curriculum that focuses on problem-oriented, interdisciplinary approaches to theory and method
b. Elective course work intended to provide the student with a solid base from which to launch the dissertation research
c. Dissertation research and writing

The curriculum is subject to change. What appears below is intended to give students a general idea of the extent, shape and content of the curriculum. Students should check with the program office for up-to-date information on specific course requirements and scheduling.

The Core Curriculum

The core curriculum should be completed by students by the end of their second year of full-time study. It consists of the following series of courses which, together, constitute 29 semester hours:

I. Health and Behavioral Sciences Colloquium

Each fall, the HBSC program will organize a series of presentations by scholars working in the health and behavioral sciences. The presentations provide students with the most current science and theory in the field. Required of all first- and second-year students, who must take at least two times.

- HBSC 7001 - Colloquium Series in the Health and Behavioral Sciences

Total: 2 Hours

II. Theoretical Perspectives in the Health and Behavioral Sciences

This series is designed to give students a thorough background in how the principles of the social and behavioral sciences have been applied to health issues. Topics include: the interplay between structure and agency in creating and maintaining health; social epidemiology; critical theory and social determinants of health; issues affecting Western biomedicine and public health systems; diffusion of healthy behavioral change among populations; social construction of health and illness; health policy and bioethics; social networks; and stress.

- HBSC 7011 - Theoretical Perspectives in Health and Behavioral Science I
- HBSC 7021 - Theory in Health and Behavioral Sciences
- HBSC 7071 - Social and Behavioral Determinants of Health and Disease

Total: 9 Hours

III. Human Ecology and Environmental Adaptation

This course will emphasize the biological/physiological dimensions of human health and disease.

- HBSC 7031 - Human Ecology and Environmental Adaptation

Total: 3 Hours

IV. Research Design and Methods in the Health and Behavioral Sciences

Three HBSC core research design and methods courses, plus one additional advanced methods course of student's choosing. This series covers the philosophy of science and the structure of scientific inquiry, procedures for hypothesis-testing, quantitative and qualitative methodological strategies commonly employed in the field, epidemiology and program evaluation. Students must further develop specialized methodological skills by completing an independent study (HBSC 6840) or taking one additional course in advanced epidemiology, advanced biostatistics, health economics, survey research design or qualitative methods and data analysis. This requirement will be tailored specifically to the student's particular interests by his/her advisor.

- HBSC 7041 - Research Design and Methods in the Health and Behavioral Sciences I
- HBSC 7051 - Qualitative Research Design and Methods
- HBSC 7061 - Quantitative Methods in the Health and Behavioral Sciences
  One elective course in advanced methods: **3 semester hours**

Total: 12 Hours

V. Applications of the Health and Behavioral Sciences

This course offers students the opportunity to focus on individual research interests with guidance from faculty and input from peers.

- HBSC 7111 - Applications of the Health and Behavioral Sciences

Total: 3 Hours

TOTAL CORE: 29 Hours

Elective Courses

Elective course work together constitutes 6 semester hours, which can be drawn from the large number of offerings in the health and behavioral sciences at CU Denver. Students will be expected to fulfill the necessary prerequisites for taking these courses, and final authority as to whether a student may enroll in the course will rest with the department in which the course is offered.

TOTAL ELECTIVES: 6 Hours

Doctoral Dissertation Research

The doctoral dissertation research topic is chosen by the student. The student is expected to define a research question in health and behavioral science, identify the research strategy to be used for answering the question, conduct the research required and document the project in the form of a doctoral dissertation. The student will be guided in this process by a doctoral dissertation advisor and the additional members who comprise the student's doctoral dissertation committee (see below). A minimum of 30 semester hours of dissertation work is required. Students must register for a minimum of 5 dissertation credits each semester of their dissertation work. Students may not take more than a year's leave of absence or fail to enroll for semester hours more than three semesters before they are dropped from the program.

Advisors

Upon admission to the program, each student will be assigned a first-year advisor. The student or the faculty will then choose the faculty advisor who will guide the student through the core and elective course work. The faculty advisor may or may not be the chair of the student's dissertation committee. The student selects his or her chair and a minimum of three additional committee members who oversee the student's comprehensive examination and dissertation research.

Formal Review

A formal review of each student's progress will be undertaken at the end of each year of study. Students who are deemed not to be making satisfactory progress will be informed in writing as to the nature and final result of the review before the end of June.

The Dissertation Prospectus and the Comprehensive Examination

Before a student advances to candidacy, she/he must complete a dissertation prospectus and defend it successfully in the context of an oral comprehensive examination. The dissertation prospectus is a complete description of the question or hypothesis that the student wishes to research for the dissertation project, the research design and study techniques and an assessment of the proposed project's contribution to the field. It will include a comprehensive review of the relevant literature. If the student chooses to undertake research in a particular ethnic or cultural community, she/he must also demonstrate sufficient understanding of that setting including adequate knowledge of the language. This prospectus must be approved by the student's advisor prior to scheduling the comprehensive examination.

The comprehensive examination will be an oral format based in part on, but not restricted to, the material presented in the dissertation prospectus. This exam *must* take place before the

student's advancement to candidacy and will typically occur by the end of the third year of study. A committee comprising the chair and a minimum of three faculty members will supervise the completion of the dissertation prospectus. This committee will conduct the oral examination and will recommend to the executive committee by a majority vote whether or not the student should be advanced to candidacy.

The Doctoral Dissertation and Final Exam

After advancement to candidacy, the student in consultation with his or her advisor will appoint a dissertation committee comprising the chair and a minimum of three faculty members. The chair and composition of the committee will be subject to approval by the program executive committee. The chair and two other members must have been present at the student's comprehensive examination and will be responsible for overseeing the research and writing of the doctoral dissertation. The committee will review drafts of the dissertation and, when the dissertation is completed to its satisfaction, will conduct the final exam, which will be based on the doctoral dissertation and related materials. The final examination will be open to the public.

Dissertation Total: 30 Hours minimum

Integrative and Systems Biology, PhD

► Graduate School Rules apply to this program.

Director for PhD Program: John Freed

Office: Science, 4097

Telephone: 303-315-2143

E-mail: john.freed@ucdenver.edu

Website: clas.ucdenver.edu/biology/grad.html

Requirements for Admission

Applicants must hold a baccalaureate degree from an accredited college or university, awarded within the preceding ten years. Applicants whose biology degree was awarded more than 10 years prior to entrance to the CU Denver program will be expected to retake or show competence in core areas. Successful applicants generally have earned an overall GPA of 3.2 or better. Students entering the PhD program in Integrative and Systems Biology must have completed a year of general biology course work. Supplementary course work or reading programs may be designed for some students admitted to the program to provide background information of sufficient depth for the program curriculum. The general GRE, transcripts and letters of recommendation are required of all applicants, as well as a completed application to the program.

The PhD program has two tracks: integrative biology and systems biology. For both tracks, applicants to the PhD program should declare an area of specialization that aligns with the research focus of a PhD program faculty member. Faculty expertise can be found under PhD program faculty on the Department of Integrative Biology website. Students are obligated to contact prospective faculty advisors in advance of application to the program to determine if openings are available within the faculty member's research program.

Application deadline is January 15 for both domestic US students and international students. Applications submitted after the deadline date will not be considered. Application to the PhD program is through CU Denver Admissions.

Degree Requirements

All course work taken within the Department of Integrative Biology and applied toward the degree must be at the 5000 level or above. Core courses required for the program include: principles of biological research, pedagogy, problems in integrative and systems biology, biostatistics, directed reading/grant writing, 3 electives, journal club, research, and graduate seminar. A course plan is developed jointly by the student and faculty advisor and is approved by the student's graduate committee. Students are required to maintain a minimum 3.0 GPA throughout the program. In addition to regular meetings throughout the semester, all students must meet with their faculty advisor at the beginning of each semester to determine course schedules and upcoming deadlines.

In year one of the program, students are required to take a qualifying written exam covering first year course work. In year two of the program, all students are required to form a five-person dissertation committee. A formal research proposal (written and oral) is defended in the second year of the program. In the third year of the program, students take a comprehensive exam, which comprises an original and state-of-field grant proposal followed by an oral defense. In the final year of the program, a dissertation is completed and defended in an open forum. Degrees will not be awarded solely because students finish required course work and achieve other milestones, including passing comprehensive examinations. Graduation is contingent upon students completing a dissertation that is based on original, publishable research, submitting for publication in peer-reviewed journals, and demonstration by the student of a comprehensive understanding of the literature surrounding the chosen dissertation topic.

Stipends for students are provided for all years of the program.

Per Graduate School rules, the minimum enrollment requirement at CU Denver for doctoral students is six (6) semesters of full time scholarly work beyond the attainment of a bachelor's degree. Two (2) semesters of enrollment credit may be allowed for an earned master's degree from another institution; however, at least four (4) semesters of credit must be earned for work performed while enrolled at CU Denver. PhD students are expected to participate in the life of the program by attending colloquia, seminars, orientations and other program activities and by spending time on campus interacting with other students and faculty outside of normal class hours. Students should discuss with their advisors how to fulfill the spirit of this requirement.

Required Courses

- BIOL 6002 - Biology Skills Sets - Pedagogy
- BIOL 5705 - Principles of Biological Research
- BIOL 6010 - Topics in Integrative and Systems Biology
- BIOL 6764 - Biological Data Analysis
- BIOL 6655 - Seminar

Leadership for Educational Equity EdD

► Graduate School Rules apply to this program

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/education/doctorate

Program Overview

The goal of the doctor of education (EdD) leadership for educational equity program is to prepare future leaders for social justice and equity in P-20 and community-based education contexts who can effectively translate research into practice, influence policy, use data effectively in decision making and organize individuals and groups to address challenges collaboratively and successfully.

The EdD is a practice-based, doctoral level program for professional leadership in P-20 or community-based educational contexts. The EdD will prepare leaders within the profession to address complex educational challenges by combining decision-focused analytic and research skills with a broad-based understanding of systems anchored in principles of social justice and equity and access to public education.

This program reflects a cohort model. Courses will generally be offered in weekend, hybrid (part face-to-face, part online), online and/or summer intensive formats. Students follow their cohort in taking the prescribed course work and experiences for three consecutive years.

Course Work – 69 Semester Hours

Equity and Diversity Core (9 hours)

Leadership Core (12 hours)

Research Methods Core (12 hours)

Concentration Area Core (9 hours)

Culminating Experiences:

Concentration Area Internship (one, 6 credit experience)

Dissertation Courses and Independent Hours (21 credits)

Concentration Areas

Executive Leadership: designed to deepen individuals' skills in policy analysis, development and research; personnel management; finance; accountability systems and evaluation; and community relations. Support individuals who hold or seek to move into senior management

positions inside school districts, community colleges, higher education policy or community-based education organizations. Roles may include that of a director, deputy, superintendent or president.

Instructional Leadership: designed for individuals who want to hone their skills through inquiry in the areas of adult learning, professional development, teaching, assessment and accountability, technology and policy analysis and application. This concentration area targets professionals who hold or seek to move into positions such as teacher leaders, coaches/mentors, program coordinators, curriculum directors or instructors at teaching colleges or community colleges.

Psychology, Clinical Health Psychology PhD

► Graduate School Rules apply to this program

Objectives of the Program

A primary focus of clinical health psychology is the development of effective disease prevention interventions for populations at high risk for medical problems. A second focus of clinical health psychology is the development of strategies to help individuals who are already ill to manage their disease, increase their ability to collaborate with medical professionals and improve their coping skills. Students in this program will be trained to work within the community to use psychological tools and techniques to promote health, prevent and treat illness and improve the health care system. In addition to course work, students acquire expertise in research by completing a second-year project and doctoral dissertation, and demonstrate competence in clinical assessment and intervention through several applied practicum experiences, a clinical competency project and a pre-doctoral internship. Students can complete the program in five years and have up to eight years to complete the program according to Graduate School Rules.

Admissions

The application deadline is December 15 for the following fall. You are responsible for making sure all materials are in on time. We do not consider late applications. International students should be sure to submit all materials at least two weeks before this deadline (by December 1) so that they arrive at our department on time. Below is condensed information; see the department website for complete information.

Admission Requirements:

- BA or BS from an accredited college or university, with a minimum GPA of 3.5 based on all college course work.
- Undergraduate courses in: introductory psychology, psychological statistics, research methods and abnormal psychology. Additional courses in psychology are highly desirable; our admissions committee will also look favorably upon courses in the biological and physical sciences.
- Two official transcripts from each college and university attended.
- Graduate Record Exam (GRE): The GRE General Test (verbal, quantitative, analytical writing) is required. Most students in the program had a combined verbal and quantitative score of at least 1100 on the old GRE scoring system. The GRE should be taken at least six weeks before the December 15 deadline so that the scores arrive on time.
- Three letters of recommendation, at least two of which must be academic references. Applicants provide contact information for their references in the online application. Those individuals are automatically contacted electronically and asked to to upload their recommendations directly to your application file.
- The online Graduate Application, including your resume/vita and personal statement.
- Application fee of $50 ($75 for international students).

Financial Information

The University of Colorado Denver administers various forms of financial aid for graduate students: fellowships, scholarships and a number of awards from outside agencies. See the Office of Financial Aid for further information. Additionally, the psychology department offers teaching assistantships each year in such courses as introductory psychology, statistics, research methods and human development. Although we do not guarantee TA positions, we generally have been able to offer positions to most of our interested students.

Contingent upon the availability of grant money, faculty may also offer part-time research assistantships to qualified students. The typical RA position involves data collection and analysis, library research, etc. Some computer and statistical skills are usually required. RA positions are less available than TA positions, and they may arise on very short notice.

In-state tuition waivers and additional stipend monies may be available for doctoral students. We do guarantee to pay a full stipend, usually in the form of an assistantship, plus tuition for the first year. We will make every effort to do so for four years.

Please note: Neither teaching nor research assistantships confer in-state tuition status.

Degree Requirements

Course Work:

The program requires approximately eight semesters of full-time course work and clinical practica, followed by a year-long internship. Students must maintain a 3.0 grade point average, and no grade below a *B* will count toward the requirements. Students must complete their doctoral dissertations prior to beginning their internship in the 5th year. Students can complete the program in five years and have up to eight years to complete the program, according to Graduate School Rules.

Master's Thesis:

The program has a provision for achieving a master's degree *en route* to obtaining the PhD. In addition to taking PSYC 8200, Teaching Skills Seminar, an MA is required for students to independently teach a course. During their time in the program, students' funding will likely require them to independently teach a course. Students must complete a master's thesis, an empirical research project that makes a significant contribution to the field. Although the thesis must address the student's own original question, the use of archival data and pilot studies is encouraged for this project.

Clinical Practica:

A minimum of 500 face-to-face intervention and assessment hours and 1200 total practicum hours [face-to-face intervention and assessment hours, plus supervision, plus support hours as defined by the Association of Psychology Postdoctoral and Internship Centers (APPIC)] are required in preparation for application to pre-doctoral internships. A minimum of 50% of required practica is conducted in medical settings, including rotations in the department's own Psychological Services Center and in external facilities such as outpatient diabetes clinics, cancer clinics, OB/GYN, HIV/AIDS, end-stage renal disease, pain, and cardiovascular clinics, and in-patient psychiatric facilities. Students are able to select practica based on their personal and

professional interests. All field placements are approved in advance by the Coordinator of Clinical Activities.

Demonstration of Clinical Competency:
Students entering their fourth year of the program must demonstrate their clinical competency by completing the Comprehensive Clinical Competency Evaluation (CCCE). The CCCE is designed to facilitate student demonstration of clinical competence at the developmental level of readiness for application to clinical internship. This evaluation is designed to assess the developmentally appropriate broad and general clinical competencies in clinical psychology, and does not necessarily evaluate clinical health psychology competencies *per se*. The CCE comprises three sequential components conducted in phases:

1. Applied clinical diagnosis, conceptualization and assessment/treatment plan for a standardized patient.
2. Intervention therapy session with a standardized patient.
3. Oral defense with faculty committee.

Dissertation:
Students must complete a dissertation that involves original empirical work and is distinct from other research projects and publications. The dissertation proposal must be completed and defended prior to making application for the pre-doctoral internship. Students must have a dissertation committee composed of four members of the graduate faculty. When the dissertation is completed to the satisfaction of the primary advisor, the student must orally defend the dissertation to the committee.

Internship:
Students must complete a 12-month, full-time pre-doctoral clinical internship, preferably at an APA-accredited site. This internship is required of all clinical psychologists and is the capstone of clinical training in the doctoral program.

Courses

- PSYC 6950 - Master's Thesis
- PSYC 7144 - Advanced Cognition and Emotion
- PSYC 7205 - Advanced Developmental Psychology
- PSYC 7220 - Advanced Biological Bases of Behavior
- PSYC 7262 - Health Psychology I
- PSYC 7350 - Psychotherapy I
- PSYC 7360 - Psychotherapy II
- PSYC 7400 - Child Assessment
- PSYC 7410 - Personality Assessment
- PSYC 7420 - Cognitive Assessment
- PSYC 7485 - Diversity in Clinical Psychology
- PSYC 7490 - Topics in Health Psychology Summer Lecture Series
- PSYC 7500 - Advanced Psychopathology
- PSYC 7511 - Historical and Philosophical Foundations of Psychology

- PSYC 7520 - Experimental Psychopathology
- PSYC 7700 - Clinical Research Methods
- PSYC 7710 - Multivariate Statistics
- PSYC 7713 - Advanced Statistics
- PSYC 7730 - Ethics and Professional Issues in Psychology
- PSYC 7830 - Clinical Interviewing
- PSYC 7910 - Clinical Practicum
- PSYC 8100 - Clinical Behavioral Medicine
- PSYC 8200 - Teaching Skills Workshop
- PSYC 8262 - Health Psychology II
- PSYC 8501 - Primary Care Psychology
- PSYC 8502 - Cardiovascular Health Psychology
- PSYC 8503 - Group Interventions in Health Psychology
- PSYC 8550 - Advanced Social Psychology
- PSYC 8910 - Clinical Health Practicum
- PSYC 8938 - Pre-Doctoral Internship
- PSYC 8990 - Doctoral Dissertation

Public Affairs PhD

► Graduate School Rules apply to this program

Program Director: Tanya Heikkila, PhD

Faculty

Professors:

Kathleen Beatty, PhD, Washington State University
Lloyd Burton, PhD, University of California, Berkeley
Mary Dodge, PhD, University of California, Irvine
Angela Gover, PhD, University of Maryland
Mary Guy, PhD, University of South Carolina
Richard Stillman, PhD, Syracuse University
Paul Stretesky, PhD, Florida State University
Paul Teske, PhD, Princeton University

Associate Professors:

Brian Gerber, PhD, Stony Brook University
Jody Fitzpatrick, PhD, University of Texas, Austin
Allan Wallis, PhD, City University Graduate Center
Christine Martell, PhD, Indiana University
Jessica Sowa, PhD, Syracuse University
Tanya Heikkila, PhD, University of Arizona
Callie Rennison, PhD, University of Houston
Chris Weible, PhD, University of California-Davis

Assistant Professors:

Todd Ely, New York University
Danielle M. Varda, PhD, University of Colorado Denver
Lonnie Schaible, PhD, Washington State University
Benoy Jacob, PhD, University of Illinois at Chicago

Research Professor:

Stephen Block, PhD, University of Colorado

Clinical Professor:

Malcolm Goggin, PhD, Stanford University

Professor Emeritus:

John Buechner, PhD, University of Michigan

The School of Public Affairs offers a program of advanced graduate study leading to the doctor of philosophy in public affairs. The program, based on the Denver campus, permits elective work to be taken on any campus of the university if it is part of the approved program of study or degree plan.

The doctoral program was developed to meet the need for people with mastery in the scholarly theory, concepts and research skills of public administration, public policy and public management, and who are able to use such skills in careers of research, teaching and analysis of public-sector challenges. The PhD is designed to prepare students for leadership responsibilities in academia, research and public policy analysis. Accordingly, the PhD stresses the development of theoretical, conceptual and methodological knowledge in public administration, policy and management.

Participants

The doctoral program is primarily designed to serve (1) people who desire to further the field of public policy and public and nonprofit management through teaching and research; (2) scholar-practitioners working in government, private-sector organizations concerned with government and nonprofit organizations; and (3) policy analysts in government, private-sector organizations concerned with government and nonprofit organizations.

Time Required for PhD Degree

The PhD program requires an intense commitment. Most courses and seminars are offered during the late afternoon, in the evenings or on an intensive basis. (Some electives are offered online, but core courses are not.) Anyone starting the PhD program with a master's degree in public administration can expect to take at least three but no more than eight years to complete all of the requirements for the PhD. Any student entering the program with no prior graduate work in public administration, public policy or management should expect additional course requirements.

PhD Admission Requirements

Admission to the program is based on the personal and professional qualifications of the applicant. It is desirable that an applicant have a master's degree in public administration or a closely related field before undertaking doctoral work. Applicants should have a 3.5 GPA or above in master-level course work, as well as GRE scores that are, at a minimum, above the 50th percentile ranking in both the quantitative and verbal sections. Successful applicants will also show the potential for productive careers in scholarship, research and analysis.

Meeting the minimum thresholds listed above does not assure admission. In unusual cases, students who fail to meet the thresholds may be admitted if high academic skills are demonstrated in other ways.

PhD Application Process

Applicants must submit the following items to the SPA office before they can be formally considered for admission. The application deadline is February 1; admitted students will begin in the fall semester.

- application forms
- official transcripts (two copies) from all degree granting institutions
- GRE scores (no more than five years old)
- a resume or vita
- three letters of reference attesting to a candidate's academic promise
- a well-articulated statement of purpose demonstrating an understanding of the research orientation of the degree and a strong motivation and determination to successfully complete the program

In addition, students may also submit samples of research reports or publications.

Applicants whose native language is not English are required to submit TOEFL or IELTS scores. This requirement may be waived for applicants who have completed a baccalaureate or graduate-level degree program at an English-speaking college or university. In addition, applicants whose native language is not English are required to participate in an oral interview to demonstrate English language skills sufficient to succeed in a rigorous American doctoral program.

All application materials will be retained by SPA and will not be returned. A personal meeting with the PhD director or other faculty member is recommended.

Financial Assistance

For excellent candidates, SPA will fund a small number of doctoral research assistantships each year based on financial availability. Students selected will receive a full-tuition waiver as well as a stipend of $15,000 for the academic year. SPA's goal is to provide such funding for students for at least three years.

Degree Requirements

Course Work

A total of 36 semester hours of course work is required past a master's degree in public administration or a related degree. In some cases, additional prerequisite courses may be required to assure adequate preparation for doctoral studies. All PhD students are required to take a minimum of 6 semester hours of course work in both the fall and spring semesters, until their course work requirements are met, if they wish to maintain their full-time student status.

During their first year of study, all PhD students are required to take the following four doctoral seminars:

- PUAD 8010 - Historical and Comparative Foundations of Public Administration
- PUAD 8020 - Seminar in Public Management
- PUAD 8030 - Seminar in Public Policy
- PUAD 8040 - Seminar In Economic and Institutional Foundations of Public Affairs

Total: 12 Hours

During the next year, doctoral students are required to take the following methods classes:

- PUAD 8050 - Quantitative Methods I
- PUAD 8060 - Seminar On The Conduct Of Empirical Inquiry
- PUAD 8070 - Quantitative Methods II

Total: 9 Hours

Additional Coursework:

In addition to the three methods classes listed above (8050, 8060, and 8070), students must take an approved qualitative methods course of the student's own choosing. Depending on the student's interest, topics might include qualitative methodology, administrative law, geographical information systems, or social network analysis. In addition, all PhD students must complete four elective courses relevant to the student's dissertation plans. With approval of the PhD director, students may apply up to 9 semester hours of graded graduate-level credit taken at other universities toward their elective courses.

