PROGRAM OVERVIEW

Apart from the specialized mathematical skills that students acquire, the degree also reflects general skills that are valued by many employers. These skills include problem solving, critical thinking, analysis, facility with data, the ability to process quantitative information, and perhaps most important of all, the ability to learn new skills and concepts quickly.

A bachelor's degree in mathematics prepares students for jobs in statistics, actuarial sciences, mathematical modeling, mathematics education, as well as for graduate school leading to a research career in engineering, mathematics or statistics. A strong background in mathematics is also necessary for research in many areas of computer science and social science.

The Mathematics Applied (APM) option provides comprehensive training in applied mathematics and/or statistics through the study of mathematical concepts in the scope of general scientific concepts, principles, and phenomena that, because of their widespread occurrence and application, relate or unify various disciplines.

ACADEMIC ADVISING

The College of Liberal Arts and Sciences (CLAS) supports students to graduation using a shared advising system. CLAS students have two academic advisors with whom they should meet regularly to discuss academic and degree progress: a CLAS Academic Advisor and a major advisor.

For questions related to CU Denver Core Curriculum, CLAS, general graduation requirements, university/college academic policies, or campus resources contact:

CLAS Academic Advising
clas.advising@ucdenver.edu
Visit the CLAS Advising website here
North Classroom (NC) 1030
303-315-7100

For questions related to major requirements, major course prerequisites, or evaluation of transfer coursework in your major contact:

Mathematics Major Advising
CLAS Major Advisor Contact Information
Visit the program website here
Student Commons Building (SCB) 4000
303-315-1700

GENERAL GRADUATION REQUIREMENTS & POLICIES

All CU Denver CLAS students are required to complete the following minimum general graduation requirements to be eligible to apply for graduation:

1. Complete a minimum of 120 credit hours
2. Achieve a minimum 2.0 CU cumulative grade point average (GPA)
3. Complete a minimum of 30 upper-division (3000- to 4000-level) credit hours
4. Complete all CU Denver Core, CLAS, and major requirements
5. Complete a minimum of 30 CLAS credit hours with letter grades at CU Denver

*The following are **maximum** credit hours that can apply toward the minimum 120 hours required for graduation:*

- 16 credit hours Pass/Fail
- 12 credit hours of Independent Study/Directed Research
- 12 credit hours of internship credit
- 8 credit hours of physical education credit

PROGRAM REQUIREMENTS & POLICIES

Students are responsible for meeting with the major advisor to confirm major requirements. In addition to completing all CU Denver Core and CLAS requirements, Students completing the Mathematics Applied Mathematics B.S. Degree are required to complete the following minimum 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 major courses taken at CU Denver 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.
5. Students may not use any of the following MATH courses to count toward major requirements: MATH 3041, MATH 3195, MATH 3511, MATH 3800, MATH 4015, and MATH 4830.

LYNXCONNECT RESOURCES

Are you interested in learning about internship, study abroad, career, and research opportunities for this major? Visit the CU Denver LynxConnect, located in Tivoli Student Union (TV) Suite 339, and browse the LynxConnect website for more information.

