College of Liberal Arts and Sciences
UNIVERSITY OF COLORADO **DENVER**

MATHEMATICS – DATA SCIENCE
Bachelor of Science (B.S.) – Catalog Year Fall 2022

FOR TRANSFER STUDENTS

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.

The Probability and Statistics (STA) option provide training over three complementary and crucial facets of statistics: 1) the mathematical foundations of statistics, 2) classical and modern methods of statistical analysis, including data mining in the context of big data, and 3) consulting and analysis through the use of real data.

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/faculty 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:

Adam Spiegler
math.advising@ucdenver.edu
Visit the department website here
Student Commons Building (SCB) 4000
303-315-1700

For questions about admission requirements, transfer policies, applying, and the transfer process contact:

Office of Admissions
admissions@ucdenver.edu
Visit the Admissions website here
Student Commons Building (SCB) 1005
303-315-2601

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 45 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

The following program requirements are based on degree requirements for the current Catalog year at CU Denver and are subject to change. Students are responsible for completing degree requirements based on the Catalog year for which they are admitted.

Students are responsible for meeting with the major/faculty advisor in the department to confirm major requirements. In addition to completing all CU Denver Core and CLAS requirements, students completing the Mathematics Data Science B.S. Degree are required to complete the following minimum program requirements:

1. Students must complete a total of 54 credit hours, including a minimum of 42 MATH credit hours and 9 credit hours in ancillary (supporting) 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. 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.
5. Students may not use any of the following MATH courses to count toward major requirements: MATH 3041 3195, MATH 3511, MATH 3800, and MATH 4830.

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COURSEWORK THAT CAN BE COMPLETED AT PREVIOUS INSTITUTION

The following is a "bucket" of requirements students can complete prior to transferring to CU Denver, including equivalent Colorado Community College System (CCCS) courses. To determine the equivalencies of courses to be completed at non-CU Denver institutions, students can visit www.transferology.com. It is critical students connect with a CU Denver academic advisor to ensure planned courses will transfer *and* apply to CU Denver degree requirements. All non-CU Denver coursework must be completed with a C- or better to be eligible for transfer.

Students interested in completing an Associate (A.A. or A.S.) Degree or a Colorado Statewide Transfer Articulation Agreement or Degree with Designation (DWD) must work with their community/junior college academic advisor to create an academic plan that accounts for all degree or transfer articulation agreement requirements. Colorado Community College Students may also explore the option to complete Reverse Transfer at CU Denver.

CU Denver Requirements	CU Denver Credits	CCCS Equivalent Courses & Notes	CCCS Credits
CU Denver Core Curriculum Requirements	**34 - 40**		
ENGL 1020 – Core Composition I	3	ENG 1021	
ENGL 2030 – Core Composition II	3	ENG 1022	
Mathematics	3 - 4	MAT 2210 *recommended* or GT-MA1	
Arts	3	GT-AH	
Humanities	3	GT-AH or GT-HI	
Behavioral Sciences	3 - 4	GT-SS	
Social Sciences	3 - 4	GT-SS or GT-HI*****	
Natural/Physical Science with lab	4 - 5	GT-SC1	
Natural/Physical Science without lab or Math	3 - 5	MAT 2420 or GT-SC2 or GT-MA1 *(except the course used for Core Math)* or GT-SC1	
International Perspectives	3	Additional GT-AH, HI, SS***** *(see note below)*	
Cultural Diversity	3	*To be completed at CU Denver. This requirement must be completed with an upper-division course and CCCS courses will not apply.*	
CLAS Graduation Requirements	**15 - 29**		
CLAS Communicative Skills	3	COM 1150 or PHI 1013	
CLAS Second Language	0 - 10	(e.g.) SPA 1012 or ASL 1122 **Students have several options to fulfill this requirement. Please consult a CU Denver CLAS Academic Advisor.**	
CLAS Humanities	3	Any transferrable LIT, HIS, HUM, or PHI course	
CLAS Behavioral Sciences	3 - 4	Any transferrable ANT, COM, or PSY course *(except GT-SC courses)*	
CLAS Social Sciences	3 - 4	Any transferrable ECO, ETH, GEO, POS, or SOC course *(except GT-SC courses)*	
CLAS Natural/Physical Science with lab	3 - 5	GT-SC1 **If you completed only one science course with a lab for the CU Denver Core Curriculum, this course must have an associated lab.**	
MATH Major Courses	**12**		
MATH 1401 Calculus I	4	MAT 2410 *Course can fulfill CU Denver Core Mathematics*	
MATH 2411 Calculus II	4	MAT 2420 *Course can fulfill CU Denver Core Mathematics*	
MATH 2421 Calculus III	4	MAT 2430 *Course can fulfill CU Denver Core Mathematics*	
Minimum Applicable Transfer Credits Recommended:	**60**	*Students completing less than 60 applicable transfer credits will have additional credits to complete at CU Denver. Students needing general elective credits should consult a CU Denver CLAS Academic Advisor.*	

*The applicability of Guaranteed Transfer (GT Pathways) courses to specific CU Denver Core Curriculum requirements requires completion of a block of five courses: two GT-AH courses; one GT-HI course; one GT-SS course; and one additional GT-AH, GT-HI, or GT-SS course.

FOR TRANSFER STUDENTS

SAMPLE PLAN – COURSEWORK TO BE COMPLETED AT CU DENVER

Based on successful completion of 60 applicable transfer credits <u>and</u> the complete "bucket" of requirements outlined above, students would have the following remaining to complete at CU Denver. At CU Denver, students must tailor this plan based on the evaluation of previously completed college coursework (e.g., AP, IB, CLEP, dual/concurrent enrollment, and transfer credit), course availability, individual preferences related to course load, summer term courses, part-time or full-time student status, or add-on programs such as minors or double-majors.

Note: this plan assumes students have completed the CLAS Second Language proficiency requirement. Students must demonstrate second language proficiency through a 2nd semester college-level course equivalent (e.g., SPA 1012 or ASL 1122) with a C- or higher, satisfactory proficiency testing (CU Denver Department of Modern Languages Placement Testing, BYU FLATS, CLEP), or submitting their high school transcript demonstrating completion of a 2nd year (Level II) high school course with a minimum grade of "C-" (1.7) in the 2nd semester of the 2nd year or later. Students may have additional options to fulfill this requirement and should consult a CU Denver CLAS Academic Advisor. **Students who have not fulfilled this requirement must work with a CU Denver CLAS Academic Advisor to modify this plan.**

Year Three

Fall	CRS
MATH 1376 or CSCI 1410 & CSCI 1411	3-4
MATH 3000 [PE]	3
MATH 3191 [PE]	3
CU Denver Core Cultural Diversity	3
General Upper-Division Elective	3
Total Credit Hours	**15-16**

Spring	CRS
MATH 3382 [PR]	3
Upper-Division MATH Elective	3
Upper-Division MATH Elective	3
Application Area Elective	3
General Upper-Division Elective	3
Total Credit Hours	**15**

Year Four

Fall	CRS
MATH 4310 [PE]	3
MATH 4387 [PE]	3
Application Area Elective	3
General Upper-Division Elective	3
General Elective	3
Total Credit Hours	**15**

Spring	CRS
MATH 4779	3
MATH 3376 [PE]	3
Upper-Division MATH Elective	3
Application Area Elective	3
General Upper-Division Elective	3
Total Credit Hours	**15**

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