Preliminary Exam, Colloquium and Dissertation

In addition to course work, PhD students must pass a preliminary exam in the testing cycle or semester immediately following the completion of their core courses. Students are also required to complete and defend, before a faculty committee, a dissertation that makes a significant contribution to the literature and theory of public administration, management or policy. Prior to starting the dissertation, students must successfully pass a colloquium (comprehensive exam) that demonstrates their preparation for conducting dissertation research. At the colloquium, a doctoral student presents a dissertation proposal to SPA faculty and students, and to his or her dissertation committee.

Students are advanced to candidacy for the PhD once they have completed all required course work and examinations, have successfully presented their research colloquium and have been certified for candidacy by his/her doctoral committee. After students are formally advanced to candidacy, they must register for a total of 30 hours of dissertation research credit to complete the PhD. Each fall and spring semester, students are expected to register for 5 semester hours of dissertation research; if unable to register for at least 5 semester hours, students must request a

leave of absence from the PhD program until able to complete the minimum dissertation requirement. Students may take up to two semesters' leave of absence before they are disenrolled from the program. Students then would need to reapply to the program.

Further details on the program can be found in the *Handbook for the Doctor of Philosophy in Public Affairs Program*, available from the SPA office or online at http://spa.ucdenver.edu.

Licensure

Administrator License - Executive Leadership Program

Administrative Leadership and Policy Studies

Requirements for Principal Licensure, the MA and EdS degrees, and Executive Leadership Administrator Licensure Program

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
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E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/alps

Principal Licensure

Master of Arts Degree

Education Specialist Degree

Executive Leadership Administrator Licensure Program

Faculty

For information about faculty in this area, visit www.ucdenver.edu/education/alps.

The primary responsibility of the administrative leadership and policy studies (ALPS) faculty is to prepare leaders for public education in Colorado and the nation. Currently, the principal license is required for people seeking building-level administrative positions in Colorado.

Principal Licensure Program

ALPS offers course work that leads to the initial license for principal. Having earned an initial license, those who have obtained a master's degree and who go on to complete a district sponsored induction program may then be awarded a professional license by the Colorado Department of Education.

ALPS's 32 semester-hour principal licensure program is project-based, requiring students to present evidence of meeting both state and national standards through performance based assessments. A 400-hour clinical-practice experience is integrated throughout the four-semester program.

Students develop a portfolio during the principal licensure program. Portfolios not finalized by the end of the fourth semester must be completed within the two subsequent semesters (not including summer).

Note: Those already holding a master's degree and 5 years of leadership in education should also see the Executive Leadership Program (below) for pursuing administrator (superintendent) licensure.

Denver Metro-Area Cohorts

Denver metro-area cohorts are delivered in four 8-semester-hour courses over four consecutive semesters. Cohorts start at one or more locations each semester and involve a combination of regular in-person meetings (up to 15 times per semester) and online work.
EDUC 5751 - Principal/Administrator Licensing I Semester Hours: 5 to 9
EDUC 5752 - Principal Administrator Licensing II. Semester Hours: 5 to 9
EDUC 5753 - Principal/Administrator Licensing III. Semester Hours: 5 to 9
EDUC 5754 - Principal or Administrator Licensing IV. Semester Hours: 5 to 9

Total: 32 Hours

Distance-Learning Cohorts

Distance-learning cohorts start each summer in June with a weeklong boot camp in Denver, meet over several intensive weekends during the subsequent fall and spring semesters and end with a weekend the following summer. Online work is completed in between the in-person sessions. Distance-learning cohorts are delivered in **three 9-semester-hour courses and one 5-semester-hour course:**
EDUC 5751 - Principal/Administrator Licensing I. Semester Hours: 5 to 9
EDUC 5752 - Principal Administrator Licensing II. Semester Hours: 5 to 9
EDUC 5753 - Principal/Administrator Licensing III. Semester Hours: 5 to 9
EDUC 5754 - Principal or Administrator Licensing IV. Semester Hours: 5 to 9
Total: 32 Hours

MA Program

The MA is designed for those who do not already hold a graduate degree. Usually master's students will complete 9 semester hours beyond the 32 required in the licensure program, for a total of 41 semester hours of course work after the bachelor's degree.

For the MA degree, students must select at least one course in each of the following three areas:

Section A: Educational Research

RSEM 5100 - Basic Statistics Semester Hours: 3
RSEM 5120 - Introduction to Research Methods Semester Hours: 3
RSEM 5110 - Introduction to Measurement Semester Hours: 3

Section B: Educational Foundations/Multicultural Education

FNDS 5050 - Critical Issues in American Education. Semester Hours: 3
FNDS 5500 - Contemporary Philosophies of Education. Semester Hours: 3
FNDS 5410 - History and Philosophy of Modern Education. Semester Hours: 3
LCRT 5140 or CLDE 5140 - Multicultural Education Semester Hours: 3
LCRT 5150 or CLDE 5150 - Culture of the Classroom Semester Hours: 3
CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn Semester Hours: 3

Section C: Educational Psychology/Special Education

EDUC 5400 - Special Education Seminar for Principals. Semester Hours: 3
EPSY 5100 - Advanced Child Growth and Development. Semester Hours: 3

EPSY 5110 - Human Learning. Semester Hours: 3
EPSY 5140 - Advanced Adolescent Growth and Development. Semester Hours: 3
EPSY 5160 - Behavior Disorders in Exceptional Children. Semester Hours: 3
EPSY 5200 - Social Psychology of Learning. Semester Hours: 3
SPED 5140 - Advanced Assessment in Special Education. Semester Hours: 3
SPED 5180 - Curriculum Planning for Students with Special Needs. Semester Hours: 3
SPED 5400 - Advanced Seminar in Special Education. Semester Hours: 3
SPED 5600 - Special Education for School Professionals. Semester Hours: 3

Candidates must also successfully complete a comprehensive exam paper, reflecting on how the three MA classes will help them in the role of principal.

EdS Program

The EdS degree program affords the opportunity for advanced graduate study and is available to those who already hold a master's degree. Generally, for the specialist degree students will complete 9 semester hours that constitute an area of focus, in addition to the 32 required in the licensure program. Candidates must also successfully complete a comprehensive exam paper, reflecting on how the three EdS classes will help them in the role of principal.

Administrator Licensure - Executive Leadership Program

Designed for the professional educator who, already holding a master's degree and 5 years leadership experience in education, wishes to obtain an initial administrator license in Colorado and prepare for a career as a superintendent or other district leader. This one-year, 12-semester-hour certificate program combines weekend meetings with online work and hands-on clinical practice—usually completed in participants' home districts. Learn more at www.ucdenver.edu/education/elp.

Additional Program Information

Individuals interested in any of these programs are encouraged to contact ALPS faculty. Conferences prior to application are encouraged and welcomed. Following admission, students are expected to maintain frequent contact with assigned advisors to plan, develop and complete their programs of study.

Early Childhood Special Education Specialist Licensure

Office:
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Fax:
303-315-6311

E-mail:
education@cudenver.edu

Web site:
www.ucdenver.edu/education

Faculty:

More information about faculty in this division is available online at www.ucdenver.edu/education

About the early childhood education program

The early childhood education (ECE) program leads to a master's degree in early childhood education and/or Colorado teacher license in early childhood special education (ECSE) specialist.The program prepares leaders who will enrich the life experience of young children (birth to 8 years) and their families through a variety of professional roles.

The ECE program is interdisciplinary in focus, drawing on university resources and the clinical expertise of various community professionals. There is a strong emphasis on fieldwork and practicum experiences in both regular and special education concentrations. Field experiences are a part of each course and provide an opportunity for each student to gain knowledge, abilities and dispositions while interacting with children, families, program staff and community agencies. Practicum experiences are designed to allow students to apply knowledge and practice skills in a closely supervised environment.

Curriculum and Program Requirements

Semester Hour Requirements

Master's degree in ECE: 39 semester hours
ECSE specialist license: 39 semester hours
Master's degree plus ECSE specialist license: 48 semester hours
Master's degree plus ECSE specialist added endorsement: 39 semester hours
ECSE specialist added endorsement: 24 semester hours

Early childhood education and the early childhood special education focus share course content in:

- language development and disorders

- child growth and development, differences and disorders
- learning approaches with young children
- measurement and evaluation
- basic statistics/research methods
- multicultural education
- research and current issues
- early childhood curriculum and program development for inclusive classrooms
- working collaboratively with parents and families
- program administration/leadership

The early childhood education program provides specialized training in:

- language acquisition and development
- literacy instruction
- infant/toddler development
- early childhood mental health and social competence

The early childhood special education program provides specialized training in:

- screening and assessment of young children
- intervention strategies with infants and preschoolers
- behavior management
- working as a member of the transdisciplinary team
- cognitive and socio-emotional development and disorders
- treatment of children who have neurological impairment and chronic illness
- challenging behaviors and autism

For more information on coursework and plans of study, please contact an advisor in the School of Education and Human Development.

Fieldwork and Practicum Requirements

The master's degree in early childhood education includes a total of 425 hours of required fieldwork/practica. Approximately 200 hours of fieldwork are associated with course assignments; 225 hours of intense, culminating practica occur toward the end of the second year of study. Students completing the MA program take a written comprehensive exam (take home) during the final semester of their program (concurrently with courses at the end of the program sequence).

For the master's degree in early childhood education plus the ECSE specialist initial license, a total of 800 hours of fieldwork/practica is required. Approximately 290 hours of fieldwork are associated with course assignments; 510 hours of intense, culminating practica occur toward the end of the second year of study. Students seeking an added endorsement in ECSE specialist also complete 510 hours of practicum experiences.

Elementary/Secondary Education Licensure

Urban Community Teacher Education Program

Lawrence Street Center, 701
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P.O. Box 173364
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Website: www.ucdenver.edu/education/ipte

Urban Community Teacher Education Licensure Program Overview

The Urban Community Teacher Education program is both an undergraduate and graduate level program for general education licensure. (Special education is currently only an option at the graduate level, but undergraduates who want to obtain a special education license are encouraged to consider pursuing their endorsement plus an MA in special education .) The expectations for performance are identical for both undergraduates and graduates because the expectations for newly licensed teachers in the state of Colorado are exactly the same. Undergraduates and graduates work side by side in coursework and internships. There are very slight differences including the course registration numbers (undergraduates register for 4000 level; graduate students register for 5000 level) and undergraduates take 1-2 licensure courses and one internship prior to admission in the program. The teacher education program fosters critically reflective inquiry about teaching and learning and the development of collaborative skills necessary to work effectively with other adults on schooling issues. The program strives to meet the needs of an increasingly diverse population of students, and to productively participate in and lead school renewal by applying democratic principles in educational settings.

Education Pathways

The graduate teacher education program at CU Denver is designed for individuals with a minimum of a bachelor's degree who seek a master's degree along with an initial Colorado provisional teacher's license in the following areas:

- **Elementary Education** (K–6) (43 semester hours)
- **Secondary Education** (7–12) (36 semester hours)
    - English
    - mathematics
    - science (general science, biology, earth science, physics, chemistry)
    - social studies
    - foreign language (Spanish, French)
- **Special Education Generalist** (Ages 5–21) (57 semester hours)
- **Dual General Education/Special Education** (60-67 semester hours)

Program Distinctions

Program Structure

The program admits teacher candidates in three cohort groups, one in the summer and one in fall. The initial professional teacher education program includes a full time 1 - 1.5 year licensure plan for regular education and a 1.5 year full time option for initial special education and dual special education. Students will be taking course work at the university and field-based work in one of CU Denver's partner schools. By enrolling in several courses together, elementary and secondary teacher candidates consider how students develop as learners over the entire K–12 school span. This collaborative approach applies to students in the general and special education program as well. This ensures that all elementary and secondary classroom teachers are well-prepared to work with students with special needs and that all special educators have a solid foundation in general education in curriculum and instruction.

Professional Development Schools

While in the licensure portion of the program, teacher candidates work in a partner school one to four days per week, depending on the internship level with the sequence of the program plan. University courses are closely interrelated with the four internship experiences in which teacher candidates gradually assume responsibility for teaching. Elementary teacher candidates generally spend an entire academic year in a single partner elementary school, whereas secondary teacher candidates spend their four internships in one of the partner middle schools *and* one of the partner high schools. The partner schools are located in several Denver metropolitan districts with most serving large populations of low-income and/or minority students, as well as a sizeable number of students for whom English is a second language and students with special needs. Each partner school is supported by a site professor from the university one day per week and by a master teacher/mentor, called a site coordinator.

Assessment

In 2000, Senate Bill 154 required all Colorado teacher education institutions to become performance based. PBA stands for performance based assessment. PBAs are created that correspond to many of the teacher education courses and concurrent practice in the series of internships. In doing so, knowledge can be evaluated as a result of coursework and performance in schools simultaneously. As teacher candidates progress through the program, they will be introduced to Performance Based Assessments (PBAs) and will be guided and supported in both course work and internships. Students seeking dual licensure are responsible for four additional PBAs associated with their second endorsement in Special Education.

The PBAs are:

1. Literacy Instruction & Assessment (elementary and secondary versions)
2. Mathematics Instruction & Assessment (elementary)
3. Subject Matter Content (secondary)
4. Student Profile

5. Classroom Management

6. Teacher Work Sample (TWS)

7. Internship Performance Rubric (used at the end of each internship)

Programs of Study

Due to the complex nature of state mandated influences of teacher preparation courses and consistently evaluating our program to meet student needs, please see current programs of study in the teacher education handbook .

Master's Degree Options

The teacher education program design supports the concept of teacher education as an ongoing developmental process linking preservice, induction and ongoing professional growth experiences. Upon completion of the licensure portion of the program, beginning teachers continue working toward their master's degree (an additional 18-38 semester hours) in the areas of special education, educational psychology, content in English or history in collaboration with the College of Liberal Arts and Sciences, or curriculum and instruction with emphasis areas during their first or second year of teaching. This ensures that CU Denver's new teachers are provided with continuing support from the university while in their first few years of teaching.

Undergraduate Teacher Licensure

Undergraduate Teacher Education Program

The undergraduate teacher education program at CU Denver is a joint effort between the College of Liberal Arts and Sciences and the School of Education & Human Development. Students earn a bachelor's degree through the College of Liberal Arts and Sciences and a teaching license through the School of Education & Human Development.

This undergraduate program is dedicated to quality teacher education. To that end, our admission standards are rigorous and there are a number of program "gates" that teacher candidates go through to complete licensure.

CU Denver has selective admission standards for entering freshmen, including a 93 institutional index that includes students who are typically in the top third of their class or have a 3.4 GPA or score above a 23 on the ACT or 1100 on the SAT. Students transferring from community colleges must have a minimum of a 2.5 GPA.

Please note: The admission into the School of Education & Human Development teacher education program is a separate process from admission to the university. Summer deadlines are January 15* February 15; the fall deadline is March 15. Spring admission deadlines are August 15, September 15 and October 15.

Undergraduate Teacher Education Pathways

Undergraduate teacher candidates can earn a BA and a Colorado provisional teacher's license in the following areas:

- BA—Individually Structured Major Elementary Education Licensure
- BA—English Literature Secondary English Licensure
- BS—Mathematics Secondary Mathematics Licensure
- BA—History Secondary Social Science Licensure
- BA—Political Science Secondary Social Science Licensure
- BA—Spanish Secondary Spanish Licensure
- BA—French Secondary French Licensure

Program Distinctions

Program Structure

The School of Education & Human Development teacher education program admits teacher candidates in two cohort groups: one in the summer/fall and one in the spring. The initial professional teacher education program includes a 12- or 15-month licensure plan. Students will be taking course work at the university and field-based work in one of CU Denver's partner schools. By enrolling in several courses together, elementary and secondary teacher candidates consider how students develop as learners over the entire K–12 school span. This collaborative approach applies to students in the general and special education program as well. This ensures that all elementary and secondary classroom teachers are well-prepared to work with students with special needs and that all special educators have a solid foundation in general education in curriculum and instruction.

Professional Development Schools

While in the licensure portion of the program, teacher candidates work in a partner school one to four days per week, depending on the internship. University courses are closely interrelated with the four internship experiences in which teacher candidates gradually assume responsibility for teaching. Elementary teacher candidates generally spend an entire academic year in a single partner elementary school, whereas secondary teacher candidates spend their four internships in one of the partner middle schools *and* one of the partner high schools. The partner schools are located in several Denver metropolitan districts with most serving large populations of low-income and/or minority students, as well as a sizeable number of students for whom English is a second language and students with special needs. Each partner school is supported by a site professor from the university one day per week and by a master teacher, called a site coordinator.

Assessment

In 2000, Senate Bill 154 required all Colorado teacher education institutions to become performance based. PBA stands for performance based assessment. PBAs are created that correspond to many of the teacher education courses and concurrent practice in the series of internships. In doing so, knowledge can be evaluated as a result of coursework and performance in schools simultaneously. As teacher candidates progress through the program, they will be introduced to Performance Based Assessments (PBAs) and will be guided and supported in both coursework and internships. Students seeking dual licensure are responsible for four additional PBAs associated with their second endorsement in Special Education.

The PBAs are:

1. Literacy Instruction & Assessment (elementary and secondary versions)
2. Mathematics Instruction & Assessment (elementary)
3. Subject Matter Content (secondary)
4. Student Profile
5. Classroom Management
6. Teacher Work Sample (TWS)
7. Internship Performance Rubric (used at the end of each internship)

Passing the PLACE or PRAXIS II Content examination prior to the final internship is also required before a candidate is eligible for a provisional teaching license in Colorado.

Undergraduate Advising

Undergraduate teacher candidates will have a team of individuals who work with them throughout the completion of their bachelor's degree and teacher licensure. The following are the members of the advising team:

College of Liberal Arts and Science (CLAS) Education Advisor

The CLAS advisor will assist you upon entry to the university though graduation.The CLAS advisor will monitor your progress through the core curriculum, pre-UCTE curriculum, eligibility requirements for the UCTE program and transfer credits. The CLAS advisor will also approve individually structured major-elementary education contracts for elementary education teacher candidates.

Faculty Advisor

A faculty advisor designated within the academic department works with undergraduate teacher education students pursuing secondary licensure regarding specific requirements within academic major (i.e., English, history, mathematics, Spanish, French, and political science). See the CLAS advisor for specific names and contact information.

School of Education and Human Development Advisor

An advisor in the School of Education and Human Development's Student Services Center (Lawrence St. Center Bldg., 701; 303-315-6300) is able to help with questions about prerequisite completion, taking the PRAXIS II/PLACE exam and other general questions.

UCTE Undergraduate Academic Planning Sheets

Developed in collaboration with the academic departments and UCTE program faculty, advisors will work with the teacher candidates on an academic planning sheet. There is little flexibility in the program course requirements as these requirements meet and exceed the Colorado Department of Education's teacher education professional and content standards.

UCTE Undergraduate Community College Articulation

CU Denver honors the community college articulation agreement to transfer the 60 designated semester hours from the community college to anyone admitted to the teacher licensure program. If the teacher candidate is a transfer student, he/she should work with his/her CLAS advisor early and often to ensure that all courses are transferred properly.

Programs of Study

Due to the complex nature of state mandated influences of teacher preparation courses and consistently evaluating this program for students, please refer to the most current version of the [[permalink=753|popup]]teacher education program handbook[[/permalink]] for academic requirements for this program.

Requirements for Admission

The program rolling admissions each semester. Summer admission deadlines are January 15 & February 15; Fall admission deadline is March 15 and April 15.

Urban Community Teacher Education Information Sessions

All prospective teacher candidates are strongly encouraged to attend an information session before applying to the program. Information sessions are held twice a month lasting approximately 60-90 minutes. Advisors will be available to provide prospective students transcript reviews and pre-admission advising. To more effectively facilitate this process, please bring copies of all transcripts with you. A calendar of upcoming information sessions can be viewed on the CU Denver website. Go to www.ucdenver.edu/education to reserve a space under the menu item "Information Sessions."

Urban Community Teacher Education Program Requirements

- Applicants to the urban community teacher education program must hold at least a bachelor's degree with a minimum undergraduate cumulative GPA of 2.75 for admission.
- Graduate candidates with a GPA less than 2.75 are required to take the GRE, with a combined score of 150 each on the verbal and quantitative sections; or the Miller Analogies Test, with an average score of 400–600, before consideration for admittance.
- Verification of passing official scores for PLACE or PRAXIS II.
- All elementary education candidates must have a liberal arts major or equivalent content courses that provide a broad background of knowledge. *
- All secondary education candidates must have a major or major equivalent of at least 30 semester hours in their desired teaching field. *
- Undergraduate candidates must have an individually structured elementary emphasis.
- A complete application which can be obtained at scheduled information sessions, downloaded online, or at the Student Services Center

*This is determined through transcript evaluations with an evaluator.

Principal Licensure

Administrative Leadership and Policy Studies

Requirements for Principal Licensure, the MA and EdS degrees, and Executive Leadership Administrator Licensure Program

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/alps

Principal Licensure

Master of Arts Degree

Education Specialist Degree

Executive Leadership Administrator Licensure Program

Faculty

For information about faculty in this area, visit www.ucdenver.edu/education/alps.

The primary responsibility of the administrative leadership and policy studies (ALPS) faculty is to prepare leaders for public education in Colorado and the nation. Currently, the principal license is required for people seeking building-level administrative positions in Colorado.

Principal Licensure Program

ALPS offers course work that leads to the initial license for principal. Having earned an initial license, those who have obtained a master's degree and who go on to complete a district sponsored induction program may then be awarded a professional license by the Colorado Department of Education.

ALPS's 32 semester-hour principal licensure program is project-based, requiring students to present evidence of meeting both state and national standards through performance based assessments. A 400-hour clinical-practice experience is integrated throughout the four-semester program.

Students develop a portfolio during the principal licensure program. Portfolios not finalized by the end of the fourth semester must be completed within the two subsequent semesters (not including summer).

Note: Those already holding a master's degree and 5 years of leadership in education should also see the Executive Leadership Program (below) for pursuing administrator (superintendent) licensure.

Denver Metro-Area Cohorts

Denver metro-area cohorts are delivered in four 8-semester-hour courses over four consecutive semesters. Cohorts start at one or more locations each semester and involve a combination of regular in-person meetings (up to 15 times per semester) and online work.
EDUC 5751 - Principal/Administrator Licensing I Semester Hours: 5 to 9
EDUC 5752 - Principal Administrator Licensing II. Semester Hours: 5 to 9
EDUC 5753 - Principal/Administrator Licensing III. Semester Hours: 5 to 9
EDUC 5754 - Principal or Administrator Licensing IV. Semester Hours: 5 to 9

Total: 32 Hours

Distance-Learning Cohorts

Distance-learning cohorts start each summer in June with a weeklong boot camp in Denver, meet over several intensive weekends during the subsequent fall and spring semesters and end with a weekend the following summer. Online work is completed in between the in-person sessions. Distance-learning cohorts are delivered in **three 9-semester-hour courses and one 5-semester-hour course:**
EDUC 5751 - Principal/Administrator Licensing I. Semester Hours: 5 to 9
EDUC 5752 - Principal Administrator Licensing II. Semester Hours: 5 to 9
EDUC 5753 - Principal/Administrator Licensing III. Semester Hours: 5 to 9
EDUC 5754 - Principal or Administrator Licensing IV. Semester Hours: 5 to 9

Total: 32 Hours

MA Program

The MA is designed for those who do not already hold a graduate degree. Usually master's students will complete 9 semester hours beyond the 32 required in the licensure program, for a total of 41 semester hours of course work after the bachelor's degree.