Degree Requirements	Credits	Notes
*** Course prerequisites change regularly. Students are responsible for consulting advisors and the class schedule in the student portal for prerequisite information. ***		
CU Denver Core Curriculum Requirements	34 - 40	*CU Denver Core Curriculum Requirements*
CLAS Graduation Requirements		*CLAS Graduation Requirements*
MATH Major Requirements	54 - 55	*30 MATH credit hours must be upper-division*
MATH Required Courses		
MATH 1376 Programming for Data Science **or** CSCI 1410 & 1411 Fundamentals of Computing with Lab*	3-4	***Prerequisite: C- or higher in MATH 1109 or MATH 1110 or MATH 1120 or MATH 1130 or MATH 1401 or MATH 2830 OR entry into the MA30 or MA01 Student Group OR ALEKS PPL score 61-100 (for MATH 1376)** *Corequisite: CSCI 1410/1411*
MATH 1401 Calculus I	4	***Prerequisite: C- or higher in MATH 1109, 1070, or 1110 and MATH 1120; or C- or higher in MATH 1130; or C- or higher in MATH 1401; or entry into the MA01 Student Group OR ALEKS PPL score 76-100.** Course can fulfill CU Denver Core Mathematics*
MATH 2411 Calculus II	4	***Prerequisite: C- or higher in MATH 1401** Course can fulfill CU Denver Core Mathematics*
MATH 2421 Calculus III	4	***Prerequisite: C- or higher in MATH 2411** Course can fulfill CU Denver Core Mathematics*
MATH 3000 Introduction to Abstract Mathematics	3	***Corequisite: MATH 2421 or MATH 3191*
MATH 3191 Applied Linear Algebra	3	***Prerequisite: C- or higher in MATH 1401*
MATH 3200 Elementary Differential Equations	3	***Prerequisite: C- or higher in MATH 2411** *Corequisite: MATH 3191*
MATH 3310 Introduction to Real Analysis I	3	***Prerequisite: C- or higher in MATH 2411 or A- or higher in MATH 1401** *Corequisite: MATH 2411*
MATH 3382 Statistical Theory	3	***Prerequisite: C- or higher in MATH 2411*
MATH 4650 Numerical Analysis I	3	***Prerequisite: C- or higher in MATH 3191 or 3195*
MATH 4733 Partial Differential Equations	3	***Prerequisite: C- or higher in MATH 2421 and either MATH 3191 and 3195, or MATH 3200*
MATH 4779 Math Clinic	3	***Prerequisite: C- or higher in MATH 3191 and MATH 1376 or CSCI 1410/1411 and 6 additional credit hours in upper-division MATH courses*
MATH Major Electives		
Choose **two** approved upper-division (3000- to 4000-level) MATH electives **excluding** MATH 3041, 3195, 3511, 3800, 4015 and 4830	6	***See department for approved list; Check individual courses for prerequisites.*
Required Application Area Electives		
Complete 9 additional credits (typically 3 courses), countable towards a major in one of the following subjects, at any level: Business, Biology, Chemistry, Computer Science, Economics, Geography and Environmental Science, Health and Behavioral Science, Physics, or Sociology. All courses must be in the same subject.	9	***Check individual courses for prerequisites** Consult with major advisor; other areas are allowed on case-by-case basis.*
Estimated General Electives	25 - 32	*General Elective credit hours will vary. Students are highly encouraged to explore and complete additional programs including certificates, minors, double-majors, and dual-degrees. Consult with CLAS Academic Advisor.*
Total Minimum Credit Hours:	120	*30 credit hours must be upper-division*

SAMPLE ACADEMIC PLAN OF STUDY

The following academic plan is a *sample* pathway to completing degree requirements for this major. Students should tailor this plan based on previously completed college coursework (e.g., AP, IB, CLEP, dual/concurrent enrollment, and transfer credit), course availability, and individual preferences related to course load, schedules, or add-on programs such as certificates, minors, double-majors, or dual-degrees.

Year 1 - Fall	CRS
ENGL 1020 – Core Composition I	3
MATH 1401 PE C	4
CU Denver Core Social Science	3
CU Core Behavioral Science / First-Year Seminar	3
Total Credit Hours	**13**

Year 1 - Spring	CRS
ENGL 2030 – Core Composition II	3
MATH 2411 PE C	4
CU Denver Core Arts	3
MATH 1376 PE or CSCI 1410 & CSCI 1411	3-4
Total Credit Hours	**13-14**

Year 2 - Fall	CRS
MATH 2421 PE C	4
MATH 3000 PE	3
CU Denver Core Nat/Phys Science with Lab	4
CU Denver Core Humanities	3
General Elective	3
Total Credit Hours	**17**

Year 2 - Spring	CRS
MATH 3191 PE	3
MATH 3200 PR	3
CU Denver Core International Perspectives	3
General Elective	3
General Elective	3
Total Credit Hours	**15**

Year 3 - Fall	CRS
MATH 3310 PE	3
MATH 4650 PE	3
CU Denver Core Cultural Diversity	3
Application Area Elective	3
General Elective	3
Total Credit Hours	**15**

Year 3 - Spring	CRS
MATH 3382 PE	3
Application Area Elective	3
General Elective	3
General Elective	3
General Elective	4
Total Credit Hours	**16**

Year 4 - Fall	CRS
MATH 4733 PR	3
Application Area Elective	3
Upper-Division MATH Elective	3
General Elective	3
General Elective	4
Total Credit Hours	**16**

Year 4 - Spring	CRS
MATH 4779 PE	3
Upper-Division MATH Elective	3
General Elective	3
General Elective	3
General Elective	3
Total Credit Hours	**15**

[M] *Major Course Available*   [C] *CU Denver Core Course*   [PE] *Prerequisite Enforced*   [PR] *Prerequisite Recommended*