MATHEMATICS - PROBABILITY AND STATISTICS OPTION, BS

Introduction

Please click here (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/mathematical-statistical-sciences/) to see Mathematical and Statistical Sciences department information.

These degree requirements are subject to periodic revision by the academic department, and the College of Liberal Arts and Sciences reserves the right to make exceptions and substitutions as judged necessary in individual cases. Therefore, the College strongly urges students to consult regularly with their major advisor and CLAS advisor to confirm the best plans of study before finalizing them.

Program Delivery

- This is an on-campus program.

Declaring This Major

- Click here (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/#policiestext) to go to information about declaring a major.

General Requirements

To earn a degree, students must satisfy all requirements in each of the three areas below, in addition to their individual major requirements.

- CU Denver General Graduation Requirements (http://catalog.ucdenver.edu/cu-denver/undergraduate/graduation/)
- CU Denver Core Curriculum (http://catalog.ucdenver.edu/cu-denver/undergraduate/graduation-undergraduate-core-requirements/)
- College of Liberal Arts & Sciences Graduation Requirements (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/#graduationrequirementstext)
- Click her (http://catalog.ucdenver.edu/cu-denver/undergraduate/academic-policies-procedures/)e (http://catalog.ucdenver.edu/cu-denver/undergraduate/academic-policies-procedures/) for information about Academic Policies

Program Requirements

1. Students must complete a total of 54 credit hours, including a minimum of 42 MATH credit hours and nine credit hours in ancillary coursework.
2. Students must complete at least 30 upper-division (3000-level and above) credit hours in the major.
3. Students must earn a minimum grade of C- (1.7) in all courses that apply to the major and must achieve a minimum cumulative major GPA of 2.25. Courses taken using P+/P/F or S/U grading cannot apply to major requirements.
4. Students must complete a minimum of 15 upper-division level MATH credit hours with CU Denver faculty.

Program Restrictions, Allowances and Recommendations

1. Students must complete at least 15 of their upper-division level MATH credits with CU Denver faculty.
2. Students may not use any of the following MATH courses to count toward major requirements:

  - MATH 3195 Linear Algebra and Differential Equations
  - MATH 3800 Probability and Statistics for Engineers
  - MATH 4830 Applied Statistics

Code	Title	Hours
Complete the following program requirements:		**54**
Complete one of the following programming options:		*3-4*
MATH 1376	Programming for Data Science	
CSCI 1410 & CSCI 1411	Fundamentals of Computing and Fundamentals of Computing Laboratory	
Complete all of the following required Mathematics courses:		*33*
MATH 1401	Calculus I	
MATH 2411	Calculus II	
MATH 2421	Calculus III	
MATH 3000	Introduction to Abstract Mathematics	
MATH 3191	Applied Linear Algebra	
MATH 3310	Introduction to Real Analysis I	
MATH 3382	Statistical Theory	
MATH 3810	Introduction to Probability	
MATH 4387	Applied Regression Analysis	
MATH 4779 or MATH 6330	Math Clinic Workshop in Statistical Consulting	
Complete one of the following Probability and Statistics courses:		*3*
MATH 4337	Intro to Statistical and Machine Learning	
MATH 4388	Machine Learning Methods	
MATH 4390	Game Theory	
MATH 4792	Probabilistic Modeling	
ECON 4030	Data Analysis with SAS	
Complete two MATH elective courses (at least six credit hours) above the 3000 level, excluding MATH 3041, MATH 3195, MATH 3511, MATH 3800, MATH 4015, and MATH 4830.		*6*
Complete 9 additional credit hours (typically 3 courses), countable towards a major in one of the following subjects, at any level:		*9*
Business (p. 1)		
Biology (p. 2)		
Chemistry (p. 2)		
Computer Science (p. 2)		
Economics (p. 2)		
Geography and Environmental Science (p. 2)		
Health and Behavioral Science (p. 2)		
Physics (p. 2)		
Sociology (p. 2)		

Business

- Accounting, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-

departments/business-school/business-administration/accounting-bs/)

- Entrepreneurship, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/entrepreneurship-bs/)
- Finance, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/finance-bs/)
- Financial Management, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/financial-management-bs/)
- Human Resources Management, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/human-resources-management-bs/)
- Information Systems, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/information-systems-bs/)
- International Business, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/international-business-bs/)
- Management, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/management-bs/)
- Marketing, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/marketing-bs/)
- Risk Management and Insurance, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/risk-management-insurance-bs/)
- Sports Business, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/sports-business-bs/)

Biology

- Biology - Biotechnology Track, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/integrative-biology/biology---biotechnology-track-bs/)
- Biology - Human Biology Track, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/integrative-biology/biology---human-biology-track-bs/)
- Biology - Integrative Biology Track, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/integrative-biology/biology---integrative-biology-track-bs/)
- Biology - Microbiology Track, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/integrative-biology/biology---microbiology-track-bs/)
- Biology - Organisms and Ecosystems Track, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/integrative-biology/biology---organisms-ecosystems-track-bs/)

Chemistry

- Chemistry, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/chemistry/chemistry-bs/)

Computer Science

- Computer Science, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-engineering-design-computing/computer-science-engineering/computer-science-ba/)
- Computer Science, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-engineering-design-computing/computer-science-engineering/computer-science-bs/)

Economics

- Economics, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/economics/economics-ba/)

Geography and Environmental Science

- Geography - Environment, Society and Sustainability Option, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/geography-environmental-sciences/geography-environment-society-sustainability-option-ba/)
- Geography - Environmental Science Option, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/geography-environmental-sciences/geography-environmental-science-option-ba/)
- Geography - Urban Studies and Planning, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/geography-environmental-sciences/geography-urban-studies-planning-ba/)
- Geography, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/geography-environmental-sciences/geography-ba/)

Health and Behavioral Science

- Public Health, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/health-behavioral-sciences/public-health-ba/)
- Public Health, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/health-behavioral-sciences/public-health-bs/)

Physics

- Physics - Pure and Applied Physics Option, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/physics/physics-pure-applied-physics-option-bs/)

Sociology

- Sociology - Gender and Society Concentration, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/sociology/sociology-gender-society-concentration-ba/)

- Sociology, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/sociology/sociology-ba/)

Other areas allowable on a case-by-case basis.

To learn more about the Student Learning Outcomes for this program, please visit our website (https://clas.ucdenver.edu/mathematical-and-statistical-sciences/undergraduate-goals-and-objectives/).

To review the Degree Map for this program, please visit our website (https://www.ucdenver.edu/student/advising/undergraduate/degree-maps/clas/).