For the MA degree, students must select at least one course in each of the following three areas:

Section A: Educational Research

RSEM 5100 - Basic Statistics Semester Hours: 3
RSEM 5120 - Introduction to Research Methods Semester Hours: 3
RSEM 5110 - Introduction to Measurement Semester Hours: 3

Section B: Educational Foundations/Multicultural Education

FNDS 5050 - Critical Issues in American Education. Semester Hours: 3
FNDS 5500 - Contemporary Philosophies of Education. Semester Hours: 3
FNDS 5410 - History and Philosophy of Modern Education. Semester Hours: 3
LCRT 5140 or CLDE 5140 - Multicultural Education Semester Hours: 3
LCRT 5150 or CLDE 5150 - Culture of the Classroom Semester Hours: 3
CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn Semester Hours: 3

Section C: Educational Psychology/Special Education

EDUC 5400 - Special Education Seminar for Principals. Semester Hours: 3
EPSY 5100 - Advanced Child Growth and Development. Semester Hours: 3
EPSY 5110 - Human Learning. Semester Hours: 3
EPSY 5140 - Advanced Adolescent Growth and Development. Semester Hours: 3
EPSY 5160 - Behavior Disorders in Exceptional Children. Semester Hours: 3
EPSY 5200 - Social Psychology of Learning. Semester Hours: 3
SPED 5140 - Advanced Assessment in Special Education. Semester Hours: 3
SPED 5180 - Curriculum Planning for Students with Special Needs. Semester Hours: 3
SPED 5400 - Advanced Seminar in Special Education. Semester Hours: 3
SPED 5600 - Special Education for School Professionals. Semester Hours: 3

Candidates must also successfully complete a comprehensive exam paper, reflecting on how the three MA classes will help them in the role of principal.

EdS Program

The EdS degree program affords the opportunity for advanced graduate study and is available to those who already hold a master's degree. Generally, for the specialist degree students will complete 9 semester hours that constitute an area of focus, in addition to the 32 required in the licensure program. Candidates must also successfully complete a comprehensive exam paper, reflecting on how the three EdS classes will help them in the role of principal.

Administrator Licensure - Executive Leadership Program

Designed for the professional educator who, already holding a master's degree and 5 years leadership experience in education, wishes to obtain an initial administrator license in Colorado and prepare for a career as a superintendent or other district leader. This one-year, 12-semester-hour certificate program combines weekend meetings with online work and hands-on clinical practice—usually completed in participants' home districts. Learn more at www.ucdenver.edu/education/elp.

Additional Program Information

Individuals interested in any of these programs are encouraged to contact ALPS faculty. Conferences prior to application are encouraged and welcomed. Following admission, students are expected to maintain frequent contact with assigned advisors to plan, develop and complete their programs of study.

Special Education

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/education

Special Education Program Overview

The special education program within the initial professional teacher education division offers a special education generalist license and a special education endorsement as well as a master of arts degree in special education. All special education program options foster the development of critical reflection, inquiry about teaching and learning, as well as the breadth and depth in content knowledge necessary to work effectively in elementary and secondary classrooms. The program faculty promote the ability of teacher candidates to meet the needs of an increasingly diverse population of K–12 learners, as well as to participate productively in and lead school renewal.

The faculty in the program in special education value collaborative relationships between general and special educators, so we offer our teacher candidates the option of pursuing a dual endorsement in both general and special education to offer our teacher candidates the option of pursuing a dual endorsement in both general and special education.

Special Education Program Distinctions

Special Education Licensing Pathways

To be a licensed as a special education generalist for grades ages 5-21, a teacher candidate must hold a bachelor's degree from a four-year accepted institution of higher education, have completed the plan of study from one of the program options for the preparation of special education generalist, have passed the state special education assessment and have demonstrated all required state and national standards.

Program options for the special education generalist include: 1) initial licensure as a special education generalist; 2) dual licensure in either elementary or secondary education and as a special education generalist; and, 3) for those who already hold a Colorado teaching license, an added endorsement, which is also fully online. There is also an option to count these courses towards a masters in special education which will require an additional 12 semester hours of face to face course work and portfolio.

The time needed to complete the various special education generalist program options varies based on the needs of teacher candidates. In addition to traditional on-campus offerings, a wide selection of courses are available in online formats. During the academic year, core special education courses are scheduled in late afternoons and evenings to avoid conflict with teaching responsibilities.

Professional Development Schools

While in the licensure portion of the program, teacher candidates work in a partner school one to four days per week, depending on the internship. University courses are closely interrelated

with the four internship experiences in which teacher candidates gradually assume responsibility for teaching. Special education teacher candidates engage in a series of four internships from the beginning of the program to the end of the program. Dual teacher candidates engage in two internships that result in a general education license at the elementary or secondary level and then two special education internships and additional course work; leading to an endorsement in special education. The partner schools are located in several Denver metropolitan districts with most serving large populations of low-income and/or minority students, as well as a sizeable number of students for whom English is a second language and students with special needs. Each partner school is supported by a site professor from the university one day per week and by a master teacher, called a site coordinator.

Assessment

In 2000, Senate Bill 154 required all Colorado teacher education institutions to become performance based. PBA stands for performance based assessment. PBAs are created that correspond to many of the teacher education courses and concurrent practice in the series of internships. In doing so, knowledge can be evaluated as a result of coursework and performance in schools simultaneously. As teacher candidates progress through the program, they will be introduced to Performance Based Assessments (PBAs) and will be guided and supported in both course work and internships. Students seeking dual licensure are responsible for four additional PBAs associated with their second endorsement in special education.

The PBAs are:

1. Literacy Instruction & Assessment (elementary and secondary versions)
2. Mathematics Instruction & Assessment (elementary)
3. Subject Matter Content (secondary)
4. Student Profile
5. Classroom Management
6. Teacher Work Sample (TWS)
7. Internship Performance Rubric (used at the end of each internship)

The four additional PBAs that all teacher candidates in the special education program are expected to proficiently complete include:

1. Assessment
2. Collaboration & Positive Behavior Supports
3. Literacy Instruction for Students with Identified Special Needs
4. The Individualized Education Program (I.E.P.) Process

Passing the PLACE special education generalist examination prior to the final internship is also required before a candidate is eligible for a provisional special education generalist teaching license in Colorado. Dual candidates must also pass state content knowledge exams prior to admission.

Programs of Study

Due to the complex nature of state mandated influences of teacher preparation courses and constantly evaluated the program to meet student's needs, please refer to the most current version of the Special Education Handbook for academic requirements for this program.

Requirements for Admission

The program conducts admissions each semester. Summer admission deadlines are January 15 and February 15; fall admission is March 15 and April 15. Spring admission deadlines are August 15 and September 15.

Teacher Education Information Sessions

All prospective teacher candidates are strongly encouraged to attend an information session before applying to the program. Information sessions are held twice a month lasting approximately 60-90 minutes. Advisors will be available to provide prospective students transcript reviews and pre-admission advising. To more effectively facilitate this process, please bring copies of all transcripts with you. A calendar of upcoming information sessions can be viewed on the CU Denver website. Go to www.ucdenver.edu/education and click on "Information Session" to reserve a space.

Teacher Education Program Requirements

- Applicants to the UCTE program must hold at least a bachelor's degree with a minimum undergraduate cumulative GPA of 2.75 for admission.
- Graduate candidates with a GPA less than 2.75 are required to take the GRE, with a combined score of 1000 on the verbal and quantitative sections; or the Miller Analogies Test, with an average score of 400–600, before consideration for admittance.
- All elementary education candidates must have a liberal arts major or equivalent content courses that provide a broad background of knowledge. *
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- Copy of passing official scores for PLACE or PRAXIS II.
- A complete application on file that can be obtained at information sessions, online or through the Student Services Center.

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Undergraduate Teacher Licensure

Undergraduate Teacher Education Program

The undergraduate teacher education program at CU Denver is a joint effort between the College of Liberal Arts and Sciences and the School of Education & Human Development. Students earn a bachelor's degree through the College of Liberal Arts and Sciences and a teaching license through the School of Education & Human Development.

This undergraduate program is dedicated to quality teacher education. To that end, our admission standards are rigorous and there are a number of program "gates" that teacher candidates go through to complete licensure.

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Program Distinctions

Program Structure

The School of Education & Human Development teacher education program admits teacher candidates in two cohort groups: one in the summer/fall and one in the spring. The initial professional teacher education program includes a 12- or 15-month licensure plan. Students will be taking course work at the university and field-based work in one of CU Denver's partner schools. By enrolling in several courses together, elementary and secondary teacher candidates consider how students develop as learners over the entire K–12 school span. This collaborative approach applies to students in the general and special education program as well. This ensures that all elementary and secondary classroom teachers are well-prepared to work with students with special needs and that all special educators have a solid foundation in general education in curriculum and instruction.

Professional Development Schools

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Undergraduate teacher candidates will have a team of individuals who work with them throughout the completion of their bachelor's degree and teacher licensure. The following are the members of the advising team:

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The CLAS advisor will assist you upon entry to the university though graduation.The CLAS advisor will monitor your progress through the core curriculum, pre-UCTE curriculum, eligibility requirements for the UCTE program and transfer credits. The CLAS advisor will also approve individually structured major-elementary education contracts for elementary education teacher candidates.

Faculty Advisor

A faculty advisor designated within the academic department works with undergraduate teacher education students pursuing secondary licensure regarding specific requirements within academic major (i.e., English, history, mathematics, Spanish, French, and political science). See the CLAS advisor for specific names and contact information.

School of Education and Human Development Advisor

An advisor in the School of Education and Human Development's Student Services Center (Lawrence St. Center Bldg., 701; 303-315-6300) is able to help with questions about prerequisite completion, taking the PRAXIS II/PLACE exam and other general questions.

UCTE Undergraduate Academic Planning Sheets

Developed in collaboration with the academic departments and UCTE program faculty, advisors will work with the teacher candidates on an academic planning sheet. There is little flexibility in the program course requirements as these requirements meet and exceed the Colorado Department of Education's teacher education professional and content standards.

UCTE Undergraduate Community College Articulation

CU Denver honors the community college articulation agreement to transfer the 60 designated semester hours from the community college to anyone admitted to the teacher licensure program. If the teacher candidate is a transfer student, he/she should work with his/her CLAS advisor early and often to ensure that all courses are transferred properly.

Programs of Study

Due to the complex nature of state mandated influences of teacher preparation courses and consistently evaluating this program for students, please refer to the most current version of the teacher education program handbook for academic requirements for this program.

Endorsement Programs

Early Childhood Special Education Specialist Endorsement

Office:
Lawrence Street Center, 701

Telephone:
303-315-6300

Fax:
303-315-6311

E-mail:
education@cudenver.edu

Web site:
www.ucdenver.edu/education

Faculty:
More information about faculty in this division is available online at www.ucdenver.edu/education

About the early childhood education program

The early childhood education (ECE) program leads to a master's degree in early childhood education and/or Colorado teacher license in early childhood special education (ECSE) specialist.The program prepares leaders who will enrich the life experience of young children (birth to 8 years) and their families through a variety of professional roles.

The ECE program is interdisciplinary in focus, drawing on university resources and the clinical expertise of various community professionals. There is a strong emphasis on fieldwork and practicum experiences in both regular and special education concentrations. Field experiences are a part of each course and provide an opportunity for each student to gain knowledge, abilities and dispositions while interacting with children, families, program staff and community agencies. Practicum experiences are designed to allow students to apply knowledge and practice skills in a closely supervised environment.

Curriculum and Program Requirements

Semester Hour Requirements

Master's degree in ECE: 39 semester hours
ECSE specialist license: 39 semester hours
Master's degree plus ECSE specialist license: 48 semester hours
Master's degree plus ECSE specialist added endorsement: 39 semester hours
ECSE specialist added endorsement: 24 semester hours

Early childhood education and the early childhood special education focus share course content in:

- language development and disorders
- child growth and development, differences and disorders
- learning approaches with young children
- measurement and evaluation
- basic statistics/research methods
- multicultural education
- research and current issues
- early childhood curriculum and program development for inclusive classrooms
- working collaboratively with parents and families
- program administration/leadership

The early childhood education program provides specialized training in:

- language acquisition and development
- literacy instruction
- infant/toddler development
- early childhood mental health and social competence

The early childhood special education program provides specialized training in:

- screening and assessment of young children
- intervention strategies with infants and preschoolers
- behavior management
- working as a member of the transdisciplinary team
- cognitive and socio-emotional development and disorders
- treatment of children who have neurological impairment and chronic illness
- challenging behaviors and autism

For more information on coursework and plans of study, please contact an advisor in the School of Education and Human Development.

Fieldwork and Practicum Requirements

The master's degree in early childhood education includes a total of 425 hours of required fieldwork/practica. Approximately 200 hours of fieldwork are associated with course assignments; 225 hours of intense, culminating practica occur toward the end of the second year of study. Students completing the MA program take a written comprehensive exam (take home) during the final semester of their program (concurrently with courses at the end of the program sequence).

For the master's degree in early childhood education plus the ECSE specialist initial license, a total of 800 hours of fieldwork/practica is required. Approximately 290 hours of fieldwork are associated with course assignments; 510 hours of intense, culminating practica occur toward the

end of the second year of study. Students seeking an added endorsement in ECSE specialist also complete 510 hours of practicum experiences.

Instructional Technology Endorsement

K–12 teachers may elect to complete a 24-semester-hour program leading to state endorsement in instructional technology at the teacher or specialist level. Teachers beginning their careers may complete 24 semester hours for teacher-level endorsement. More experienced teachers may complete 24 semester hours for the specialist-level endorsement.

For complete details about ILT programs, endorsement requirements and certificates, see the ILT website.

Linguistically Diverse Education Endorsement

Linguistically Diverse Education

Requirements for LDE Program

(Degree/Endorsement or Certificates - TESOL, CRUE, TCLD)

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/lde

Faculty

Information about faculty in this program is available at www.ucdenver.edu/education/lde. The faculty of linguistically diverse education (LDE) believe that effective teaching requires an awareness of and the ability to respond to individual differences. LDE faculty also emphasize the importance of teachers as scholars and reflective practitioners. In particular, teachers must understand how linguistic and cultural diversity affect their teaching. Two themes run throughout all program offerings. The first concerns the importance of recognizing a variety of literacies—"home" literacies, school literacy, "mainstream" literacy, first and second language literacies—and to develop teaching practices that utilize an understanding of the complexity of literacy development across language contexts. The second theme involves the meaningful use of language and literacy to improve the quality of one's life. As an approach to teaching, this theme emphasizes the creation of diverse, rich environments in which learners experience oral and written language as part of authentic tasks, and where concern for the cultural and linguistic heritage of the students is evident.

Program Options

The LDE program offers options leading to the following:

- a Master of Arts in Curriculum and Instruction
- the Colorado Endorsement for Culturally and Linguistically Diverse Education
- a Teaching English to Speakers of Other Languages (TESOL) certificate
- a Culturally Responsive Urban Education (CRUE) certificate
- a Teaching for Cultural and Linguistic Diversity (TCLD) certificate

The program is intended for:

- novice teachers who have completed their Colorado teaching credentials in CU Denver's graduate teacher education licensure program and are enrolled in the MA in curriculum and instruction with an emphasis in LDE (see 27 semester-hour option)
- veteran elementary and secondary teachers returning to graduate studies for the master's degree (36 semester hours)
- veteran elementary and secondary teachers returning to acquire Colorado endorsement credentials (24 semester hours)
- individuals interested in teaching English abroad (TESOL: 15 semester hours)

- elementary and secondary teachers who desire preparation in better meeting the needs of culturally diverse learners (CRUE: 9 semester hours)
- veteran elementary and secondary teachers returning to graduate studies for a certificate to aid them in helping their English language learners succeed (TCLD: 9 semester hours)
- individuals interested in teaching adults (MA: 36 semester hours)

The MA is a field-based professional development program involving university faculty and practicing LDE instructors in public school and intensive English settings. Courses, laboratories and practica emphasize scholarly approaches to complex problems of practice and feature interactive, collaborative and practical approaches to working with English language learners.

We advocate a sociocultural approach to issues of language and learning, acknowledging the legitimacy of linguistic and cultural differences and recognizing that academic settings represent important socializing forces in students' lives. Because of this, we emphasize the "whole learner" in our teaching and in teacher education and teacher development, understanding that individuals do not merely add a language to their repertoire of communication but make fundamental identity adjustments as they progress in their studies. For this reason, all our course work, laboratories and practica experiences are field-based, putting our program participants in contact with veteran teachers and English language learners. We draw heavily on recent scholarship in collaborative approaches to school-university partnerships and systemic school change in developing classroom methods and materials, curricula and teacher development experiences.

The MA program also provides a foundation in teaching English in a variety of contexts in the United States and abroad. Teachers who work in LDE programs or in other content areas (such as art, language arts, math, music, science, social studies or technology), but who wish to integrate LDE principles and strategies into their instruction for their English language learners, will find the MA program relevant to their interests and goals.

Course work includes language teaching methodology, language acquisition, linguistic analysis of English, multicultural foundations, assessment, literacy and other areas. This program has been developed as an advanced course of study for practicing teachers or individuals with some teaching experience.

Applicants who are new to teaching, and who wish to teach in U.S. K–12 public school settings, should inquire about the teacher education licensure program. Applicants who are new to teaching, but who do not need a teaching license (certification) because they do not wish to teach in U.S. public schools, may consider the TESOL certificate to gain initial teaching experiences before applying for the MA.

Program Requirements and Courses

To complete the LDE program and earn a master's degree and/or endorsement, or to earn a TESOL certificate, students must complete the appropriate course work as outlined in the table below.

Requirements for LDE Program (Degree/Endorsement or TESOL Certificate)					
Course	**MA without CDE Endorsement in LDE**	**MA and CDE Endorsement in CLDE**	**CDE Endorsement in CLDE Only**	**MA and CDE Endorsement in CLDE** *(when added to CU Denver's graduate teacher education licensure program)*	**TESOL Certificate**
CLDE 5010 - Foundations of Language, Literacy and Culture	Required	Required	Required	Required	
One course from culture options: CLDE 5140 - Multicultural Education CLDE 5150 - Culture of the Classroom CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn	Select One	Select One	Select One	Select One	
CLDE 5070 - Linguistic Analysis of English: Implications for Teaching	Required	Required	Required	Required	Required
CLDE 5030 - Language & Literacy Acquisition Div Lrn	Required	Required	Required	Required	Required
CLDE 5820 - Techniques in Teaching English as a Second Language	Required	Required	Required	Required	Required
CLDE 5050 - Assessment & Advocacy for Diverse Learners	Required	Required	Required	Required	Required

One course from field-based teaching options: LCRT 5020 - Workshop in Literacy and Language Teaching CLDE 5825 - Methods and Materials of Language Teaching CLDE 5826 - Language Teaching Lab LCRT 5730 - Language and Literacy Across the Curriculum LCRT 5770 - Effective Literacy Instruction for Second Language Learners	5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	5826
CLDE 5035 - Language and Literacy: Acquisition, Processes, and Cognition, Part II	Required	Required			
CLDE 6912 - Seminar and Practicum in Literacy and Language, ESL and Bilingual Education	Required	Required	Required	Required	
One course from research and evaluation methodology: RSEM 5050 - Classroom Assessment RSEM 5080 - Research In Schools	Select One	Select One		Select One	
One course from educational psychology: EPSY 5110 - Human Learning EPSY 5220 - Adult Learning and Education	Select One	Select One			
Graduate-level University of	Select One	Select One			

Colorado elective					
Cumulative online portfolio	Required	Required	Required	Required	
LDE PLACE Exam (not required for students beginning Spring 2013 or later)		Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	
Total Semester Hours	36	36	24	27	15

Culturally Responsive Urban Education (CRUE) Certificate Requirements

Those considering the CRUE certificate must complete the following:

CLDE 5170 - Race, Class and Culture in Public Schools Semester Hours: 3

CLDE 5180 - Working with Communities and Families Semester Hours: 3

CLDE 5190 - Culturally Responsive Pedagogy and Practices Semester Hours: 3

Total: 9 Hours

This certificate is only offered as a cohort, through our district partnerships. Additional information about the CRUE certificate can be found at www.cruecenter.org/certificate.php.

Teaching for Cultural and Linguistic Diversity (TCLD) Certificate

The TCLD Certificate (formerly known as Content Instruction for English Learners (CIEL) is a graduate certificate providing a foundation in teaching content to students whose first language is other than English. The program is designed for content-area teachers (math, science, social studies, etc.) who have English language learners in their classes. This certificate is also valuable to content area coaches or administrators who provide support for teachers with English language learners. The certificate is appropriate for public school and community college personnel.

The certificate totals nine credit hours with the specialty area in linguistically diverse education (LDE). All courses are three graduate credit hours and may be applied directly toward a full master's degree in Curriculum and Instruction with an emphasis in LDE while also fulfilling the requirements toward a Colorado Culturally and Linguistically Diverse Education Endorsement. Courses may also be applied toward the Teaching English to Speakers of Other Languages (TESOL) Certificate. Additional courses and applications are required for these programs.

The certificate may be completed in one year. Those pursuing the TCLD certificate must complete the following:

CLDE 5030 - Language & Literacy Acquisition Div Lrn

CLDE 5820 - Techniques in Teaching English as a Second Language

LCRT 5770 - Effective Literacy Instruction for Second Language Learners

The TCLD certificate is being offered only through our district partnerships.

Cumulative Portfolio of Performance Based Assessments (PBAS)

The portfolio is required for the CLDE endorsement, counts as the comprehensive exam for the master's degree and permits you to document your development over the course of your program. Portfolios are reviewed by LDE faculty members. The portfolio process is reviewed in every class as each of the PBAs is completed in the classes, helping students to update their portfolios throughout the program. For more portfolio guidelines, visit the website at http://www.ucdenver.edu/education, click on "Current Students" and select Linguistically Diverse Education from the "Program specific resources" drop-down menu.

PLACE Exam for Linguistically Diverse Education Endorsement

To add the endorsement to their teaching license, students beginning the program prior to Spring 2013 must pass the PLACE (Program for Licensing Assessments for Colorado Educators) exam for linguistically diverse education, secure and submit the appropriate paperwork from the Colorado Department of Education, and pay fees required for the PLACE and for the endorsement paperwork. Information about PLACE is online at www.place.nesinc.com. Students beginning Spring 2013 or later will be eligible for the Culturally and Linguistically Diverse Education Endorsement and will not be required to pass the PLACE exam to receive the CLDE endorsement.

Course Scheduling

During the fall and spring semesters, most university courses are offered in the late afternoon and evening and meet for three hours once a week over a 16-week semester. Some alternative course schedules are available, such as meeting on five Friday-evening/all-day Saturday combinations. In the summer semester, three-to eight-week sessions are offered, and courses may be in the morning, afternoon or evening.

Planning

For practicing full-time teachers, we recommend taking one course each fall and spring semester and up to two courses each summer. Students may simultaneously complete requirements for the MA and the endorsement for culturally and linguistically diverse education (some courses are offered only once per year.)

Active Status

Students must complete their programs within seven years, maintaining a GPA of 3.0. Students typically take four courses each calendar year. Failure to enroll over three contiguous semesters will result in a requirement to submit readmission materials.

Reading Teaching Endorsement

Literacy, Language and Culturally Responsive Teaching

MA Requirements for the Reading and Writing Option and Secondary English Education Option, plus Reading Teacher Endorsement and Certificate Programs

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Websites: www.ucdenver.edu/education/literacy and%20www.ucdenver.edu/education/englished

Reading and Writing

Secondary English

Early and Adolescent Literacy Certificates

Faculty

Information about faculty in this program is available online at www.ucdenver.edu/education/literacy.

The faculty of literacy, language and culturally responsive teaching (LLCRT) believe that effective teaching requires an awareness of and the ability to respond to individual differences. LLCRT faculty also emphasize the importance of teachers as scholars and reflective practitioners. In particular, teachers must understand how linguistic and cultural diversity affect their teaching. Two themes run throughout all program offerings. The first concerns the importance of recognizing a variety of literacies—"home" literacies, school literacy, "mainstream" literacy, first and second language literacies—and to develop teaching practices that utilize an understanding of the complexity of literacy development across language contexts. The second theme involves the meaningful use of language and literacy to improve the quality of one's life. As an approach to teaching, this theme emphasizes the creation of diverse, rich environments in which learners experience oral and written language as part of authentic tasks, and where concern for the cultural and linguistic heritage of the students is evident.

Reading and Writing Option and Reading Teacher Endorsement

This master's program is designed for K-6 and 7-12 teachers. This program is a credentialed program meeting the Colorado Department of Education requirements for the reading teacher endorsement. Therefore, students who obtain a master's degree emphasizing reading and writing are certified to hold positions in public and private schools as special developmental and reading teachers in K–6 or 7–12. This program is also valuable for elementary and secondary teachers who wish to enhance reading and writing instruction in their classrooms.

