Mathematics - Applied Option, BS

Introduction
Please click here 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 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
  
- CU Denver Core Curriculum
  
- College of Liberal Arts & Sciences Graduation Requirements

- Complete three additional courses (typically 9 credits), countable toward major requirements:
  
- Complete two approved MATH electives (at least six credit hours) above the 3000 level, excluding MATH 3041, MATH 3195, MATH 3511, MATH 3800, MATH 4015, and MATH 4830.

Program Requirements

1. Students must complete a minimum of 54 credit hours, including a minimum of 42 MATH credit hours and a minimum of 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. All graded attempts in required and elective courses are calculated in the major GPA. Courses taken using pass/fail 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 3041 Fundamental Mathematics: Algebra, Probability and Data Analysis
   - MATH 3195 Linear Algebra and Differential Equations
   - MATH 3511 Mathematics of Chemistry
   - MATH 3800 Probability and Statistics for Engineers
   - MATH 4830 Applied Statistics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MATH 1376</td>
<td>Programming for Data Science</td>
<td>3-4</td>
</tr>
<tr>
<td>CSCI 1410 &amp; CSCI 1411</td>
<td>Fundamentals of Computing and Fundamentals of Computing Laboratory</td>
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<tr>
<td>MATH 1401</td>
<td>Calculus I</td>
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<td>MATH 2411</td>
<td>Calculus II</td>
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<td>MATH 2421</td>
<td>Calculus III</td>
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<tr>
<td>MATH 3000</td>
<td>Introduction to Abstract Mathematics</td>
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<tr>
<td>MATH 3191</td>
<td>Applied Linear Algebra</td>
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<tr>
<td>MATH 3200</td>
<td>Elementary Differential Equations</td>
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<td>MATH 3382</td>
<td>Statistical Theory</td>
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<tr>
<td>MATH 4310</td>
<td>Introduction to Real Analysis I</td>
<td>1</td>
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<tr>
<td>MATH 4650</td>
<td>Numerical Analysis I</td>
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<tr>
<td>MATH 4733</td>
<td>Partial Differential Equations</td>
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<tr>
<td>MATH 4779</td>
<td>Math Clinic</td>
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Complete three additional courses (typically 9 credits), countable towards a major in one of the following subjects, at any level:

- Business (p.)
- 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.)
- Sociology (p. 2)

Business

- Accounting - BS in Business Administration with Specialization in Information Systems
• 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/)
• 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 with Specialization in Information Systems, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/management-specialization-information-systems-bs/)
• Management, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/management-bs/)
• Marketing with Specialization in Information Systems, BS in Business Administration (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/business-school/business-administration/marketing-specialization-information-systems-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, BS (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/integrative-biology/biology-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-environment-society-sustainability-option-bs/)
• Geography - Environmental Science Option, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/geography-environmental-science-option-bs/)
• Geography - Urban Studies and Planning, BA (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/geography-urban-studies-planning-bs/)

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-bs/)

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/](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/](https://www.ucdenver.edu/student/advising/undergraduate/degree-maps/clas/)).