By placing emphasis on the reading, writing and oral and visual language development of culturally, linguistically and academically diverse student populations, this master's program is at the forefront of the field. Language is approached from a socio-psycholinguistic perspective

that emphasizes the learner's construction of meaning rather than the learning of isolated skills. Importance is placed on using theory, inquiry and personal reflection to inform classroom practice. The program prepares teachers to become decision makers capable of developing learner-centered curricula where each student's reading and writing abilities are assessed to address developmental or special needs.

Curriculum

Course offerings lead to an MA degree in curriculum and instruction with an emphasis in reading and writing, as well as a reading teacher endorsement, at one of two levels: K–6 or 7–12.

Those who have completed University of Colorado Denver's graduate teacher education licensure program must earn an additional 27 semester hours to obtain the MA and endorsement. Those who completed licensure through other means must earn an additional 36 semester hours to obtain the MA and endorsement.

Teachers may add a reading teacher endorsement to an already-earned master's degree in education by taking those courses listed under the chosen endorsement level. (In the state of Colorado, the reading teacher endorsement cannot simply be added to a bachelor's degree.) Electives and core courses are not required for those seeking the endorsement only. Two additional courses must be taken in other areas specified by the Colorado Department of Education. In many cases, previous master's degree courses will satisfy this requirement.

Requirements for Reading and Writing Program (Degree/Endorsement Options)

	ELEMENTARY (K-6)			SECONDARY (7-12)		
Course	**MA & CDE Endorsement**	**MA & CDE Endorsement** *(when added to CU Denver's graduate teacher education licensure program)*	**CDE Endorsement Only**	**MA & CDE Endorsement**	**MA & CDE Endorsement** *(when added to CU Denver's graduate teacher education licensure program)*	**CDE Endorsement Only**
Required		Required	Required	Required	Required	
LCRT 5810 - Wksp: Lang Acq & Development	Required	Required	Required	Required	Required	Required
LCRT 5010 - Foundations of Language	Required	Required	Required	Required	Required	Required
LCRT 5710 -	Required	Required	Required			

Primary Literacy: Pre-3rd Grade						
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12	Required	Required	Required	Required	Required	Required
LCRT 5730 - Language and Literacy Across the Curriculum	Required		Required	Required		Required
Children's literature course, per advisor approval	Select one	Select one	Select one			
LCRT 5201 - Adolescent Literature				Required	Required *(waived if taken as part of English Licensure)*	Required
LCRT 6910 - Seminar and Practicum in Literacy and Language, K-6	Required	Required	Required			
LCRT 6911 - Seminar and Practicum in Literacy and Language, 7-12+				Required	Required	Required
LCRT 5055 - Linking Assessment and Instruction in Language and Literacy	Required	Required	Required	Required	Required	Required
LCRT 6915 - Seminar and Practicum in	Required	Required		Required	Required	Required

Literacy Professional Development						
Core course in Research and Evaluation Methodology - see list below	Select one	5080		Select one	5080	
Interdisciplinary core course - see list below	Select one			Select one		
Graduate-level School of Education and Human Development elective				Select one		
Portfolio	Required	Required		Required	Required	
PLACE Exam	Required	Required	Required	Required	Required	Required
Total Semester Hours	36	27	27	36	27	27

Secondary English Education Option

The master's program in secondary English education is designed to enhance the preparation of middle and high school English/language arts teachers. Students complete course work in language development, assessment and field experiences. With the help of their advisor, they also select specific courses from the English Department or within the School of Education and Human Development that provide a well-rounded repertoire of knowledge and skills to fulfill the needs of an English educator. Special consideration is given to working with diverse ethnic populations.

Program Requirements

To earn a master of arts degree in curriculum and instruction with an emphasis in secondary English education, students must complete the following:

- 30 graduate semester hours in English education
- 6 graduate semester hours of core courses
- performance-based assessments that culminate in a portfolio finalized in the last semester of the program as fulfillment of the MA comprehensive exam requirement

Each student's course plan is developed in conjunction with his/her advisor. Please review www.ucdenver.edu/education/englished for recommended course sequence.

LCRT 5055 - Linking Assessment and Instruction in Language and Literacy Semester Hours: 3
LCRT 5201 - Adolescent Literature Semester Hours: 3
LCRT 5200 - Theory and Methods of English Education Semester Hours: 3
LCRT 5810 - Wksp: Lang Acq & Development Semester Hours: 3
LCRT 5010 - Foundations of Language Semester Hours: 3
LCRT 6911 - Seminar and Practicum in Literacy and Language, 7-12+ Semester Hours: 3
Research and Evaluation Methodology core course (see list below).
Interdisciplinary core course (see list below).
Four electives, per advisor approval, from the English department and/or the School of Education & Human Development. The following are recommended:
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12 Semester Hours: 3
-OR-
ENGL 5110 - Denver Writing Project Semester Hours: 3

Courses in working with English language learners and in instructional technology may also be helpful. For a technology course, please contact the professor about prerequisite knowledge.
Total: 36 semester hours

Program Requirements--When Added to CU Denver's Graduate Teacher Education Licensure Program

MA in curriculum and instruction with emphasis in secondary English education, when added to CU Denver's graduate teacher education licensure program:

- 18 graduate semester hours
- performance-based assessments that culminate in a portfolio finalized in the last semester of the program as fulfillment of the MA comprehensive exam requirement

Each student's course plan is developed in conjunction with his/her advisor. Please review www.ucdenver.edu/education/englished for recommended course sequence.

FNDS 5050 - Critical Issues in American Education Semester Hours: 3
-OR-
SPED 5300 - Collaborating in Schools and Communities Semester Hours: 3
RSEM 5080 - Research In Schools Semester Hours: 3
Four electives, per advisor approval, from the English Department and/or the School of Education and Human Development. The following are recommended:
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12 Semester Hours: 3
-OR-
ENGL 5110 - Denver Writing Project Semester Hours: 3
Courses in working with English language learners and in instructional technology may also be helpful. For a technology course, please contact the professor about prerequisite knowledge.
Total: 18 semester hours

Core Courses

Research and Evaluation Methodology

RSEM 5000 - Orientation to Research and Measurement in Education Semester Hours: 3
RSEM 5050 - Classroom Assessment Semester Hours: 3
RSEM 5080 - Research In Schools Semester Hours: 3
RSEM 5100 - Basic Statistics Semester Hours: 3
RSEM 5120 - Introduction to Research Methods Semester Hours: 3
RSEM 5110 - Introduction to Measurement Semester Hours: 3

Interdisciplinary

EPSY 5100 - Advanced Child Growth and Development Semester Hours: 3
EPSY 5140 - Advanced Adolescent Growth and Development Semester Hours: 3
EPSY 5220 - Adult Learning and Education Semester Hours: 3
EPSY 6200 - Human Development Over the Life Span Semester Hours: 3
FNDS 5050 - Critical Issues in American Education Semester Hours: 3
FNDS 5420 - History and Philosophy of Education: Twentieth Century America Semester Hours: 3
LCRT 5140 - Multicultural Education Semester Hours: 3
LCRT 5150 - Culture of the Classroom Semester Hours: 3
CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn Semester Hours: 3
CLDE 5820 - Techniques in Teaching English as a Second Language Semester Hours: 3

Cumulative Portfolio

The MA portfolio counts as the comprehensive exam for the master's degree. The portfolio is an accumulation of the performance based assessments completed during program courses and reflects on the student's development over the course of the degree program. Reading and writing students must include confirmation of Reading Teacher PLACE exam registration in their portfolios. Information about the PLACE is online at www.place.nesinc.com.

Course Scheduling

During the fall and spring semesters, most university courses are offered in the late afternoon and evening and meet for three hours once a week over a 16-week semester. Some alternative course schedules are available, such as meeting on five Friday-evening/all-day Saturday combinations. In the summer semester, three- to eight-week sessions are offered, and courses may be in the morning, afternoon or evening.

Planning

For practicing full-time teachers, we recommend taking one course each fall and spring semester, and up to two courses each summer. Plan carefully because courses are intended to build upon each other, and some courses are only offered once a year.

Active Status

Students must complete their programs within seven years, maintaining a GPA of 3.0. Students typically take four courses each calendar year. Failure to enroll over three contiguous semesters will result in a requirement to submit readmission materials.

Early and Adolescent Literacy Certificates

The early literacy certificate and adolescent literacy certificate each include three graduate-level courses (for a total of 9 semester hours) and are conveniently offered entirely online. They are specifically designed to help licensed teachers develop the skills necessary to reach student readers. To find out more, please visit www.ucdenver.edu/education/cpe or email cpe@ucdenver.edu.

School Library Endorsement

School Library and Instructional Leadership MA

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Website: www.ucdenver.edu/education/schoollibrary

Faculty

Information about SLIL faculty is available online at www.ucdenver.edu/education/schoollibrary.

Program Overview

The school library and instructional leadership program within the ILT master's degree program is a nationally recognized NCATE-AASL revised and approved school library media education program that leads to the Colorado Department of Education endorsement for school libraries. The program integrates information literacy standards through the use of collaborative planning, as approved by the American Association of School Libraries. Technology and library resources are seen as tools to increase student achievement by integrating the information literacy standards with the content standards of the classroom teacher. The program adheres to the constructivist theory of resource-based learning and promotes an appreciation of children's and adolescent literature. The program believes that school librarians require education as a teacher as well as a librarian, as advocated by the American Library Association and the International Association of School Libraries. As a school librarian, you will provide collaborative instruction, information access and leadership through the management of your library program and the library resources. Courses are offered in a completely online program, or a monthly Saturday cohort scheduled in communities across Colorado.

Once admitted, students begin a plan of study that typically takes about two years to complete. Consult the SLIL website for more information about specific plans of study, course offerings and expectations of cohort groups.

Admission Requirements

Admission decisions are based on undergraduate and graduate grades, external letters of recommendation and fit with the program as reflected in a letter of intent. In some cases, results of a test (GRE) are also required. Prospective students should consult the SLIL program website for complete admission procedures and requirements.

Professional Expectations

All students in the SLIL program are expected to show a strong commitment to the program and to maintain high academic, professional and ethical standards. Inappropriate or unprofessional conduct is cause for discipline or dismissal from the program.

Technology Expectations

The SLIL program uses computers and related technologies either as a focus or a tool for learning. Students are expected to obtain an e-mail account and check it frequently. In addition

to on-campus facilities, SLIL students need convenient access to Internet-connected computers off campus, either at their place of work or at home. In addition to textbooks, software purchases may be required or recommended for specific classes.

Program Requirements

School library students also have a choice between endorsement-only and full master's programs. The master's program requires a minimum of 36 graduate semester hours. Students complete a plan of study consisting of courses and professional field experience. To receive Colorado teacher endorsement, students are required to pass the PLACE test in school library. This is a Colorado Department of Education requirement.

An Example of Two-Year Plan for School Library Program

Courses are offered only in certain semesters and courses should be taken in a particular sequence based on when you start the program**.** Advising is required prior to enrolling in a course, even as a non-degree student, in order to ensure the most effective course sequencing and availability of courses.

Typical First Year

Fall	**Spring**	**Summer**
SCHL 5530 - Foundations of School Librarianship * LCRT 5790 - Children's Literature Through the Ages ***	SCHL 5020 - Collection Development	SCHL 5110 - Integrating Instructional Technology Practices in School Libraries (MA only) LCRT 5201 - Adolescent Literature . ***

Second Year

Fall	**Spring**	**Summer**
SCHL 5160 - Managing School Library Programs SCHL 6720 - Research In Information And Learning Technologies *** SCHL 5911 - School Library Field Experience-Elementary **	SCHL 5030 - Information Literacy and Reference SCHL 5912 - School Library Field Experience-Secondary **	SCHL 5040 - Information Storage and Utilization SCHL 6999 - Leadership and Practice in School Libraries (MA Only)

***** SCHL 5530 Foundations in School Librarianship should be taken as the first course in your program.

** 80 hours of field experience hours are required. Field experience may be completed over the course of a year; online seminar hours will be completed during the field experience timeframe. Field experiences are completed within a pre-approved school library. See Field Experience Policy for more information.

*** LCRT 5201; LCRT 5790; and SCHL 6720 are offered on-campus in other semesters as well.

Comprehensive Examination for All SLIL Students

The comprehensive exam consists of a professional portfolio where in students demonstrate program competencies through work products and related accomplishments. The portfolio is created throughout the student's program and submitted for faculty review the final semester. For more information, see the ILT website. For complete details about the SLIL program and endorsement requirements, see the ILT website at www.ucdenver.edu/education/schoollibrary.

Undergraduate Certificate Programs

Applied German Language Skills Undergraduate Certificate

Certificate Description

The undergraduate certificate in applied German language skills is designed for students of any discipline who wish to acquire and demonstrate to potential employers that they possess a fluid working knowledge of the German language and understanding of the cultures in which German is spoken. The completion of the requirements for this certificate can also serve as a means for nondegree-seeking professionals to develop a working competency in the German language and culture for use in such areas as international business, education, genealogy, transatlantic travel, academic research, translation and many other fields.

Admission

All currently enrolled students at CU Denver (undergraduate or graduate) in good standing (including nondegree-seeking students) are eligible for admission into the program. Any student who already possesses an undergraduate degree is also qualified for admission into the program, but must apply to the university as a nondegree-seeking student. Students working toward a baccalaureate degree who are currently enrolled in a college-level institution other than CU Denver are also eligible for certification.

Course Requirements

Twenty-four (24) semester hours of course work with CU Denver faculty (15 of which must be upper division), distributed as follows:

German Language Skills (15 credit hours): Students must complete a minimum of 15 semester credit hours of upper-division German language skills courses. These courses are defined as those areas of study in which grammar, vocabulary, pronunciation and/or communicative abilities in German are the primary focus of instruction. Up to six credit hours of upper-division German skills courses may be applied as transfer credit from outside, college-level institutions. Alternately, students may apply up to nine credit hours of officially recognized study abroad credit toward this requirement.

German Culture (9 credit hours): Students must complete a minimum of nine semester credit hours of German culture courses where the primary focus of instruction addresses any facet of Austrian, German and/or Swiss culture. These courses may be completed at any level (lower or upper division as well as graduate) and in any combination of disciplines, provided that the student supplies evidence that a significant portion of each course is devoted to Austrian, German and/or Swiss culture. This includes but is not limited to history, philosophy, political science, literature (in German or in translation) and other German cultural topics. Up to three credit hours of culture courses may be applied as transfer credit from outside, college-level institutions. Alternately, students may apply up to six credit hours of officially recognized, documented university-level course work (or the equivalent) in a German-speaking country.

Proficiency Exam: Successful completion of an internationally recognized German language proficiency exam. At any point prior to the awarding of the certificate, students must submit documentation that they have passed an internationally recognized German language skills examination. Such proficiency exams (some of which are administered locally in Denver and Boulder) include but are not limited to the TestDaF (Test Deutsch als Fremdsprache), Zertifikat Deutsch (ZD), Zertifikat Deutsch für den Beruf (ZDfB) or Prüfung Wirtschaftsdeutsch (PWD). Students must receive approval from German faculty at CU Denver to ensure that their exam scores are valid and applicable toward certification.

Students must obtain approval from CU Denver German faculty for all of the above and maintain a minimum 3.0 GPA in all course work applied to the certificate.

Transfer Credit

A significant portion of the certificate program is based on language proficiency. Consequently, students who have developed language skills through course work at institutions outside of CU Denver, including study abroad, may apply a limited number of previously earned semester hours toward the program. Please make an appointment with an advisor in the department to discuss details. All transfer credits must be approved by CU Denver German faculty.

Application of Course Work

The course work applied toward certification is meant as a proficiency requirement and not as a total semester hour amount. As a result, students who are working toward a degree may apply course work in German certification as credit toward other programs such as a minor, general education requirements or their major. Students are encouraged to inform their major advisor that they are working toward certification in German for help in coordinating their overall academic curriculum.

Further Information

Students are encouraged to hold a personal conference with a departmental advisor before applying to the certificate program. Phone 303-556-4893 for contact information.

Applied Statistics Undergraduate Certificate

Coordinator: Stephanie Santorico:
Telephone: 303-556-2547
E-mail: Stephanie.Santorico@ucdenver.edu
Web site:
http://www.ucdenver.edu/academics/colleges/CLAS/Departments/math/program_info/statisticscertificate/Pages/UndergraduteStatsCertificate.aspx

Entrance Requirements

All undergraduate students in good standing (including non-degree seeking students) will be admitted to the program. For students in the College of Liberal Arts and Sciences, this requires a cumulative grade point average of 2.0 or above. Some mathematical background (including calculus and linear algebra) is recommended.

To apply, see Undergraduate Applied Statistics Certificate Application

Curriculum

There are three parts to the requirements:

Required Courses

- MATH 2830 - Introductory Statistics

Basic Methods (choose one):

- MATH 4820 - Statistics
- MATH 4830 - Applied Statistics

Advanced Methods (choose one):

- MATH 4387 - Regression Analysis, Modeling and Time Series
- MATH 4394 - Experimental Designs

Total: 9 Hours

Elective (choose one):

- MATH 4101 - Applied Statistics Using SAS and SPSS I
  or any statistics course in the math department at the 4000 level or higher
- ECON 4150 - Economic Forecasting
- ECON 4811 - Introduction to Econometrics
- GEOG 4770 - Applied Statistics for the Natural Sciences
- GEOL 4770 - Applied Statistics for the Natural Sciences
- SOCY 5183 - Seminar: Quantitative Data Analysis
  Equivalent course pre-approved by the certificate coordinator

Total: 3 Hours

Project (1 Hour)

An independent data analysis project with a report and presentation to demonstrate proficiency with data analysis techniques and a statistical computing software package. Enroll for one hour of MATH 4840 (Independent Study) or in an equivalent course pre-approved by the certificate coordinator.

Certificate Total: 13 Hours

Grade Requirements

Students must maintain a 3.0 GPA or above in these courses with no credit given for courses with grades below *B*-.

Residency Requirements

Since a certificate is a University of Colorado Denver certification of a student's specialized knowledge in an advanced subject area, all courses in the certificate program are expected to be taken in residency at the University of Colorado Denver.

Biochemistry Certificate

A grade of C (2.0, not C-) or better in each of the Prerequisites is required, although these courses do not have to be completed at CU Denver. The Required Courses including electives must be completed at CU Denver with a grade of C (2.0, not C-) or better in each class, and a minimum GPA of 2.7 among the Required Courses including electives counted toward the Certificate.

Certificate Requirements

Prerequisites

(Courses do not have to be completed at CU Denver)

- 2 semesters General Chemistry, with labs
- 2 semesters General Biology, with labs
- 2 semesters Organic Chemistry, with at least 1 semester lab

Required Courses

(14-16 credits)

- CHEM 4810 - General Biochemistry I
  -OR-
- CHEM 3810 - Biochemistry
- CHEM 4820 - General Biochemistry II
- BIOL 3611 - General Cell Biology

Electives

(Choose 2 of the following)

- CHEM 3011 - Inorganic Chemistry
- CHEM 3111 - Analytical Chemistry
- CHEM 4121 - Instrumental Analysis
- CHEM 4511 - Physical Chemistry I
- CHEM 4521 - Physical Chemistry II
- CHEM 4828 - Biochemistry Lab
  3-credit internship or independent study in biochemistry, with prior approval

- PHYS 3151 - Biophysics Outlook I
  -and-
- PHYS 3161 - Biophysics Outlook II
  (these two 1-credit courses together fulfill one elective requirement)
- PHYS 3451 - Biophysics of the Cell
- BIOL 3124 - Introduction to Molecular Biology
  -OR-
- BIOL 4128 - Topics in Molecular Biology

- BIOL 3225 - Human Physiology
- BIOL 3832 - General Genetics
- BIOL 4125 - Molecular Biology Laboratory
- BIOL 4126 - Molecular Genetics
- BIOL 4144 - Medical Microbiology
- BIOL 4064 - Advanced Cell Biology
- BIOL 4068 - The Cell Cycle
- BIOL 4550 - Cell Signaling

• Other CHEM 4000-level advanced biochemistry lecture courses, PHYS 3000/4000-level biophysics courses, and BIOL 4000-level lecture courses with a molecular emphasis may be added to this list in the future, as such courses become offered.

Biotechnology Certificate

To serve the needs of students who wish to obtain recognition for the acquisition of specialized skills in biology and to prepare students for graduate school, health careers and jobs in industry, the Department of Integrative Biology offers a certificate program in biotechnology. Upon completion of the required courses (21 to 22 semester hours), including independent study or internship, the student will be awarded a certificate and have the biotechnology certificate noted on their transcript. The certificate may be completed in addition to an undergraduate or graduate degree or as a stand-alone certificate. Click on Biotechnology Certificate for a complete description.

Cultural Diversity Studies Undergraduate Certificate

The undergraduate certificate in cultural diversity studies is designed to appeal to undergraduate students with a background in any major. It will allow students to demonstrate to potential employers that they possess the multicultural skills and knowledge necessary to succeed in the workplace. Students will enroll in department courses that focus on the historical context in which race and culture have emerged in the United States.

This certificate is also targeted to nondegree-seeking professionals who seek to acquire multicultural knowledge and the skills necessary to ensure their success in professional environments. Students will be encouraged to think critically about race and race relations. Their expanded understandings of the implications of race and culture in work environments will ensure employers that they offer the highest quality employees opportunities in employment or advancement.

A certificate in cultural diversity studies offers students an enduring intellectual value based on classic articles, book excerpts and scholars who have shaped the study and understanding of race and ethnicity in contemporary society. Our courses provide the opportunity for students to encounter many of the greatest thinkers in race and ethnicity firsthand. Course curriculum includes carefully edited selections from the works of the most distinguished observers of race and ethnicity, past and present. Students will appreciate the broad range of coverage, the logic of course organization and the accessibility of material covered.

The undergraduate certificate in cultural diversity studies requires 12 semester hours (four courses).

Certificate Requirements

Required Course

- ETST 2000 - Introduction to Ethnic Studies

Total: 3 Hours

Electives

Choose three courses from any ethnic studies department courses, including the following:

- ETST 2155 - African American History
- ETST 2294 - Race and the Media
- ETST 3254 - Race and Ethnicity in the Inner City
- ETST 3297 - Social History of Asian Americans
- ETST 3396 - History of the American Indian
- ETST 3704 - Culture, Racism and Alienation
- ETST 4558 - Chicano and Latino Politics

Total: 9 Hours

Certificate Total: 12 Hours

There are crosslisted courses in a variety of departments, including history, political science and sociology. Any crosslisted course is acceptable. You must register for it under ETST numbers. A complete listing of department offerings and crosslisted courses can be obtained every semester from the ethnic studies department web page or by calling our office at 303-315-3616 for a copy.

A minimum grade of *B-* must be earned in each of the four courses completed as part of the certificate. All credits for the certificate must be earned at CU Denver.

Additional information about the undergraduate certificate in cultural diversity studies may be obtained from ethnic studies Director Donna Langston, Lawrence Street Center, 480, 303-315-3616, Donna.Langston@ucdenver.edu.

Democracy and Social Movements Undergraduate Certificate

Program Advisor: Lucy McGuffey

Office: King Center, 522

Telephone: 303-556-2436

E-mail: lucy.mcguffey@ucdenver.edu

The Democracy and Social Movements (DSM) certificate program in political science introduces students to current research and practice concerning the complex interplay between social movements and the processes for initiating and consolidating democracies. While contentious political activities have historically contributed to democratization, they have also led to repression, ethnic conflict and substantive human rights violations. Among the several DSM issues requiring scholarly investigation are:

- Viable ways to contest authoritarian regimes;
- The means for constituting a cohesive civil society after a civil war or revolution;
- The relationships between social equality, distributive justice and democracy;
- The relative efficacy of violence and of nonviolent strategies to institute and sustain regime change;
- The challenges of peacebuilding, transitional justice and democratization in societies torn by internal conflict;
- The growth of transnational social movements in response to globalization;
- The contextual factors determining the specific character of any social movement and of democratic regimes;
- The means by which democratic regimes are consolidated and deepened; and
- The ways in which democratization processes and social movements influence law and public policy, public discourse and culture, the use and design of public/private spaces and the socio-economic outcomes.

Students in the DSM program examine relevant theoretical and methodological literature in these aforementioned areas and apply it to current circumstances by taking specified courses in each of the four major subfields of political science: American, comparative, international politics and political theory.

The DSM certificate program is designed to appeal to persons who want to focus their studies on the recent state of democratization processes around the world, including explorations of the ways in which social movements can catalyze or even threaten those democratization processes. Students in the program will explore how globalization is simultaneously fragmenting and uniting the globe, enhancing wealth and impoverishing people, consolidating human rights regimes and transgressing them and provoking questions about the boundaries of our ethical commitments and the means whereby communities strive for democracy and justice.

By permitting students to devise a curriculum that integrates academic and experiential, the DSM program should enhance students' scholarship, civil engagement and prospects for further study and employment in rapidly growing fields like international/community development, the non-governmental organization sector, civic education/engagement and human rights.

Requirements

The undergraduate certificate requires five program courses (15 credits, with at least 6 credits at the upper division level), one in each of the four political science subfields listed below and the capstone seminar, as well as completion of an appropriate experiential learning requirement. Like the existing departmental experiential learning requirement for majors, this requirement can be fulfilled without taking course credits, for example, by documenting the inclusion of significant experiential learning/field work in regular course work, or by documenting significant relevant field work in one's professional life.

All courses for the certificate must be taken in residency at CU Denver, and completed with a grade of *C* or higher. A minimum GPA of 2.0 is required for the undergraduate certificate. Topics courses approved by the program advisor can also satisfy course requirements.

All students, whether working toward a degree or as a non-degree student, are eligible for the certificate.

Choose one course from each of the subfields below:

Note: Some courses appear more than once in different subfields; students should choose four different subfield courses, not count one toward two subfields.

International Politics

- PSCI 4216 - International Politics: Human Rights
- PSCI 4225 - Democracy and Democratization
- PSCI 4265 - Social Justice and Globalization
- PSCI 4808 - Strategies of Peacebuilding

Comparative Politics

- PSCI 4146 - Indigenous Politics
- PSCI 4224 - Dictatorships in 21st Century
- PSCI 4225 - Democracy and Democratization
- PSCI 4555 - International Women's Resistance
- PSCI 4808 - Strategies of Peacebuilding

American Politics

- PSCI 3035 - Political Movements: Race and Gender
- PSCI 3914 - The Urban Citizen

- PSCI 4074 - Urban Politics

Political Theory

- PSCI 4207 - Theories of Social and Political Change
- PSCI 4265 - Social Justice and Globalization

Capstone Course

- PSCI 4206 - Social Movements, Democracy and Global Politics

Total: 15 Hours

Ethics Undergraduate Certificate

The certificate in ethics is designed for students currently enrolled in a degree program as well as nondegree students.

A total of 15 semester hours is required for an ethics certificate. Students are required to write a capstone paper in an area of ethics directly related to their career and/or field of study (PHIL 3840).

Certificate Requirements

- PHIL 1020 - Introduction to Ethics and Society: The Person and the Community

Choose four:

- PHIL 3002 - Ancient Greek Philosophy
- PHIL 3150 - History of Ethics
- PHIL 3200 - Social and Political Philosophy
- PHIL 3250 - Business Ethics
- PHIL 3500 - Ideology and Culture: Racism and Sexism
- PHIL 3840 - Independent Study
- PHIL 4150 - Twentieth Century Ethics
- PHIL 4242 - Bioethics

Certificate Total: 15 Hours

Geographic Information Science Undergraduate Certificate

GISci Certificate Advisor: Peter Anthamatten

Office: North Classroom, 5030-B

Telephone: 303-556-4277

E-mail: peter.anthamatten@ucdenver.edu

The intention of this certificate is to provide undergraduates with a mechanism for demonstrating capabilities in spatial techniques in the social and/or physical sciences. The focus of this certificate is on a broad array of geotechniques, including geographic information systems, remote sensing, cartography and statistics, which give students additional analytical skills to take into the workplace or on to graduate school. This certificate is designed for geography majors as well as nonmajors.

Upon successful completion of the certificate, students will be able to:

- understand basic theoretical underpinnings of spatial analysis
- apply geo-spatial technologies to real-world problems
- have a basic knowledge of how to operate at least three types of software used for spatial analysis

Students must have a 3.0 GPA in all approved geographic technology courses to earn the certificate. The certificate will be awarded when the student graduates with the bachelor's degree. For those who already have a bachelor's degree, the certificate will be awarded upon completion of the program.

Application

Students may begin the program in any semester or during the summer by making arrangements with the GISci certificate coordinator, and completing and signing the **Application for GISci Certificate .** This should be done once you have elected to pursue the certificate. Those who are not current students must apply for non-degree admission (go to Information for Undergraduate Students and click on Nondegree Students link at top of page) before registering for any classes.

Curriculum

To obtain the certificate, students must complete four core courses, one elective, and a 1-hour independent study, totaling 16 hours. Although the four core courses may be taken in any order, it is advisable to begin with GEOG 4081, Introduction to Cartography and Computer Mapping, since this course familiarizes students with many key concepts used in the other classes. Of the four core requirements, only the statistics class has prerequisites, including algebra and introductory calculus. Because of the technical nature of the GIS and remote sensing course work, however, some mathematical experience is desirable prior to beginning the program. All core courses are offered on a yearly basis. Any alterations to the program MUST be approved by the GISci Coordinator.

Course Requirements

Core Courses:

- GEOG 4081 - Cartography and Computer Mapping
- GEOG 4060 - Remote Sensing I: Introduction to Environmental Remote Sensing
- GEOG 4080 - Introduction to GIS
- GEOL 4770 - Applied Statistics for the Natural Sciences
  OR equivalent course approved by the GISci Certificate Coordinator

Total: 12 Hours

Lab Requirement (to be taken at the end of the program):

Independent Study in GEOG or GEOL with a geographic technology professor (Moreno, Thomas, Wyckoff, or instructor approved by GISci coordinator). The independent project must also demonstrate a proficiency in GIS in the student's area of interest (1 credit hour) **or** take CVEN 5386. GIS Laboratory (3 credit hours). See below for course numbers/descriptions.

- GEOG 4840 - Independent Study: GEOG
- GEOL 4840 - Independent Study: GEOL
- CVEN 5386 - GIS Laboratory

Total: 1-3 Hours

Elective (choose one from the following):

- GEOG 4070 - Remote Sensing II: Advanced Remote Sensing
- GEOG 4085 - GIS Applications for the Urban Environment
- GEOG 4090 - Environmental Modeling with Geographic Information Systems
- GEOG 4095 - Deploying GIS Functionality on the Web
- GEOG 4235 - GIS Applications in the Health Sciences
- CVEN 5382 - GIS Spatial Database Development
- CVEN 5385 - GIS Relational Database Systems
  OR an elective approved by the GISci Certificate Coordinator.

Total: 3 Hours

Certificate Total: 16-18 Hours

Mediation Undergraduate Certificate

Mediation entails a third-party intervention designed to assist parties in managing conflict. Trained mediators are impartial process experts who learn to utilize communication and conflict philosophy and theories to increase the probability of more favorable outcomes between parties in conflict. The undergraduate certificate is designed for communication majors or any student interested in developing practical skills in alternative dispute resolution. The courses in this certificate focus on alternative dispute processes that include strategies for managing conflict in personal, public, legal, political, governmental and corporate contexts.

Certificate Requirements

The undergraduate certificate in mediation requires 12 semester hours (four courses).

Core Courses

Students must complete the following core course:

- COMM 4262 - Mediation
  In addition, students must complete at least one of the following two courses (students who take both classes take one elective rather than two; students who take only one must select two electives):
- COMM 4255 - Negotiations and Bargaining
- COMM 4260 - Communication and Conflict

Total: 9 Hours

Elective

Students choose one or two additional classes from among the following:

- COMM 2140 - Argumentation
- COMM 3271 - Communication and Diversity
- COMM 4240 - Organizational Communication
- COMM 4282 - Environmental Communication
- COMM 4681 - Communication Issues in Trial Court Practices and Processes

Total: 3 Hours

Certificate Total: 12 Hours

Students may be allowed to take courses other than those on this list to fulfill the requirements for the certificate, if those courses better fit their professional goals. Requests for approval of different courses should be made in writing to Larry Erbert, Plaza 102-D. Requests should include an explanation of the relevance of the course to be substituted to the student's professional goals and the certificate. Such courses must be taught in the Department of Communication at the University of Colorado Denver. Only one course may be substituted.

Grade and Residency Requirements

A grade of *B* or higher must be earned in each course completed as part of the certificate (a grade of *B-* is not acceptable). All of the credit hours for the certiifcate must be earned at the University of Colorado Denver.

Public Relations Undergraduate Certificate

Public relations has been defined as the management function that entails planning, research, publicity, promotion and collaborative decision-making to help any organization's ability to listen to, appreciate and respond appropriately to those persons and groups whose mutually beneficial relationships the organization needs to foster as it strives to achieve its mission and vision. The undergraduate certificate in public relations is designed for undergraduate communication majors who wish to demonstrate to potential employers that they possess skills and knowledge in the area of public relations. It also is useful for non-degree-seeking working professionals without bachelor's degrees who plan to enter or re-enter the workplace and who seek to acquire the skills and knowledge necessary to perform public relations in their professional environments.

Certificate Requirements

The undergraduate certificate in public relations requires 12 semester hours (four courses). Students must complete the following three courses:

- COMM 4635 - Principles of Public Relations
- COMM 4640 - Advanced Public Relations
- COMM 4665 - Principles of Advertising

Additionally, students choose one course from the following:

- COMM 3680 - Mass Communication Skills
- COMM 4240 - Organizational Communication
- COMM 4805 - Graphics

Total: 12 Hours

Students may be permitted to take courses other than those listed above to fulfill the requirements for the certificate if those courses fit their professional goals better (CMMU 4635, Principles of Public Relations may not be substituted, however). Requests for approval of substitute courses, including an explanation for the substitution, must be made in writing to Hamilton Bean.

Grade and Residency Requirements

A grade of *B* must be earned in each course completed as part of the certificate. All of the credit hours for the certificate must be earned at the University of Colorado Denver.

Application Procedures and Additional Information

Students should apply for the undergraduate certificate in public relations after the completion of the required courses. To apply, students must complete the certificate application and return it to Dr. Hamilton Bean in his mailbox in room 102-A of the Plaza Building or mail to Department of Communication; P. O. Box 173364, Campus Box 176; University of Colorado Denver; Denver, CO 80217-3364. The approved certificate is mailed to the student.

Students who are not already enrolled at CU Denver must also complete an Application for Non-Degree Admission prior to registering for courses. The form should be returned to the Office of Admissions in the annex of the CU Building.

Additional information about the undergraduate certificate in public relations may be obtained from Dr. Hamilton Bean, Department of Communication, Plaza 102-Q, 303-352-3876, Hamilton.Bean@ucdenver.edu.

Scientific Foundations of Technical Innovation Certificate

The goal of this certificate is to give students and working professionals an opportunity to broaden their technical knowledge while contributing to regional economic development. Two real-world projects—one for a client and one for the student's own pursuits—are combined with a series of six short courses to provide both context and substance for gaining knowledge needed to create technical prototypes. The model is based on the method by which most physical science graduate students learn technical domains on a "just-in-time" basis. It is also a method by which many corporations quickly bring new project team members up to speed on project knowledge. Entry into the certificate program requires prior completion of two semesters of calculus-based physics and two semesters of calculus **or** permission of the certificate advisor.

Undergraduate required courses

- PHYS 4850 - Physics for Design and Innovation I
- PHYS 4400 - Topics in Scientific Instrumentation and Laboratory Methods
  Choose six 1-semester-hour short courses out of a larger list of offered topics; the specific sequence must be approved by the certificate advisor
- PHYS 4852 - Physics for Design and Innovation II

Total: 12 Hours

Graduate required courses

Graduate versions of the courses (5000-level) require an undergraduate degree and additional work on technical analysis or connection to professional practice.

- PHYS 5850 - Physics for Design and Innovation I
- PHYS 5400 - Topics in Scientific Instrumentation and Laboratory Methods
  Choose six 1-semester-hour short courses out of a larger list of offered topics; the specific sequence must be approved by the certificate advisor.
- PHYS 5852 - Physics for Design and Innovation II

Total: 12 Hours

Technical and Professional Communication Undergraduate Certificate

The undergraduate certificate in technical and professional communication is designed for several types of students:

- working adults who are employed or who are seeking employment in the field of technical communication but who are not seeking an undergraduate degree
- students who are majoring in communication and want to enhance their technical communication abilities
- students pursuing a major other than communication who want to enhance their technical communication abilities

Students enrolled in this certificate receive state-of-the-art training in core professional skills, including technical writing, technical editing and web design. The certificate is especially helpful for those who plan to enter (or re-enter) the workplace and who want to acquire the knowledge and skills necessary to contribute to technical documentation projects.

Certificate Requirements

The undergraduate certificate in technical and professional communication requires 12 semester hours (four courses), as follows:

Required Core

- COMM 3120 - Technical Communication

Electives

Students must complete any three of the following courses:

- COMM 4120 - Writing Technical Reports
- COMM 4290 - Web Design
- COMM 4300 - Multimedia Authoring
- COMM 4410 - Science Writing
- COMM 4620 - Health Risk Communication
- COMM 4681 - Communication Issues in Trial Court Practices and Processes

Total: 12 Hours

Grade and Residency Requirements

A grade of *B* or higher must be earned in each course completed as part of the Certificate (a grade of *B*-is not acceptable). All of the credit hours for the certificate must be earned at the University of Colorado Denver.

Application Procedures

Students should apply for the undergraduate certificate in technical and professional communication **after the completion of the required courses.** To apply, students must complete the certificate application.

The form should be returned to Jim Stratman, located in the Plaza Building, room 102-F, or put in his mailbox in room PL 102-A, or mailed to him at the Communication Department; Campus Box 176, P. O. Box 173364; Denver, CO 80217-3364. Once the certificate is processed, it will be mailed to the student unless other arrangements have been made by the student to pick up the certificate from the program assistant in PL 102C.

Students need to be registered at the University of Colorado Denver as full-time students, part-time students or as non-degree students in order to register for these classes. To apply as a non-degree student, fill out the Application for Non-Degree Admission. Return the form, along with your fee, to the Office of Admissions in the Annex of the CU Building, located at the corner of 14th and Larimer.

Additional Information

Additional information about the undergraduate certificate in technical and professional communication may be obtained from the director of the technical communication program, Jim Stratman, Department of Communication, Plaza Building, room 102-F, 303-556-2884, James.Stratman@ucdenver.edu

Graduate Certificate Programs

Applied Statistics Graduate Certificate

► Graduate School Rules apply to this program.

Coordinator: Stephanie Santorico:
Telephone: 303-556-2547
E-mail: Stephanie.Santorico@ucdenver.edu
Web site:
http://www.ucdenver.edu/academics/colleges/CLAS/Departments/math/program_info/statisticscertificate/Pages/GraduateStatisticsCertificate.aspx

Entrance Requirements

Students are expected to have a bachelor's degree and be admitted to the graduate school as either a degree-seeking or non-degree seeking student. Students are expected to have completed an introductory statistics course (such as MATH 2830 or the equivalent) or an introductory course in probability. At least one semester of calculus and a course containing linear algebra are also recommended.

To apply, see Graduate Applied Statistics Certificate Application

Curriculum

There are three parts to the requirements:

Required Courses

Basic methods (choose one):

- MATH 4820 - Statistics
- -OR- MATH 4830 - Applied Statistics
- -OR- MATH 5320 - Statistics

Advanced methods (choose two):

- MATH 5387 - Regression Analysis, Modeling and Time Series
- -AND/OR- MATH 5394 - Experimental Designs
- -AND/OR- MATH 6360 - Exploratory Data Analysis

Total: 9 Hours

Elective (choose one):

Any statistics course in the math department at the 5000 level or higher

- ECON 5150 - Economic Forecasting
- ECON 5813 - Econometrics I
- ECON 5823 - Econometrics II
- ENVS 5600 - Applied Statistics for the Natural Sciences

- GEOL 5770 - Applied Statistics for the Natural Sciences
- PSYC 7713 - Advanced Statistics
- SOCY 5183 - Seminar: Quantitative Data Analysis
  Equivalent course pre-approved by the certificate coordinator

Total: 3 Hours

Project (1 Hour)

An independent data analysis project with a report and presentation to demonstrate proficiency with data analysis techniques and a statistical computing software package. Enroll for one hour of MATH 5840 (Independent Study) or in an equivalent course preapproved by the certificate coordinator.

Certificate Total: 13 Hours

Grade Requirements

Students must maintain a 3.0 GPA or above in these courses with no credit given for courses with grades below *B*-.

Residency Requirements

Since a certificate is a University of Colorado Denver certification of a student's specialized knowledge in an advanced subject area, all courses in the certificate program are expected to be taken in residency at the University of Colorado Denver.

Culturally Responsive Urban Education (CRUE) Graduate Certificate

Linguistically Diverse Education

Requirements for LDE Program

(Degree/Endorsement or Certificates - TESOL, CRUE, TCLD)

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/lde

Faculty

Information about faculty in this program is available at www.ucdenver.edu/education/lde. The faculty of linguistically diverse education (LDE) believe that effective teaching requires an awareness of and the ability to respond to individual differences. LDE faculty also emphasize the importance of teachers as scholars and reflective practitioners. In particular, teachers must understand how linguistic and cultural diversity affect their teaching. Two themes run throughout all program offerings. The first concerns the importance of recognizing a variety of literacies—"home" literacies, school literacy, "mainstream" literacy, first and second language literacies—and to develop teaching practices that utilize an understanding of the complexity of literacy development across language contexts. The second theme involves the meaningful use of language and literacy to improve the quality of one's life. As an approach to teaching, this theme emphasizes the creation of diverse, rich environments in which learners experience oral and written language as part of authentic tasks, and where concern for the cultural and linguistic heritage of the students is evident.

Program Options

The LDE program offers options leading to the following:

- a Master of Arts in Curriculum and Instruction
- the Colorado Endorsement for Culturally and Linguistically Diverse Education
- a Teaching English to Speakers of Other Languages (TESOL) certificate
- a Culturally Responsive Urban Education (CRUE) certificate
- a Teaching for Cultural and Linguistic Diversity (TCLD) certificate

The program is intended for:

- novice teachers who have completed their Colorado teaching credentials in CU Denver's graduate teacher education licensure program and are enrolled in the MA in curriculum and instruction with an emphasis in LDE (see 27 semester-hour option)
- veteran elementary and secondary teachers returning to graduate studies for the master's degree (36 semester hours)
- veteran elementary and secondary teachers returning to acquire Colorado endorsement credentials (24 semester hours)
- individuals interested in teaching English abroad (TESOL: 15 semester hours)

- elementary and secondary teachers who desire preparation in better meeting the needs of culturally diverse learners (CRUE: 9 semester hours)
- veteran elementary and secondary teachers returning to graduate studies for a certificate to aid them in helping their English language learners succeed (TCLD: 9 semester hours)
- individuals interested in teaching adults (MA: 36 semester hours)

The MA is a field-based professional development program involving university faculty and practicing LDE instructors in public school and intensive English settings. Courses, laboratories and practica emphasize scholarly approaches to complex problems of practice and feature interactive, collaborative and practical approaches to working with English language learners.

We advocate a sociocultural approach to issues of language and learning, acknowledging the legitimacy of linguistic and cultural differences and recognizing that academic settings represent important socializing forces in students' lives. Because of this, we emphasize the "whole learner" in our teaching and in teacher education and teacher development, understanding that individuals do not merely add a language to their repertoire of communication but make fundamental identity adjustments as they progress in their studies. For this reason, all our course work, laboratories and practica experiences are field-based, putting our program participants in contact with veteran teachers and English language learners. We draw heavily on recent scholarship in collaborative approaches to school-university partnerships and systemic school change in developing classroom methods and materials, curricula and teacher development experiences.

The MA program also provides a foundation in teaching English in a variety of contexts in the United States and abroad. Teachers who work in LDE programs or in other content areas (such as art, language arts, math, music, science, social studies or technology), but who wish to integrate LDE principles and strategies into their instruction for their English language learners, will find the MA program relevant to their interests and goals.

Course work includes language teaching methodology, language acquisition, linguistic analysis of English, multicultural foundations, assessment, literacy and other areas. This program has been developed as an advanced course of study for practicing teachers or individuals with some teaching experience.

Applicants who are new to teaching, and who wish to teach in U.S. K–12 public school settings, should inquire about the teacher education licensure program. Applicants who are new to teaching, but who do not need a teaching license (certification) because they do not wish to teach in U.S. public schools, may consider the TESOL certificate to gain initial teaching experiences before applying for the MA.

Program Requirements and Courses

To complete the LDE program and earn a master's degree and/or endorsement, or to earn a TESOL certificate, students must complete the appropriate course work as outlined in the table below.

Requirements for LDE Program (Degree/Endorsement or TESOL Certificate)					
Course	**MA without CDE Endorsement in LDE**	**MA and CDE Endorsement in CLDE**	**CDE Endorsement in CLDE Only**	**MA and CDE Endorsement in CLDE** *(when added to CU Denver's graduate teacher education licensure program)*	**TESOL Certificate**
CLDE 5010 - Foundations of Language, Literacy and Culture	Required	Required	Required	Required	
One course from culture options: CLDE 5140 - Multicultural Education CLDE 5150 - Culture of the Classroom CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn	Select One	Select One	Select One	Select One	
CLDE 5070 - Linguistic Analysis of English:	Required	Required	Required	Required	Required

Implications for Teaching					
CLDE 5030 - Language & Literacy Acquisition Div Lrn	Required	Required	Required	Required	Required
CLDE 5820 - Techniques in Teaching English as a Second Language	Required	Required	Required	Required	Required
CLDE 5050 - Assessment & Advocacy for Diverse Learners	Required	Required	Required	Required	Required
One course from field-based teaching options: LCRT 5020 - Workshop in Literacy and Language Teaching CLDE 5825 - Methods and Materials of Language Teaching CLDE 5826 - Language Teaching Lab LCRT 5730 - Language and Literacy Across the Curriculum LCRT 5770 -	5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	5826

Effective Literacy Instruction for Second Language Learners					
CLDE 5035 - Language and Literacy: Acquisition, Processes, and Cognition, Part II	Required	Required			
CLDE 6912 - Seminar and Practicum in Literacy and Language, ESL and Bilingual Education	Required	Required	Required	Required	
One course from research and evaluation methodology: RSEM 5050 - Classroom Assessment RSEM 5080 - Research In Schools	Select One	Select One		Select One	
One course from educational psychology: EPSY 5110 - Human Learning EPSY 5220 - Adult Learning	Select One	Select One			

and Education					
Graduate-level University of Colorado elective	Select One	Select One			
Cumulative online portfolio	Required	Required	Required	Required	
LDE PLACE Exam (not required for students beginning Spring 2013 or later)		Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	
Total Semester Hours	36	36	24	27	15

Culturally Responsive Urban Education (CRUE) Certificate Requirements

Those considering the CRUE certificate must complete the following:

CLDE 5170 - Race, Class and Culture in Public Schools Semester Hours: 3

CLDE 5180 - Working with Communities and Families Semester Hours: 3

CLDE 5190 - Culturally Responsive Pedagogy and Practices Semester Hours: 3

Total: 9 Hours

This certificate is only offered as a cohort, through our district partnerships. Additional information about the CRUE certificate can be found at www.cruecenter.org/certificate.php.

Teaching for Cultural and Linguistic Diversity (TCLD) Certificate

The TCLD Certificate (formerly known as Content Instruction for English Learners (CIEL) is a graduate certificate providing a foundation in teaching content to students whose first language is other than English. The program is designed for content-area teachers (math, science, social studies, etc.) who have English language learners in their classes. This certificate is also valuable to content area coaches or administrators who provide support for teachers with English language learners. The certificate is appropriate for public school and community college personnel.

The certificate totals nine credit hours with the specialty area in linguistically diverse education (LDE). All courses are three graduate credit hours and may be applied directly toward a full master's degree in Curriculum and Instruction with an emphasis in LDE while also fulfilling the requirements toward a Colorado Culturally and Linguistically Diverse Education Endorsement. Courses may also be applied toward the Teaching English to Speakers of Other Languages (TESOL) Certificate. Additional courses and applications are required for these programs.

The certificate may be completed in one year. Those pursuing the TCLD certificate must complete the following:

CLDE 5030 - Language & Literacy Acquisition Div Lrn

CLDE 5820 - Techniques in Teaching English as a Second Language

LCRT 5770 - Effective Literacy Instruction for Second Language Learners

The TCLD certificate is being offered only through our district partnerships.

Cumulative Portfolio of Performance Based Assessments (PBAS)

The portfolio is required for the CLDE endorsement, counts as the comprehensive exam for the master's degree and permits you to document your development over the course of your program. Portfolios are reviewed by LDE faculty members. The portfolio process is reviewed in every class as each of the PBAs is completed in the classes, helping students to update their portfolios throughout the program. For more portfolio guidelines, visit the website at http://www.ucdenver.edu/education, click on "Current Students" and select Linguistically Diverse Education from the "Program specific resources" drop-down menu.

PLACE Exam for Linguistically Diverse Education Endorsement

To add the endorsement to their teaching license, students beginning the program prior to Spring 2013 must pass the PLACE (Program for Licensing Assessments for Colorado Educators) exam for linguistically diverse education, secure and submit the appropriate paperwork from the Colorado Department of Education, and pay fees required for the PLACE and for the endorsement paperwork. Information about PLACE is online at www.place.nesinc.com. Students beginning Spring 2013 or later will be eligible for the Culturally and Linguistically Diverse Education Endorsement and will not be required to pass the PLACE exam to receive the CLDE endorsement.

Course Scheduling

During the fall and spring semesters, most university courses are offered in the late afternoon and evening and meet for three hours once a week over a 16-week semester. Some alternative course schedules are available, such as meeting on five Friday-evening/all-day Saturday combinations. In the summer semester, three-to eight-week sessions are offered, and courses may be in the morning, afternoon or evening.

Planning

For practicing full-time teachers, we recommend taking one course each fall and spring semester and up to two courses each summer. Students may simultaneously complete requirements for the MA and the endorsement for culturally and linguistically diverse education (some courses are offered only once per year.)

Active Status

Students must complete their programs within seven years, maintaining a GPA of 3.0. Students typically take four courses each calendar year. Failure to enroll over three contiguous semesters will result in a requirement to submit readmission materials.

Democracy and Social Movements Graduate Certificate

► Graduate School Rules apply to this program.

Program Advisor: Lucy McGuffey

Office: King Center, 522

Telephone: 303-556-2436

E-mail: lucy.mcguffey@ucdenver.edu

The Democracy and Social Movements (DSM) certificate program in political science introduces students to current research and practice concerning the complex interplay between social movements and the processes for initiating and consolidating democracies. While contentious political activities have historically contributed to democratization, they have also led to repression, ethnic conflict and substantive human rights violations. Among the several DSM issues requiring scholarly investigation are:

- Viable ways to contest authoritarian regimes;
- The means for constituting a cohesive civil society after a civil war or revolution;
- The relationships between social equality, distributive justice and democracy;
- The relative efficacy of violence and of nonviolent strategies to institute and sustain regime change;
- The challenges of peacebuilding, transitional justice and democratization in societies torn by internal conflict;
- The growth of transnational social movements in response to globalization;
- The contextual factors determining the specific character of any social movement and of democratic regimes;
- The means by which democratic regimes are consolidated and deepened; and
- The ways in which democratization processes and social movements influence law and public policy, public discourse and culture, the use and design of public/private spaces and the socio-economic outcomes.

Students in the DSM program examine relevant theoretical and methodological literature in these aforementioned areas and apply it to current circumstances by taking specified courses in each of the four major subfields of political science: American, comparative, international politics and political theory.

The DSM certificate program is designed to appeal to persons who want to focus their studies on the recent state of democratization processes around the world, including explorations of the ways in which social movements can catalyze or even threaten those democratization processes. Students in the program will explore how globalization is simultaneously fragmenting and uniting the globe, enhancing wealth and impoverishing people, consolidating human rights regimes and transgressing them and provoking questions about the boundaries of our ethical commitments and the means whereby communities strive for democracy and justice.

By permitting students to devise a curriculum that integrates academic and experiential, the DSM program should enhance students' scholarship, civil engagement and prospects for further study and employment in rapidly growing fields like international/community development, the non-governmental organization sector, civic education/engagement and human rights.

Requirements

The graduate certificate requires three program courses and the capstone seminar [12 total credits; all must be graduate-level (5000 or above) courses]. Field work/experiential learning is encouraged and promoted throughout the graduate program, but it is not a certificate requirement.

All courses for the certificate must be taken in residency at CU Denver, and completed with a grade of *B* or higher. A minimum GPA of 3.0 is required for the graduate certificate.

All students, whether working toward a degree or as a non-degree student, are eligible for the certificate.

Choose one course from each of the subfields below:

Courses listed below are examples of courses that can be selected for the certificate, but other graduate-level courses (5000-level or above) in political science may be applied with the consent of the program advisor.

Note: Some courses appear more than once in different subfields; students should choose four different subfield courses, not count one toward
two subfields.

International Politics

- PSCI 5224 - Dictatorships in 21st Century
- PSCI 5225 - Democracy and Democratization
- PSCI 5265 - Social Justice and Globalization
- PSCI 5808 - Strategies of Peacebuilding

Comparative Politics

- PSCI 5145 - Indigenous Politics
- PSCI 5224 - Dictatorships in 21st Century
- PSCI 5225 - Democracy and Democratization
- PSCI 5256 - Seminar: National Question and Self-Determination
- PSCI 5555 - International Women's Resistance
- PSCI 5808 - Strategies of Peacebuilding

American Politics

- PSCI 5094 - Seminar: Urban Politics

Political Theory

- PSCI 5265 - Social Justice and Globalization

Capstone

- PSCI 5206 - Social Movements, Democracy and Global Politics

Total: 12 Hours

Design Build Graduate Certificate

Contact: Erik (Rick) Sommerfeld
Telephone: 303-315-0008
E-mail: erik.sommerfeld@ucdenver.edu

The College of Architecture and Planning offers a graduate certificate in the emerging area of design build as an extension of the MArch program. The certificate course work totals 18 credit hours and emphasizes design build from the designer's point of view.

Certificate Requirements

Five courses totaling 18 semester hours can be applied to the MArch graduation requirements:

- ARCH 6370 - Introduction To Design Build
- ARCH 6471 - Managing Quality & Risks
- ARCH 6472 - Architecture in a Single Source Project Delivery
- ARCH 6373 - Construction in Design Build
- ARCH 6170 - Advanced Design Studio
  taken with
- ARCH 6171 - Advanced Design Seminar

Total: 18 Hours

Designing E-learning Environments Graduate Certificate

The DeE certificate is an 15-semester-hour program offered entirely online that focuses specifically on the skills needed to design and facilitate online learning opportunities for learners in K–12, higher education and corporate settings. This program is perfect for educators who are not interested in a graduate degree. More information is available at www.ucdenver.edu/academics/colleges/SchoolOfEducation/Academics/MASTERS/ILT/Pages/eLearning.aspx.

Sample plan for eLearning Certificate

Year 1

Fall: INTE 5660 - Designing and Teaching in eLearning Environments
Spring: INTE 5670 - Developing eLearning Instruction
Summer: INTE 5680 - Integrating Media in eLearning Environments

Comprehensive Examination for All ILT Students

The comprehensive exam consists of a professional portfolio where in students demonstrate program competencies through work products and related accomplishments. The portfolio is created throughout the student's program and submitted for faculty review the final semester.

For more information or for complete details about ILT programs, see the ILT website.

Digital Storytelling Graduate Certificate

A 9-semester-hour certificate in digital storytelling includes face-to-face workshops as well as a 4-semester-hour online course. Participants develop digital stories using nonlinear video editing programs and other presentation tools. They learn to integrate digital storytelling methods into existing courses and curricula for all ages.

Domestic Violence Concentration/Graduate Certificate

A student may choose to complete a concentration in domestic violence as part of the MCJ or MPA degree, or the domestic violence program can be completed by non-degree students as a stand-alone graduate certificate. The program on domestic violence provides an interdisciplinary perspective on crime, the formulation of laws and codes, the criminal legal system and its intersection with women and violence. Students seeking a domestic violence concentration must complete 15 semester hours related to domestic violence, which are completed via intensive workshops that meet periodically throughout a two-year period.

For more information, contact Barbara Paradiso at barbara.paradiso@ucdenver.edu.

Requirements

Students take the four specified courses below and one elective.

- PUAD 5910 - Women and Violence: A Sociological Perspective
- PUAD 5920 - Psychology of Violence Against Women
- PUAD 5930 - Battered Women and the Legal System
- PUAD 5940 - Domestic Violence Social Change and Advocacy

Total: 15 Hours

Early and Adolescent Literacy Certificates

Literacy, Language and Culturally Responsive Teaching

MA Requirements for the Reading and Writing Option and Secondary English Education Option, plus Reading Teacher Endorsement and Certificate Programs

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Websites: www.ucdenver.edu/education/literacy and%20www.ucdenver.edu/education/englished

Reading and Writing

Secondary English

Early and Adolescent Literacy Certificates

Faculty

Information about faculty in this program is available online at www.ucdenver.edu/education/literacy.

The faculty of literacy, language and culturally responsive teaching (LLCRT) believe that effective teaching requires an awareness of and the ability to respond to individual differences. LLCRT faculty also emphasize the importance of teachers as scholars and reflective practitioners. In particular, teachers must understand how linguistic and cultural diversity affect their teaching. Two themes run throughout all program offerings. The first concerns the importance of recognizing a variety of literacies—"home" literacies, school literacy, "mainstream" literacy, first and second language literacies—and to develop teaching practices that utilize an understanding of the complexity of literacy development across language contexts. The second theme involves the meaningful use of language and literacy to improve the quality of one's life. As an approach to teaching, this theme emphasizes the creation of diverse, rich environments in which learners experience oral and written language as part of authentic tasks, and where concern for the cultural and linguistic heritage of the students is evident.

Reading and Writing Option and Reading Teacher Endorsement

This master's program is designed for K-6 and 7-12 teachers. This program is a credentialed program meeting the Colorado Department of Education requirements for the reading teacher endorsement. Therefore, students who obtain a master's degree emphasizing reading and writing are certified to hold positions in public and private schools as special developmental and reading teachers in K–6 or 7–12. This program is also valuable for elementary and secondary teachers who wish to enhance reading and writing instruction in their classrooms.

By placing emphasis on the reading, writing and oral and visual language development of culturally, linguistically and academically diverse student populations, this master's program is at the forefront of the field. Language is approached from a socio-psycholinguistic perspective that emphasizes the learner's construction of meaning rather than the learning of isolated skills.

Importance is placed on using theory, inquiry and personal reflection to inform classroom practice. The program prepares teachers to become decision makers capable of developing learner-centered curricula where each student's reading and writing abilities are assessed to address developmental or special needs.

Curriculum

Course offerings lead to an MA degree in curriculum and instruction with an emphasis in reading and writing, as well as a reading teacher endorsement, at one of two levels: K–6 or 7–12.

Those who have completed University of Colorado Denver's graduate teacher education licensure program must earn an additional 27 semester hours to obtain the MA and endorsement. Those who completed licensure through other means must earn an additional 36 semester hours to obtain the MA and endorsement.

Teachers may add a reading teacher endorsement to an already-earned master's degree in education by taking those courses listed under the chosen endorsement level. (In the state of Colorado, the reading teacher endorsement cannot simply be added to a bachelor's degree.) Electives and core courses are not required for those seeking the endorsement only. Two additional courses must be taken in other areas specified by the Colorado Department of Education. In many cases, previous master's degree courses will satisfy this requirement.

Requirements for Reading and Writing Program (Degree/Endorsement Options)

	ELEMENTARY (K-6)			**SECONDARY (7-12)**		
Course	**MA & CDE Endorsement**	**MA & CDE Endorsement** *(when added to CU Denver's graduate teacher education licensure program)*	**CDE Endorsement Only**	**MA & CDE Endorsement**	**MA & CDE Endorsement** *(when added to CU Denver's graduate teacher education licensure program)*	**CDE Endorsement Only**
Required		Required	Required	Required	Required	
LCRT 5810 - Wksp: Lang Acq & Development	Required	Required	Required	Required	Required	Required
LCRT 5010 - Foundations of Language	Required	Required	Required	Required	Required	Required
LCRT 5710 - Primary Literacy:	Required	Required	Required			

Pre-3rd Grade						
LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12	Required	Required	Required	Required	Required	Required
LCRT 5730 - Language and Literacy Across the Curriculum	Required		Required	Required		Required
Children's literature course, per advisor approval	Select one	Select one	Select one			
LCRT 5201 - Adolescent Literature				Required	Required *(waived if taken as part of English Licensure)*	Required
LCRT 6910 - Seminar and Practicum in Literacy and Language, K-6	Required	Required	Required			
LCRT 6911 - Seminar and Practicum in Literacy and Language, 7-12+				Required	Required	Required
LCRT 5055 - Linking Assessment and Instruction in Language and Literacy	Required	Required	Required	Required	Required	Required
LCRT 6915 - Seminar and Practicum in Literacy	Required	Required		Required	Required	Required

Professional Development						
Core course in Research and Evaluation Methodology - see list below	Select one	5080		Select one	5080	
Interdisciplinary core course - see list below	Select one			Select one		
Graduate-level School of Education and Human Development elective				Select one		
Portfolio	Required	Required		Required	Required	
PLACE Exam	Required	Required	Required	Required	Required	Required
Total Semester Hours	36	27	27	36	27	27

Secondary English Education Option

The master's program in secondary English education is designed to enhance the preparation of middle and high school English/language arts teachers. Students complete course work in language development, assessment and field experiences. With the help of their advisor, they also select specific courses from the English Department or within the School of Education and Human Development that provide a well-rounded repertoire of knowledge and skills to fulfill the needs of an English educator. Special consideration is given to working with diverse ethnic populations.

Program Requirements

To earn a master of arts degree in curriculum and instruction with an emphasis in secondary English education, students must complete the following:

- 30 graduate semester hours in English education
- 6 graduate semester hours of core courses
- performance-based assessments that culminate in a portfolio finalized in the last semester of the program as fulfillment of the MA comprehensive exam requirement

Each student's course plan is developed in conjunction with his/her advisor. Please review www.ucdenver.edu/education/englished for recommended course sequence.

LCRT 5055 - Linking Assessment and Instruction in Language and Literacy Semester Hours: 3
LCRT 5201 - Adolescent Literature Semester Hours: 3
LCRT 5200 - Theory and Methods of English Education Semester Hours: 3
LCRT 5810 - Wksp: Lang Acq & Development Semester Hours: 3
LCRT 5010 - Foundations of Language Semester Hours: 3
LCRT 6911 - Seminar and Practicum in Literacy and Language, 7-12+ Semester Hours: 3
Research and Evaluation Methodology core course (see list below).
Interdisciplinary core course (see list below).
Four electives, per advisor approval, from the English department and/or the School of Education & Human Development. The following are recommended:

LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12 Semester Hours: 3
-OR-
ENGL 5110 - Denver Writing Project Semester Hours: 3

Courses in working with English language learners and in instructional technology may also be helpful. For a technology course, please contact the professor about prerequisite knowledge.
Total: 36 semester hours

Program Requirements--When Added to CU Denver's Graduate Teacher Education Licensure Program

MA in curriculum and instruction with emphasis in secondary English education, when added to CU Denver's graduate teacher education licensure program:

- 18 graduate semester hours
- performance-based assessments that culminate in a portfolio finalized in the last semester of the program as fulfillment of the MA comprehensive exam requirement

Each student's course plan is developed in conjunction with his/her advisor. Please review www.ucdenver.edu/education/englished for recommended course sequence.

FNDS 5050 - Critical Issues in American Education Semester Hours: 3
-OR-
SPED 5300 - Collaborating in Schools and Communities Semester Hours: 3
RSEM 5080 - Research In Schools Semester Hours: 3
Four electives, per advisor approval, from the English Department and/or the School of Education and Human Development. The following are recommended:

LCRT 5720 - Writing: Process, Development, and Teaching Grades 3-12 Semester Hours: 3
-OR-
ENGL 5110 - Denver Writing Project Semester Hours: 3

Courses in working with English language learners and in instructional technology may also be helpful. For a technology course, please contact the professor about prerequisite knowledge.
Total: 18 semester hours

Core Courses

Research and Evaluation Methodology

RSEM 5000 - Orientation to Research and Measurement in Education Semester Hours: 3
RSEM 5050 - Classroom Assessment Semester Hours: 3
RSEM 5080 - Research In Schools Semester Hours: 3
RSEM 5100 - Basic Statistics Semester Hours: 3
RSEM 5120 - Introduction to Research Methods Semester Hours: 3
RSEM 5110 - Introduction to Measurement Semester Hours: 3

Interdisciplinary

EPSY 5100 - Advanced Child Growth and Development Semester Hours: 3
EPSY 5140 - Advanced Adolescent Growth and Development Semester Hours: 3
EPSY 5220 - Adult Learning and Education Semester Hours: 3
EPSY 6200 - Human Development Over the Life Span Semester Hours: 3
FNDS 5050 - Critical Issues in American Education Semester Hours: 3
FNDS 5420 - History and Philosophy of Education: Twentieth Century America Semester Hours: 3
LCRT 5140 - Multicultural Education Semester Hours: 3
LCRT 5150 - Culture of the Classroom Semester Hours: 3
CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn Semester Hours: 3
CLDE 5820 - Techniques in Teaching English as a Second Language Semester Hours: 3

Cumulative Portfolio

The MA portfolio counts as the comprehensive exam for the master's degree. The portfolio is an accumulation of the performance based assessments completed during program courses and reflects on the student's development over the course of the degree program. Reading and writing students must include confirmation of Reading Teacher PLACE exam registration in their portfolios. Information about the PLACE is online at www.place.nesinc.com.

Course Scheduling

During the fall and spring semesters, most university courses are offered in the late afternoon and evening and meet for three hours once a week over a 16-week semester. Some alternative course schedules are available, such as meeting on five Friday-evening/all-day Saturday combinations. In the summer semester, three- to eight-week sessions are offered, and courses may be in the morning, afternoon or evening.

Planning

For practicing full-time teachers, we recommend taking one course each fall and spring semester, and up to two courses each summer. Plan carefully because courses are intended to build upon each other, and some courses are only offered once a year.

Active Status

Students must complete their programs within seven years, maintaining a GPA of 3.0. Students typically take four courses each calendar year. Failure to enroll over three contiguous semesters will result in a requirement to submit readmission materials.

Early and Adolescent Literacy Certificates

The early literacy certificate and adolescent literacy certificate each include three graduate-level courses (for a total of 9 semester hours) and are conveniently offered entirely online. They are specifically designed to help licensed teachers develop the skills necessary to reach student readers. To find out more, please visit www.ucdenver.edu/education/cpe or email cpe@ucdenver.edu.

Emergency Management and Homeland Security Concentration/Graduate Certificate

The graduate concentration in Emergency Management and Homeland Security is available as a concentration within the MPA and MCJ programs, or as a stand-alone certificate for non-degree students. This concentration, which requires 15 credit hours (5 courses) provides advanced education in the management of emergencies, hazards, disasters, and homeland security. For more information, contact Brian Gerber at brian.gerber@ucdenver.edu.

Requirements

Students take two of three required courses as well as three elective courses approved by their advisor. The emergency management and homeland security concentration/certificate allows students to choose electives organized in the following tracks: policy and management, spatial analysis and quantitative assessment, public safety, homeland security and justice or public and environmental health. Students may choose courses in one track to create a more focused concentration or pick from among the tracks to fulfill their elective course requirements.

- GEOG 5230 - Hazard Mitigation and Vulnerability Assessment
- PUAD 5650 - Disaster and Emergency Management Policies
- PUAD 5450 - Law of All-Hazards Management

Total: 15 Hours

The emergency management and homeland security certificate requires the completion of three electives chosen from a preapproved, multidisciplinary list of courses relevant to emergency management. Students may choose electives in one of three tracks: policy and management; spatial analysis, planning and quantitative assessment; or public safety, homeland security and justice.

Environmental Policy, Management and Law Graduate Certificate

Understanding our environment requires an understanding of relationships. In environmental science, it means understanding relationships within ecosystems, and how human behavior affects them. In Environmental Policy, Management, and Law (EPML), it means understanding how the environment is affected by relationships between various entities, including:

* legislatures
* administrative agencies
* courts
* federal, state, and local governments
* government and the nonprofit and private sectors
* government and the public it has been established to serve

The Environmental Policy, Management, and Law (EPML) program provides qualified applicants with just that understanding. Offered by the School of Public Affairs, University of Colorado Denver, the EPML program can be taken as either a stand-alone graduate certification program or as an emphasis area within the school's Master of Public Administration curriculum.

The core of the EPML program requires completion of two of the three required graduate seminars, all taught by full-time core faculty who specialize in environmental affairs. Then students select three elective courses under faculty advisement.

Core Seminars

Students must take the following two courses:

- PUAD 5631 - Seminar in Environmental Politics and Policy
- PUAD 5633 - Seminar in Natural Resource and Environmental Health Law

Pre-approved Electives (partial list)

An additional three electives are required, and must be approved by the Concentration Director.

- CVEN 5393 - Water Resources Development and Management
- CVEN 5401 - Introduction to Environmental Engineering
- CVEN 5402 - Integrated Environmental Modeling
- CVEN 5480 - Hazardous Wastes and Site Remediation
- CHEM 4700 - Environmental Chemistry
- CHEM 5710 - Air Pollution Chemistry
- CHEM 5720 - Atmospheric Sampling and Analysis
- URPL 6250 - Advanced GIS for Planners
- URPL 6649 - Environmental Planning I: Ecology
- URPL 6500 - Enviro. Policy & Regulation
- URPL 6549 - Environmental Impact Assessment
- URPL 6510 - Energy/Natural Res. Planning

- ENVS 5030 - Environmental Geology
- ENVS 5500 - Topics in Environmental Sciences
- ENVS 5730 - Air Quality Modeling and Analysis
- ENVS 6200 - Risk Assessment
- ENVS 6210 - Human Health and Environmental Pollution
- ENVS 6220 - Toxicology
- ENVS 6230 - Environmental Epidemiology
- BIOL 5154 - Conservation Biology
- BIOL 5445 - Applied Environmental Biology
- GEOG 5090 - Environmental Modeling with Geographic Information Systems
- GEOG 5265 - Sustainability in Resources Management
- PUAD 5310 - Policy Formulation & Implementation
- PUAD 5320 - Public Policy Analysis
- PUAD 5410 - Administrative Law
- PUAD 5420 - Law and Public Policy
- PUAD 5440 - Negotiation and Conflict Resolution
- PUAD 5625 - Local Government Management
- PUAD 5650 - Disaster and Emergency Management Policies
- PUAD 5710 - Public Sector Technology

Certificate Requirements

Students must take the following two courses:

- PUAD 5631 - Seminar in Environmental Politics and Policy
- PUAD 5633 - Seminar in Natural Resource and Environmental Health Law

An additional three electives are required, and must be approved by the Concentration Director.

Total: 15 Hours

Environmental Sciences Graduate Certificate

► Graduate School Rules apply to this program.

The graduate-level certificate in environmental sciences has seven options: air quality, ecosystems, environmental health, environmental science education, geospatial analysis, hazardous waste and water quality. Each option comprises four courses and is designed to approach an environmental issue from various disciplines. To earn a certificate, students are required to satisfactorily complete the courses in the option of their interest. These courses may be taken as electives within an MS degree program or through nondegree admission. Students must have the prerequisites for each course and must meet the requirements listed. Contact the option advisor for the particular option of interest before starting. A certificate will be issued upon proof of satisfactory completion of the courses. For an MS degree, students must coordinate the option courses with electives in their program. The listings of courses in each option are in the electives section of the master's program information.

Geographic Information Science Graduate Certificate

► Graduate School Rules apply to this program.

GISci Certificate Advisor: Peter Anthamatten

Office: North Classroom, 5030-B

Telephone: 303-556-4277

E-mail: peter.anthamatten@ucdenver.edu

The intention of this certificate is to provide graduate-level students at CU Denver with the mechanisms for demonstrating capabilities in spatial techniques in the social and/or physical sciences. The focus of this certificate is on a broad array of geospatial techniques, including geographic information systems, remote sensing, cartography and statistics, which give students additional analytical skills for the workplace or graduate school. This certificate is designed for majors in GES as well as other disciplines.

Upon successful completion of the certificate, students will be able to:

- understand basic theoretical underpinnings of spatial analysis
- apply geo-spatial technologies to real-world problems
- have a basic knowledge of how to operate at least three types of software used in spatial analytical applications

Application

Spatial techniques are tools with broad application. Consequently, graduate students in any discipline will be admitted into the program. Non-degree seeking students with a prior bachelor's degree will also be admitted. To apply for non-degree admission, go to Information for Undergraduate Students and click on the Nondegree Students link at top of page. Students may begin the program in any semester or during the summer by making arrangements with the GIS certificate coordinator, and completing and signing the Application for GISci Certificate.

Course Requirements

To obtain the certificate, students must complete four core courses, one elective, and a 1-credit independent study or applied GIS lab, totaling 16 hours. Although the four core courses may be taken in any order, students without any background in the geospatial sciences are advised to begin with GEOG 5080, Introduction to Geographic Information Systems, since this course familiarizes students with many key concepts used in the other classes. The statistics class and GEOG 5080 have prerequisites, including algebra and introductory calculus. Because of the technical nature of the GIS and remote sensing course work, some mathematical experience is desirable prior to beginning the program.

In order to obtain the certificate, students must have a 3.0 GPA in all courses required for the program, and the independent project must demonstrate proficiency in GIS in the student's area of interest. All core courses are offered on an annual or bi-annual basis. Any alterations to the

program MUST be approved by the GISci Coordinator. The certificate will be awarded upon completion of the program.

Prerequisite Course

Note: this course does NOT count as part of the total credits required for the certificate.

- GEOG 2080 - Introduction to Mapping and Map Analysis

Core Courses

- GEOG 5080 - Introduction to GIS
- GEOG 5081 - Cartography and Computer Mapping
- GEOG 5060 - Remote Sensing I: Introduction to Environmental Remote Sensing
  (May also take as GEOL 5060)
- GEOL 5770 - Applied Statistics for the Natural Sciences
- - OR- ENVS 5600 - Applied Statistics for the Natural Sciences
  OR equivalent course approved by the GISci Certificate Coordinator

Total: 12 Hours

Elective (choose two from the following):

- GEOG 5070 - Remote Sensing II: Advanced Remote Sensing
  (May also take as GEOG 5070)
- GEOG 5085 - GIS Applications for the Urban Environment
- GEOG 5090 - Environmental Modeling with Geographic Information Systems
- GEOG 5095 - Deploying GIS Functionality on the Web
- GEOG 5235 - GIS Applications in the Health Sciences
- CVEN 5382 - GIS Spatial Database Development
- CVEN 5385 - GIS Relational Database Systems
  One of these courses may be substituted with an elective approved by the GISci Certificate Coordinator

Total: 6 Hours

Certificate Total: 18 Hours

Geographic Information Systems Graduate Certificate

This certificate is for students who want to get a taste of the geographic information systems (GIS) specialty area before applying for a graduate degree and for professionals who need a working knowledge of GIS. To earn the certificate in GIS, students must complete four of the core GIS classes, equaling 12 semester hours of work. Students can complete this certificate as a master's student or as a nondegree student. Students must already have a baccalaureate degree and must complete any course-specific prerequisites.

Geospatial Information Science Graduate Certificate

Contact: Mike Hinke
Telephone: 303-556-4172
E-mail: michael.hinke@ucdenver.edu

The College of Architecture and Planning offers a certificate in geospatial information science through participating departments. The emphasis of this certificate is on applications of GIS in urban and environmental planning and design fields. The certificate is available to any student earning one of our graduate degrees; to students earning cognate degrees, for example in the School of Public Affairs, College of Engineering and Applied Science or from the Department of Geography; and to nondegree students who have already earned such a degree.

The certificate is currently undergoing revision. Please refer to the College of Architecture and Planning website.

Interpersonal Violence and Health Care Graduate Certificate

The Certificate in Interpersonal Violence and Health Care (CIVHC) fulfills a nationally recognized need to educate and train individuals from a broad range of health disciplines to effectively respond to victims of interpersonal violence. Offered for the first time beginning in spring 2009, CIVHC is a program of the Center on Domestic Violence in CU Denver's School of Public Affairs. It has been developed by the CU Denver's School of Public Affairs in collaboration with local and national advisors representing schools of nursing, medicine and dentistry, as well as knowledgeable health practitioners skilled in meeting the needs of patients experiencing interpersonal violence. CIVHC is the first graduate level program of its kind. As a distance learning program it represents a collaboration within the University of Colorado system—the Downtown Campus, the Anschutz Medical Campus and the Colorado Springs Campus. Its goal is to provide education for health professionals, faculty and students, thereby building proficiency and confidence in interpersonal violence prevention, identification and intervention in Colorado and the nation.

At the completion of this certificate program, participants will have:

- Leadership skills necessary to improve systematic responses to domestic violence in health care settings
- Thorough understanding of the health ramifications of interpersonal violence
- Skill and comfort with screening all patients for domestic violence—victims, offenders and child witnesses
- Ability to effectively assess and treat adults and children engaged in violent relationships
- Ability to build resources to meet the needs of patients including, but not limited to, collaboration with community based providers.

Courses required for completion of the certificate:

- Women and Violence: A Sociological Perspective
- Psychology of Domestic Violence
- Battered Women and the Legal System
- Interpersonal Violence and Health
- Interpersonal Violence, Health Advocacy and Systems Change

Full course descriptions are available online at www.domesticviolence.ucdenver.edu

Local Government Concentration and Graduate Certificate

Local government is the most rapidly growing area of the public sector employment across the country, providing jobs in municipalities, counties, regional authorities, and councils of government.

The Local Government Concentration allows Master of Public Administration students to become well-versed in the forces that shape the agendas of these offices and agencies and gain an understanding of government management and policy making. MPA students who wish to earn a concentration in Local Government must take two of the following courses as part of their electives:

Non-degree students may earn a Local Government Certificate by completing 15 credit hours (5 courses) in topics approved by the Concentration Director.

For more information, contact:

Dr. Allan Wallis, Local Government Concentration Director & Associate Professor
University of Colorado Denver
School of Public Affairs
Phone: (303) 315-2829
Fax: (303) 315 - 2229
E-mail: Allan.Wallis@ucdenver.edu

Certificate Requirements

Students take at least two of the four courses listed below:

- PUAD 5503 - Governmental Budgeting
- PUAD 5625 - Local Government Management
- PUAD 5626 - Local Government Politics and Policy
- PUAD 5628 - Urban Social Problems
  Electives approved by advisor (3) (6-9 semester hours)

Total: 15 Hours

Nonprofit Management Graduate Certificate

The Nonprofit Concentration prepares students to become innovative and critical thinkers in the areas of nonprofit organizational management and public policy. The Nonprofit Concentration's unique design bridges theoretical knowledge with real-world experience. As our students prepare for their careers or advancement in their current positions, they gain insight into the interdependence between the nonprofit, public, and for-profit sectors. The Nonprofit Concentration prides itself in graduating leaders who are capable of spanning the boundaries of these three sectors to asses community needs, navigate the realm of public policy, and strategically and effectively manage organizations that ultimately benefit society.

Certificate Requirements

Students take two required courses as well as electives approved by advisor.

- PUAD 5110 - Seminar in Nonprofit Management
- PUAD 5140 - Nonprofit Financial Management
  Additional electives (3): **Semester Hours:** 9

Total: 15 Hours

Public Relations Graduate Certificate

► Graduate School Rules apply to this program.

Public Relations has been defined as the management function that entails planning, research, publicity, promotion and collaborative decision-making to help any organization's ability to listen to, appreciate and respond appropriately to those persons and groups whose mutually beneficial relationships the organization needs to foster as it strives to achieve its mission and vision. The graduate certificate in public relations is designed to provide students with the principles and theories that guide the work of public relations practitioners in commercial, public and non-profit contexts.

The graduate certificate in public relations is designed for working professionals who already have earned bachelor's degrees but who would like to enhance or upgrade their skills in the area of public relations. Non-degree students who enroll in the MA program following completion of the certificate may transfer up to 12 hours of credits earned for the certificate into credits for the MA degree. The certificate also is designed for students enrolled in a CU Denver master's program, including the Department of Communication's MA program. For such students, the certificate can be completed as part of or in addition to the course work required for the master's degree (recipients of the undergraduate certificate in public relations are ineligible to complete this certificate).

Certificate Requirements

The graduate certificate in public relations requires four courses (12 semester hours):

- COMM 5240 - Organizational Communication
- -OR- COMM 4805 - Graphics
- COMM 5635 - Principles of Public Relations
- COMM 5640 - Advanced Public Relations
- COMM 5665 - Principles of Advertising

Total: 12 Hours

Students may be permitted to take courses other than those listed above to fulfill the requirements for the certificate if those courses fit their professional goals better (COMM 5635, Principles of Public Relations may not be substituted, however). Requests for approval of substitute courses, including an explanation for the substitution, must be made in writing to Hamilton Bean.

Grade and Residency Requirements

A grade of *B* must be earned in each course completed as part of the certificate. All of the credit hours for the certificate must be earned at the University of Colorado Denver.

Application Procedures and Additional Information

Students should apply for the graduate certificate in public relations after the completion of the required courses. To apply, students must complete the certificate application and return it to

Dr. Hamilton Bean in his mailbox in room 102-A of the Plaza Building or mail to Department of Communication; P. O. Box 173364, Campus Box 176; University of Colorado Denver; Denver, CO 80217-3364. The approved certificate is mailed to the student.

Students who are not already enrolled at CU Denver must also complete an Application for Non-Degree Admission prior to registering for courses. The form should be returned to the Office of Admissions in the annex of the CU Building.

Additional information about the graduate certificate in public relations may be obtained from Dr. Hamilton Bean, Department of Communication, Plaza 102-Q, 303-352-3876, Hamilton.Bean@ucdenver.edu.

Sustainable Urban Infrastructure Graduate Certificate

This certificate is for students and working professionals who seek an interdisciplinary curriculum in the broad field of sustainable infrastructure to address complex water, energy, built environment and transportation challenges using engineering and social science strategies. Students must already have a baccalaureate degree.

Teaching English Language Learners Graduate Certificate (CTELL)

► Graduate School Rules apply to this program.

Program Advisor: Hongguang (Ian) Ying, Associate Professor
Office: 1050 Ninth Street Park, Room 100
Telephone: 303-556-6728
E-mail: Hongguang.Ying@ucdenver.edu

Program Description

To meet the increasing needs of individuals seeking advanced training in teaching English as a second language, the English department at CU Denver offers a graduate Certificate in Teaching English Language Learners (CTELL).

The certificate program is designed to build the necessary skills to teach adults English as a second language through focused preparation. It is primarily aimed at native speakers of English who want to teach overseas, but may serve the needs of international students wanting to teach English in their home country or other countries.

Upon successful completion of the program, CTELL participants will be able to:

- Discuss the theoretical basis of second language instruction
- Demonstrate a variety of effective ESL teaching techniques
- Explain, in pedagogically relevant ways, the linguistic structures of the English language

Curriculum

The curriculum consists of 12 semester hours (9 semester hours of required courses, and three semester hours of electives). The required courses must be taken at CU Denver. A GPA of 3.0 or better is required for all graduate courses.

Required Courses

- ENGL 5171 - Language Theory
- ENGL 5651 - Second Language Writing
- ENGL 5601 - Principles and Practices of Second Language Acquisition

Total: 9 Hours

Elective Courses

- ENGL 5093 - Teaching of Writing
  An alternative elective such as a special topic course (i.e., ENGL 5190 - Cross-Cultural Communication) approved by the program advisor.
  An internship approved by the program advisor.

Total: 3 Hours

Total: 12 Hours

Additional Information

LENGTH OF TIME

The course of study will typically last one academic year, including the summer session.

WHEN YOU MAY BEGIN

You may begin in any semester. There is no fixed deadline for application for admission.

PREREQUISITES

All applicants must have a bachelor's degree or the equivalent, with a 3.0 GPA, to be accepted to the program. Graduate students at CU Denver will also be permitted to apply for the certificate while they are concurrently completing another graduate degree. Permission may not be granted to graduate students in the applied linguistics option of the Master of Arts in English program.

Non-native speakers of English are required to submit an official TOEFL (Test of English as a Foreign Language) report showing a score of at least 580. Those who score below 580 but above 525 on the TOEFL may be admitted conditionally to the program. Under these conditions, students will have their English language skills assessed by the faculty of the program immediately after they arrive on campus to determine whether further courses are needed to develop English language proficiency. After assessment, the students may be assigned to full-time language study in an intensive English program, permitted to take graduate-level classes on a conditional basis along with further designated language study or permitted to begin graduate study without further restrictions.

Teaching English to Speakers of Other Languages (TESOL) Graduate Certificate

Linguistically Diverse Education

Requirements for LDE Program

(Degree/Endorsement or Certificates - TESOL, CRUE, TCLD)

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
E-mail: education@ucdenver.edu
Web site: www.ucdenver.edu/education/lde

Faculty

Information about faculty in this program is available at www.ucdenver.edu/education/lde. The faculty of linguistically diverse education (LDE) believe that effective teaching requires an awareness of and the ability to respond to individual differences. LDE faculty also emphasize the importance of teachers as scholars and reflective practitioners. In particular, teachers must understand how linguistic and cultural diversity affect their teaching. Two themes run throughout all program offerings. The first concerns the importance of recognizing a variety of literacies—"home" literacies, school literacy, "mainstream" literacy, first and second language literacies—and to develop teaching practices that utilize an understanding of the complexity of literacy development across language contexts. The second theme involves the meaningful use of language and literacy to improve the quality of one's life. As an approach to teaching, this theme emphasizes the creation of diverse, rich environments in which learners experience oral and written language as part of authentic tasks, and where concern for the cultural and linguistic heritage of the students is evident.

Program Options

The LDE program offers options leading to the following:

- a Master of Arts in Curriculum and Instruction
- the Colorado Endorsement for Culturally and Linguistically Diverse Education
- a Teaching English to Speakers of Other Languages (TESOL) certificate
- a Culturally Responsive Urban Education (CRUE) certificate
- a Teaching for Cultural and Linguistic Diversity (TCLD) certificate

The program is intended for:

- novice teachers who have completed their Colorado teaching credentials in CU Denver's graduate teacher education licensure program and are enrolled in the MA in curriculum and instruction with an emphasis in LDE (see 27 semester-hour option)
- veteran elementary and secondary teachers returning to graduate studies for the master's degree (36 semester hours)

- veteran elementary and secondary teachers returning to acquire Colorado endorsement credentials (24 semester hours)
- individuals interested in teaching English abroad (TESOL: 15 semester hours)
- elementary and secondary teachers who desire preparation in better meeting the needs of culturally diverse learners (CRUE: 9 semester hours)
- veteran elementary and secondary teachers returning to graduate studies for a certificate to aid them in helping their English language learners succeed (TCLD: 9 semester hours)
- individuals interested in teaching adults (MA: 36 semester hours)

The MA is a field-based professional development program involving university faculty and practicing LDE instructors in public school and intensive English settings. Courses, laboratories and practica emphasize scholarly approaches to complex problems of practice and feature interactive, collaborative and practical approaches to working with English language learners.

We advocate a sociocultural approach to issues of language and learning, acknowledging the legitimacy of linguistic and cultural differences and recognizing that academic settings represent important socializing forces in students' lives. Because of this, we emphasize the "whole learner" in our teaching and in teacher education and teacher development, understanding that individuals do not merely add a language to their repertoire of communication but make fundamental identity adjustments as they progress in their studies. For this reason, all our course work, laboratories and practica experiences are field-based, putting our program participants in contact with veteran teachers and English language learners. We draw heavily on recent scholarship in collaborative approaches to school-university partnerships and systemic school change in developing classroom methods and materials, curricula and teacher development experiences.

The MA program also provides a foundation in teaching English in a variety of contexts in the United States and abroad. Teachers who work in LDE programs or in other content areas (such as art, language arts, math, music, science, social studies or technology), but who wish to integrate LDE principles and strategies into their instruction for their English language learners, will find the MA program relevant to their interests and goals.

Course work includes language teaching methodology, language acquisition, linguistic analysis of English, multicultural foundations, assessment, literacy and other areas. This program has been developed as an advanced course of study for practicing teachers or individuals with some teaching experience.

Applicants who are new to teaching, and who wish to teach in U.S. K–12 public school settings, should inquire about the teacher education licensure program. Applicants who are new to teaching, but who do not need a teaching license (certification) because they do not wish to teach in U.S. public schools, may consider the TESOL certificate to gain initial teaching experiences before applying for the MA.

Program Requirements and Courses

To complete the LDE program and earn a master's degree and/or endorsement, or to earn a TESOL certificate, students must complete the appropriate course work as outlined in the table

below.

Requirements for LDE Program (Degree/Endorsement or TESOL Certificate)					
Course	**MA without CDE Endorsement in LDE**	**MA and CDE Endorsement in CLDE**	**CDE Endorsement in CLDE Only**	**MA and CDE Endorsement in CLDE** *(when added to CU Denver's graduate teacher education licensure program)*	**TESOL Certificate**
CLDE 5010 - Foundations of Language, Literacy and Culture	Required	Required	Required	Required	
One course from culture options: CLDE 5140 - Multicultural Education CLDE 5150 - Culture of the Classroom CLDE 5160 - Historical, Legal And Cultural Foundations For The Education Of Immigrant And Language Minority Stdn	Select One	Select One	Select One	Select One	
CLDE 5070 -	Required	Required	Required	Required	Required

Linguistic Analysis of English: Implications for Teaching					
CLDE 5030 - Language & Literacy Acquisition Div Lrn	Required	Required	Required	Required	Required
CLDE 5820 - Techniques in Teaching English as a Second Language	Required	Required	Required	Required	Required
CLDE 5050 - Assessment & Advocacy for Diverse Learners	Required	Required	Required	Required	Required
One course from field-based teaching options: LCRT 5020 - Workshop in Literacy and Language Teaching CLDE 5825 - Methods and Materials of Language Teaching CLDE 5826 - Language Teaching Lab LCRT 5730 - Language and	5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	5826

Literacy Across the Curriculum LCRT 5770 - Effective Literacy Instruction for Second Language Learners					
CLDE 5035 - Language and Literacy: Acquisition, Processes, and Cognition, Part II	Required	Required			
CLDE 6912 - Seminar and Practicum in Literacy and Language, ESL and Bilingual Education	Required	Required	Required	Required	
One course from research and evaluation methodology: RSEM 5050 - Classroom Assessment RSEM 5080 - Research In Schools	Select One	Select One		Select One	
One course from educational psychology: EPSY 5110 - Human Learning	Select One	Select One			

EPSY 5220 - Adult Learning and Education					
Graduate-level University of Colorado elective	Select One	Select One			
Cumulative online portfolio	Required	Required	Required	Required	
LDE PLACE Exam (not required for students beginning Spring 2013 or later)		Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	
Total Semester Hours	36	36	24	27	15

Culturally Responsive Urban Education (CRUE) Certificate Requirements

Those considering the CRUE certificate must complete the following:

CLDE 5170 - Race, Class and Culture in Public Schools Semester Hours: 3

CLDE 5180 - Working with Communities and Families Semester Hours: 3

CLDE 5190 - Culturally Responsive Pedagogy and Practices Semester Hours: 3

Total: 9 Hours

This certificate is only offered as a cohort, through our district partnerships. Additional information about the CRUE certificate can be found at www.cruecenter.org/certificate.php.

Teaching for Cultural and Linguistic Diversity (TCLD) Certificate

The TCLD Certificate (formerly known as Content Instruction for English Learners (CIEL) is a graduate certificate providing a foundation in teaching content to students whose first language is other than English. The program is designed for content-area teachers (math, science, social studies, etc.) who have English language learners in their classes. This certificate is also valuable to content area coaches or administrators who provide support for teachers with English

language learners. The certificate is appropriate for public school and community college personnel.

The certificate totals nine credit hours with the specialty area in linguistically diverse education (LDE). All courses are three graduate credit hours and may be applied directly toward a full master's degree in Curriculum and Instruction with an emphasis in LDE while also fulfilling the requirements toward a Colorado Culturally and Linguistically Diverse Education Endorsement. Courses may also be applied toward the Teaching English to Speakers of Other Languages (TESOL) Certificate. Additional courses and applications are required for these programs.

The certificate may be completed in one year. Those pursuing the TCLD certificate must complete the following:

CLDE 5030 - Language & Literacy Acquisition Div Lrn

CLDE 5820 - Techniques in Teaching English as a Second Language

LCRT 5770 - Effective Literacy Instruction for Second Language Learners

The TCLD certificate is being offered only through our district partnerships.

Cumulative Portfolio of Performance Based Assessments (PBAS)

The portfolio is required for the CLDE endorsement, counts as the comprehensive exam for the master's degree and permits you to document your development over the course of your program. Portfolios are reviewed by LDE faculty members. The portfolio process is reviewed in every class as each of the PBAs is completed in the classes, helping students to update their portfolios throughout the program. For more portfolio guidelines, visit the website at http://www.ucdenver.edu/education, click on "Current Students" and select Linguistically Diverse Education from the "Program specific resources" drop-down menu.

PLACE Exam for Linguistically Diverse Education Endorsement

To add the endorsement to their teaching license, students beginning the program prior to Spring 2013 must pass the PLACE (Program for Licensing Assessments for Colorado Educators) exam for linguistically diverse education, secure and submit the appropriate paperwork from the Colorado Department of Education, and pay fees required for the PLACE and for the endorsement paperwork. Information about PLACE is online at www.place.nesinc.com. Students beginning Spring 2013 or later will be eligible for the Culturally and Linguistically Diverse Education Endorsement and will not be required to pass the PLACE exam to receive the CLDE endorsement.

Course Scheduling

During the fall and spring semesters, most university courses are offered in the late afternoon and evening and meet for three hours once a week over a 16-week semester. Some alternative course schedules are available, such as meeting on five Friday-evening/all-day Saturday combinations. In the summer semester, three-to eight-week sessions are offered, and courses may be in the morning, afternoon or evening.

Planning

For practicing full-time teachers, we recommend taking one course each fall and spring semester and up to two courses each summer. Students may simultaneously complete requirements for the MA and the endorsement for culturally and linguistically diverse education (some courses are offered only once per year.)

Active Status

Students must complete their programs within seven years, maintaining a GPA of 3.0. Students typically take four courses each calendar year. Failure to enroll over three contiguous semesters will result in a requirement to submit readmission materials.

Teaching for Cultural and Linguistic Diversity (TCLD) Certificate

Linguistically Diverse Education

Requirements for LDE Program

(Degree/Endorsement or Certificates - TESOL, CRUE, TCLD)

Office: Lawrence Street Center, 701
Telephone: 303-315-6300
Fax: 303-315-6311
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Faculty

Information about faculty in this program is available at www.ucdenver.edu/education/lde. The faculty of linguistically diverse education (LDE) believe that effective teaching requires an awareness of and the ability to respond to individual differences. LDE faculty also emphasize the importance of teachers as scholars and reflective practitioners. In particular, teachers must understand how linguistic and cultural diversity affect their teaching. Two themes run throughout all program offerings. The first concerns the importance of recognizing a variety of literacies—"home" literacies, school literacy, "mainstream" literacy, first and second language literacies—and to develop teaching practices that utilize an understanding of the complexity of literacy development across language contexts. The second theme involves the meaningful use of language and literacy to improve the quality of one's life. As an approach to teaching, this theme emphasizes the creation of diverse, rich environments in which learners experience oral and written language as part of authentic tasks, and where concern for the cultural and linguistic heritage of the students is evident.

Program Options

The LDE program offers options leading to the following:

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The program is intended for:

- novice teachers who have completed their Colorado teaching credentials in CU Denver's graduate teacher education licensure program and are enrolled in the MA in curriculum and instruction with an emphasis in LDE (see 27 semester-hour option)
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Course work includes language teaching methodology, language acquisition, linguistic analysis of English, multicultural foundations, assessment, literacy and other areas. This program has been developed as an advanced course of study for practicing teachers or individuals with some teaching experience.

Applicants who are new to teaching, and who wish to teach in U.S. K–12 public school settings, should inquire about the teacher education licensure program. Applicants who are new to teaching, but who do not need a teaching license (certification) because they do not wish to teach in U.S. public schools, may consider the TESOL certificate to gain initial teaching experiences before applying for the MA.

Program Requirements and Courses

To complete the LDE program and earn a master's degree and/or endorsement, or to earn a TESOL certificate, students must complete the appropriate course work as outlined in the table below.

Requirements for LDE Program (Degree/Endorsement or TESOL Certificate)					
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CLDE 5070 - Linguistic Analysis of English:	Required	Required	Required	Required	Required

Implications for Teaching					
CLDE 5030 - Language & Literacy Acquisition Div Lrn	Required	Required	Required	Required	Required
CLDE 5820 - Techniques in Teaching English as a Second Language	Required	Required	Required	Required	Required
CLDE 5050 - Assessment & Advocacy for Diverse Learners	Required	Required	Required	Required	Required
One course from field-based teaching options: LCRT 5020 - Workshop in Literacy and Language Teaching CLDE 5825 - Methods and Materials of Language Teaching CLDE 5826 - Language Teaching Lab LCRT 5730 - Language and Literacy Across the Curriculum LCRT 5770 -	5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	Elem: 5825 preferred Sec: 5826 preferred	5826

Effective Literacy Instruction for Second Language Learners					
CLDE 5035 - Language and Literacy: Acquisition, Processes, and Cognition, Part II	Required	Required			
CLDE 6912 - Seminar and Practicum in Literacy and Language, ESL and Bilingual Education	Required	Required	Required	Required	
One course from research and evaluation methodology: RSEM 5050 - Classroom Assessment RSEM 5080 - Research In Schools	Select One	Select One		Select One	
One course from educational psychology: EPSY 5110 - Human Learning EPSY 5220 - Adult Learning	Select One	Select One			

and Education					
Graduate-level University of Colorado elective	Select One	Select One			
Cumulative online portfolio	Required	Required	Required	Required	
LDE PLACE Exam (not required for students beginning Spring 2013 or later)		Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	Only required if beginning prior to spring 2013	
Total Semester Hours	36	36	24	27	15

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Those considering the CRUE certificate must complete the following:

CLDE 5170 - Race, Class and Culture in Public Schools Semester Hours: 3

CLDE 5180 - Working with Communities and Families Semester Hours: 3

CLDE 5190 - Culturally Responsive Pedagogy and Practices Semester Hours: 3

Total: 9 Hours

This certificate is only offered as a cohort, through our district partnerships. Additional information about the CRUE certificate can be found at www.cruecenter.org/certificate.php.

Teaching for Cultural and Linguistic Diversity (TCLD) Certificate

The TCLD Certificate (formerly known as Content Instruction for English Learners (CIEL) is a graduate certificate providing a foundation in teaching content to students whose first language is other than English. The program is designed for content-area teachers (math, science, social studies, etc.) who have English language learners in their classes. This certificate is also valuable to content area coaches or administrators who provide support for teachers with English language learners. The certificate is appropriate for public school and community college personnel.

The certificate totals nine credit hours with the specialty area in linguistically diverse education (LDE). All courses are three graduate credit hours and may be applied directly toward a full master's degree in Curriculum and Instruction with an emphasis in LDE while also fulfilling the requirements toward a Colorado Culturally and Linguistically Diverse Education Endorsement. Courses may also be applied toward the Teaching English to Speakers of Other Languages (TESOL) Certificate. Additional courses and applications are required for these programs.

The certificate may be completed in one year. Those pursuing the TCLD certificate must complete the following:

CLDE 5030 - Language & Literacy Acquisition Div Lrn

CLDE 5820 - Techniques in Teaching English as a Second Language

LCRT 5770 - Effective Literacy Instruction for Second Language Learners

The TCLD certificate is being offered only through our district partnerships.

Cumulative Portfolio of Performance Based Assessments (PBAS)

The portfolio is required for the CLDE endorsement, counts as the comprehensive exam for the master's degree and permits you to document your development over the course of your program. Portfolios are reviewed by LDE faculty members. The portfolio process is reviewed in every class as each of the PBAs is completed in the classes, helping students to update their portfolios throughout the program. For more portfolio guidelines, visit the website at http://www.ucdenver.edu/education, click on "Current Students" and select Linguistically Diverse Education from the "Program specific resources" drop-down menu.

PLACE Exam for Linguistically Diverse Education Endorsement

To add the endorsement to their teaching license, students beginning the program prior to Spring 2013 must pass the PLACE (Program for Licensing Assessments for Colorado Educators) exam for linguistically diverse education, secure and submit the appropriate paperwork from the Colorado Department of Education, and pay fees required for the PLACE and for the endorsement paperwork. Information about PLACE is online at www.place.nesinc.com. Students beginning Spring 2013 or later will be eligible for the Culturally and Linguistically Diverse Education Endorsement and will not be required to pass the PLACE exam to receive the CLDE endorsement.

Course Scheduling

During the fall and spring semesters, most university courses are offered in the late afternoon and evening and meet for three hours once a week over a 16-week semester. Some alternative course schedules are available, such as meeting on five Friday-evening/all-day Saturday combinations. In the summer semester, three-to eight-week sessions are offered, and courses may be in the morning, afternoon or evening.

Planning

For practicing full-time teachers, we recommend taking one course each fall and spring semester and up to two courses each summer. Students may simultaneously complete requirements for the MA and the endorsement for culturally and linguistically diverse education (some courses are offered only once per year.)

Active Status

Students must complete their programs within seven years, maintaining a GPA of 3.0. Students typically take four courses each calendar year. Failure to enroll over three contiguous semesters will result in a requirement to submit readmission materials.

Water Resources Graduate Certificate

This certificate is for graduate students who seek an interdisciplinary curriculum in the field of hydrologic and hydraulic engineering to analyze water-related problems and obtain knowledge pertaining to watershed hydrology, groundwater modeling, urban storm water management, flood mitigation and river mechanics. Students must already have a baccalaureate degree

Women's and Gender Studies Graduate Certificate

► Graduate School Rules apply to this program.

The women's and gender studies certificate is administered through the Women's and Gender Studies program in the College of Liberal Arts and Sciences at the University of Colorado Denver. It is designed to provide members of the CU Denver population and public with specialized knowledge of the history, politics, literature and social practices related to women's and gender concerns. Students must complete 12 credit hours of course work in order to receive the certificate. Acceptance into the certificate program is subject to CU Denver Graduate School Rules.

The WGST certificate is available to any qualified graduate student or non-degree seeking, graduate-level student at CU Denver. Students begin with a required, graduate-level methodology or foundational course before pursuing a combination of WGST-related course work. Upon completion of the certificate, students will have foundational and theoretical knowledge of the major concerns of women's and gender studies.

All prospective students must complete and submit an application to the program. Upon admission to the certificate program, students are eligible for the certificate. All course work must be taken at CU Denver.

Courses

(Please note that some of the following courses may have prerequisites that *must* be met.)

Required Course

Choose one of the following:

- SSCI 6010 - Methods and Theories of Feminism and Gender Studies
- -OR- WGST 6010 - Methods and Theories of Feminism and Gender Studies
- ENGL 5306 - Survey of Feminist Thought
- -OR- HIST 5306 - Survey of Feminist Thought
- -OR- WGST 5306 - Survey of Feminist Thought

Total: 3 Hours

Elective Courses (choose three)

These courses must be explicitly women's and/or gender and/or identity-based courses. They can be taken through any CU Denver department or program with the approval of an advisor. Only one 4000-level elective may be counted toward the certificate. All other course work must be 5000-level or above.

The following is a representative listing of WGST-related courses that may be taken toward the certificate; it is not comprehensive. Please note that some of these courses may be taught sporadically. Students should meet with their advisor to plan their course of study.

- ANTH 5200 - Gender in Cross-Cultural Perspective
- COMM 5020 - Feminist Perspectives on Communication
- COMM 5045 - Female-Male Friendships
- COMM 5265 - Gender and Communication
- CRJU 5553 - Women and Crime
- ENGL 4510 - Whores and Saints: Medieval Women
- -OR- ENGL 5510 - Whores and Saints: Medieval Women
- ENGL 5000 - Studies of Major Authors
  (depending on author being studied; e.g., Virginia Woolf, George Sand, etc.)
- ENGL 5306 - Survey of Feminist Thought
- -OR- HIST 5306 - Survey of Feminist Thought
- -OR- WGST 5306 - Survey of Feminist Thought
- ETST 4555 - International Women's Resistance
- -OR- PSCI 5555 - International Women's Resistance
- ETST 4827 - Women and the Law
- -OR- PSCI 4827 - Women and the Law
- HIST 5303 - Sex and Gender in Modern Britain
- HIST 5307 - History of Sexuality
- HIST 5345 - Gender, Science, and Medicine: 1600 to the Present
- HUMN 5720 - Sexuality, Gender and Their Visual Representation
- -OR- SSCI 5720 - Sexuality, Gender and Their Visual Representation
- PSCI 4215 - Women's Rights, Human Rights: Global Perspectives
- PSCI 4564 - Gender and Politics
- PSCI 5245 - Gender, Globalization and Development
- PUAD 5910 - Women and Violence: A Sociological Perspective
- PUAD 5920 - Psychology of Violence Against Women
- PUAD 5930 - Battered Women and the Legal System
- SOCY 5550 - Seminar: Sociology of the Family
- SSCI 6010 - Methods and Theories of Feminism and Gender Studies
- -OR- WGST 6010 - Methods and Theories of Feminism and Gender Studies
- WGST 5900 - Smart Girl Coaching Training and Practicum

Total: 9 Hours

For more information about this certificate program, contact the Women's and Gender Studies Director, Gillian Silverman, 303-556-4529, or Margaret Woodhull, 303-352-3926.

Requirements

CU Denver Undergraduate Core Curriculum, gtPATHWAYS

View a detailed explanation of the CU Denver Core curriculum.

The following represents the CU Denver Core curriculum as approved by the faculty on the Core Curriculum Oversight Committee (CCOC).

The Core curriculum is a total of 34-38 semester hours compiled in each of the four following areas:

- Intellectual Competencies (9-10 hours)
- Knowledge Areas (19-22 hours)
- Cultural Diversity (3 hours)
- International Perspectives (3 hours)

Courses with a gt-Key designation are approved for the Colorado Department of Higher Education (CDHE) gtPATHWAYS Transfer Program.

CU Denver schools and colleges may have specific requirements within the Core curriculum. Please see the notes at the bottom of the page for details. For help in selecting appropriate Core courses, please see an academic advisor in your school or college.

Intellectual Competencies

English

Both courses required.

- ENGL 1020 - Core Composition I **gt-Key: CO1**
- ENGL 2030 - Core Composition II **gt-Key: CO2**

Mathematics

One course required.

Students in the Business School and the College of Engineering and Applied Science should check the notes at the bottom of the page for specific requirements.

- MATH 1010 - Mathematics for the Liberal Arts **gt-Key: MA1**
- MATH 1070 - Algebra for Social Sciences and Business **gt-Key: MA1**
- MATH 1080 - Polynomial Calculus **gt-Key: MA1**
- MATH 1110 - College Algebra **gt-Key: MA1**
- MATH 1120 - College Trigonometry **gt-Key: MA1**
- MATH 1130 - Precalculus Mathematics **gt-Key: MA1**
- MATH 1401 - Calculus I **gt-Key: MA1**
- MATH 2411 - Calculus II **gt-Key: MA1**

- MATH 2421 - Calculus III **gt-Key: MA1**
- MATH 2830 - Introductory Statistics **gt-Key: MA1**

Total: 9-10 semester hours

Knowledge Areas

Biological and Physical Sciences, Mathematics

Two courses required.

One of the two required courses must have a laboratory. Students in the College of Liberal Arts and Sciences and in the College of Engineering and Applied Science should check the notes at the bottom of the page for specific requirements.

Science Courses with Labs

- ANTH 1303 - Introduction to Biological Anthropology **gt-Key: SC1**
- BIOL 1550 - Basic Biology: Ecology and the Diversity of Life **gt-Key: SC1**
- BIOL 1560 - Basic Biology: From Cells to Organisms **gt-Key: SC1**
- CHEM 1474 - Core Chemistry: Chemistry For the Consumer **gt-Key: SC1**
- ENVS 1042 - Introduction to Environmental Sciences **gt-Key: SC1**
- GEOL 1072 - Physical Geology: Surface Processes **gt-Key: SC1**
- GEOL 1082 - Physical Geology: Internal Processes **gt-Key: SC1**
- PHYS 1052 - General Astronomy I **gt-Key: SC1**

Science Courses with Co-requisite Labs

- BIOL 2051 - General Biology I **gt-Key: SC2**
- BIOL 2071 - General Biology Laboratory I **gt-Key: SC1**
- BIOL 2061 - General Biology II **gt-Key: SC2**
- BIOL 2081 - General Biology Laboratory II **gt-Key: SC1**
- CHEM 2031 - General Chemistry I **gt-Key: SC2**
- CHEM 2038 - General Chemistry Laboratory I **gt-Key: SC1**
- CHEM 2061 - General Chemistry II **gt-Key: SC2**
- CHEM 2068 - General Chemistry Laboratory II **gt-Key: SC1**
- PHYS 2010 - College Physics I **gt-Key: SC2**
- PHYS 2030 - College Physics Lab I **gt-Key: SC1**
- PHYS 2020 - College Physics II **gt-Key: SC2**
- PHYS 2040 - College Physics Lab II **gt-Key: SC1**

Science Courses Without Labs & Mathematics

- GEOG 1202 - Introduction to Physical Geography **gt-Key: SC2**
- PHYS 1100 - Foundations of Physics **gt-Key: SC2**

- PSYC 2220 - Biological Basis of Behavior **gt-Key: SC2**
  MATH - A mathematics course taken to fulfill the biological and physical sciences, mathematics area, must be from the approved mathematics list, excluding the course taken to fulfill the intellectual competencies requirement.

Arts and Humanities

Arts

One course required.

Students in the College of Arts & Media should check the notes at the bottom of the page for specific requirements.

- ARTS 1450 - Visual Culture: Ways of Seeing **gt-Key: AH1**
- FINE 1001 - Introduction to Art **gt-Key: AH1**
- PMUS 1001 - Music Appreciation **gt-Key: AH1**
- THTR 1001 - Introduction to Theatre & Arts in the Community **gt-Key: AH1**

Humanities

One course required.

Students in the College of Arts & Media or humanities majors in the College of Liberal Arts and Sciences should check the notes at the bottom of the page for specific requirements.

- CHIN 1000 - China and the Chinese **gt-Key: AH1**
- ENGL 1601 - Telling Tales: Narrative Art in Literature and Film **gt-Key: AH2**
- ENGL 2600 - Great Works in British and American Literature **gt-Key: AH2**
- ETST 2155 - African American History **gt-Key: HI1**
- FREN 1000 - Introduction to Cultures of the French- Speaking World **gt-Key: AH1**
- GRMN 1000 - Germany and the Germans **gt-Key: AH1**
- HIST 1361 - U.S. History to 1876 **gt-Key: HI1**
- HIST 1362 - U.S. History Since 1876 **gt-Key: HI1**
- HIST 1381 - Paths to the Present **gt-Key: HI1**
- HIST 1400 - Controversies in History
- PHIL 1012 - Introduction to Philosophy: Relationship of the Individual to the World **gt-Key: AH3**
- PHIL 1020 - Introduction to Ethics and Society: The Person and the Community **gt-Key: AH3**
- PHIL 2441 - Logic and Language **gt-Key: AH3**
- RLST 1610 - Introduction to Religious Studies **gt-Key: AH3**
- RLST 2660 - World Religions **gt-Key: AH3**
- SPAN 1000 - Introduction to Cultures of the Spanish Speaking World **gt-Key: AH1**

Behavioral and Social Sciences

Behavioral Sciences

One course required.

Social science majors should check the College of Liberal Arts and Sciences notes at the bottom of the page for specific requirements.

- ANTH 1302 - Introduction to Archaeology **gt-Key: SS3**
- ANTH 2102 - Culture and the Human Experience **gt-Key: SS3**
- COMM 1011 - Fundamentals of Communication **gt-Key: SS3**
- COMM 1021 - Introduction to Media Studies **gt-Key: SS3**
- PSYC 1000 - Introduction to Psychology I **gt-Key: SS3**
- PSYC 1005 - Introduction to Psychology II **gt-Key: SS3**

Social Sciences

One course required.

Students in the Business School, the School of Public Affairs, or behavioral science majors in the College of Liberal Arts and Sciences should check the notes at the bottom of the page for specific requirements.

- ECON 2012 - Principles of Economics: Macroeconomics **gt-Key: SS1**
- ECON 2022 - Principles of Economics: Microeconomics **gt-Key: SS1**
- EDFN 1000 - Democracy & Public Schooling **gt-Key: SS3**
- ENVS 1342 - Environment, Society and Sustainability **gt-Key: SS2**
- ETST 2000 - Introduction to Ethnic Studies **gt-Key: SS3**
- GEOG 1102 - World Regional Geography **gt-Key: SS2**
- GEOG 1602 - Introduction to Urban Studies **gt-Key: SS2**
- GEOG 2202 - Natural Hazards **gt-Key: SS2**
- HBSC 2001 - Understanding Community and Public Health **gt-Key: SS3**
- PSCI 1001 - Introduction to Political Science: The Quest for Freedom and Justice **gt-Key: SS1**
- PSCI 1101 - American Political System **gt-Key: SS1**
- SJUS 2000 - Democratic Participation and Social Justice **gt-Key: SS1**
- SOCY 1001 - Introduction to Sociology **gt-Key: SS3**
- SOCY 2462 - Introduction to Social Psychology **gt-Key: SS3**

Total: 19-22 semester hours

Cultural Diversity

One course required.

Cultural diversity courses are restricted, requiring junior-level standing or the consent of the instructor prior to registration.

- ANTH 3000 - Globalization, Migration and Transnationalism
- ANTH 3142 - Cultural Diversity in the Modern World
- COMM 3271 - Communication and Diversity
- ECON 3100 - Economics of Race and Gender
- EDFN 3000 - Undocumented Mexican Immigration
- EDFN 4000 - Food Justice in City & Schools
- ENGL 3795 - Race and Ethnicity in American Literature
- ENGR 3400 - Technology and Culture
- ETST 3704 - Culture, Racism and Alienation
- ETST 3794 - Ethnic Diversity in American Literature
- HIST 3345 - Immigration and Ethnicity in American History
- HIST 3349 - Social Movements in 20th Century America
- MGMT 4100 - Managing Cultural Diversity
- PHIL 3500 - Ideology and Culture: Racism and Sexism
- PMUS 3100 - US Music: Social & Political Impact
- PSCI 3034 - Race, Gender, Law and Public Policy
- PSCI 3035 - Political Movements: Race and Gender
- PSYC 4485 - Psychology of Cultural Diversity
- RLST 4000 - Religion and Cultural Diversity
- SOCY 3020 - Race and Ethnicity in the U.S.
- THTR 3611 - Drama of Diversity

Total: 3 semester hours

International Perspectives

One course required.

A semester abroad may satisfy this requirement if preapproved and in a country where the language is not the native language of the student.

- ENGL 3798 - International Perspectives in Literature and Film
- ENGR 3600 - International Dimensions of Technology and Culture
- ETST 3110 - Indigenous Studies
- ETST 3272 - Global Media
- FREN 3200 - The Francophone World in the Post-Colonial Era
- GRMN 3200 - Current German Society and Culture
- HIST 3121 - The World at War, 1914-1945
- HIST 4032 - Globalization in World History Since 1945
- INTB 3000 - Global Perspectives

- PSCI 3022 - Introduction to Comparative Politics
- PSCI 3042 - Introduction to International Relations

Total: 3 semester hours

Core Total: 34-38 semester hours

Notes:

gtPATHWAYS Categories Key

Specific Core Requirements, College of Liberal Arts and Sciences

Specific Core Requirements, College of Arts & Media

Specific Core Requirements, Business School

Specific Core Requirements, College of Engineering and Applied Science

Specific Core Requirements, School of Public Affairs

SEHD Degree Programs and Associated State Licenses

School of Education and Human Development Degree Programs and Associated State Licenses

Programs	Approved Degrees	Licenses and Endorsements
Administrative Leadership and Policy Studies	**Master of Arts:** Administrative Leadership and Policy Studies **Educational Specialist (EdS):** Administrative Leadership and Policy Studies	Principal License Administrator License
Counseling	**Master of Arts:** Counseling	**Public School Counselor License:** 0–21 **Encouraged to apply for licensure from the State of Colorado:** Couples and Family Therapy Clinical Mental Health Counseling –Interdisciplinary Clinical Mental Health Counseling – Multicultural
Mathematics and Science (STEM) Education	**Master of Arts:** Curriculum and Instruction	Emphases: Elementary Mathematics or Science Elementary Mathematics/Science Secondary Mathematics or Science
Doctoral Studies in Education	**Doctor of Education (EdD)** in Leadership for Educational Equity **Doctor of Philosophy (PhD)** in Educational Studies and Research	EdD emphases: Instructional Leadership Executive Leadership

Early Childhood Education	**Master of Arts:** Early Childhood Education	Early Childhood Special Education Specialist Birth -8 License Early Childhood Special Education Specialist Birth -8 Added Endorsement
Educational Psychology	**Master of Arts:** Educational Psychology	Emphases: Human Learning Human Development Research & Evaluation Educational Assessment
Graduate and Undergraduate Teacher Licensure	**Master of Arts:** Curriculum and Instruction Educational Psychology Special Education **College of Liberal Arts Degrees:** **Bachelor of Arts** **Bachelor of Science**	**Graduate Teacher Licensure:** Elementary Education Secondary Education: Math, Science, Social Studies, English, Foreign Language Special Education: Generalist–K–12 **Undergraduate Teacher Licensure:** Elementary Education Secondary Education: Math, English, Science, Social Studies, Foreign Language
Information and Learning Technologies	**Master of Arts:** Information and Learning Technologies	Endorsements/emphases: • Adult Learning & Instructional Design • E-Learning Design and Implementation • K-12 Instructional Technology Teacher and Instructional Technology Specialist • School and Teacher Librarian

Linguistically Diverse Education	**Master of Arts:** Curriculum and Instruction	Endorsement/emphasis: • Linguistically Diverse Education
Literacy, Language and Culturally Responsive Teaching	**Master of Arts:** Curriculum and Instruction	Endorsements/emphases: • Reading Teacher: K–6, 7–12 • Secondary English Education
Special Education	**Master of Arts:** Special Education	Special Education Generalist K-12
School Psychology	**Educational Specialist (EdS):** School Psychology	School Psychology Birth - 21