5 YEAR BS IN MATHEMATICS / MS IN STATISTICS
Information and Plan of Study

Thank you for your interest in our 5 year degree program which leads to a BS in Mathematics and an MS in Statistics. Below you will find information on admissions, key policies and procedures, degree requirements, and an example plan of study. For more information, advising, or to express your interest in the program, please contact the Director of Statistical Programs, Stephanie Santorico, at Stephanie.Santorico@ucdenver.edu. Additional faculty that are great resources include Erin Austin, Joshua French, and Audrey Hendricks.

Admissions: Once a student has progressed beyond three semesters of calculus (through multivariate calculus), linear algebra, Introduction to Abstract Mathematics, and Statistical Theory, they may apply for entry into the 5 year BS in Mathematics / MS in Statistics degree program. A 3.0 grade point average (GPA) is required over all mathematics courses.

To apply, contact the Director of Statistical Programs in order to complete an "Intention to complete 4+1 Bachelor's to Master's Degree form."

Graduate School Policies and Procedures: The following excerpts are from Article II. Section 2.iv. of the Graduate School Policies and Procedures (as approved by Graduate Council April 3, 2013 and modified by Graduate Council February 2018). Students are not formally admitted to the Graduate School until they have earned their undergraduate degree. Students participating in a Bachelor's/Master's option must:

- fulfill all credit requirements of both the graduate and undergraduate programs
- petition to the Graduate Program* allowing this option before enrolling in any graduate level courses, and be advised by both undergraduate and graduate advisors; and
- apply and be admitted to the graduate program in the next regular semester (fall or spring) following the completion of the undergraduate degree.

* Here, the graduate program pertains to the Director of Statistical Programs. Before enrolling in any graduate courses, the student must have been admitted into the 5 year degree program and submitted an "Intention to complete 4+1 Bachelor's to Master's Degree form."

The plan of study form follows along with one example plan.

Plan of Study for B.S. in Mathematics/M.S. in Statistics   Date:_____

Prepared for: _____ Prepared by: _____

Expected Semester of BS Graduation: _____ Expected Semester of MS Graduation: _____

Course	*Semester*	*Grade*
CSCI 1410, 1411 Introduction to Programming		
Math 1401 Calculus I		
Math 2411 Calculus II		
Math 2421 Calculus III		
Math 3000 Introduction to Abstract Math		
Math 3191 Applied Linear Algebra		
Math 3382 Statistical Theory		
Math 4310 Introduction to Real Analysis I		
6 Additional Credits (typically 2 courses) above 3000 excluding 3040, 3511, 3800, 3999, 4012, 4013, 4014, 4830		
Math 5310 Probability		
Math 5320 Introduction to Mathematical Statistics		
Math 5387 Applied Regression Analysis		
MATH 6330 Workshop in Statistical Consulting		
3 Statistical Electives from: • MATH 5394 Experimental Designs • MATH 6376 Statistical Computing • MATH 6380 Stochastic Processes • MATH 6384 Spatial Statistics and Functional Data Analysis • MATH 6388 Advanced Statistical Methods for Research • MATH 7393 Bayesian Statistics • MATH 7384 Mathematical Probability • MATH 7826 Topics in Probability and Statistics • Additional courses with prior approval by the student's advisor and the Director of Statistical Programs.		
2 Additional Electives from: • Any MATH course applicable to a graduate degree in Applied Mathematics. • Courses outside the Department of Mathematical & Statistical Sciences at the 4000 level or above, if prior approval is given by the student's advisor and the Graduate Committee.		
MATH 5950 Master's Thesis or Math 5960 Master's Project		

Additional notes for obtaining the B.S. in Mathematics:

- A C- or better is needed in each class counted towards your major and your grade point average must be at least 2.25 in these MATH classes. You must take at least 15 upper division (3000 or above) MATH credits (5 classes) at CU Denver.
- The semester you graduate, you must:
    - Complete the MFAT Exam and participate in an exit interview. These requirements will be scheduled through the department Administrative Assistant (303-315-1702).
    - Complete a senior survey.
- You must satisfy the requirements of the College of Liberal Arts and Sciences (CLAS). Contact CLAS advising office (303-556-2555) for details.
- To graduate as a Mathematics major, must have a minimum of 30 hours of resident credit (letter grades received at CU Denver). Furthermore, 21 out of the last 30 hours must be taken in CU Denver CLAS courses. Finally, at least 15 upper-division mathematics credits must be taken at CU Denver. For the most current CLAS residency requirements, please visit: http://www.ucdenver.edu/academics/colleges/CLAS/clas-advising
- Students with at least a 3.5 major grade point average, at least 3.2 overall grade point average, and who have done an honors project are eligible to graduate with honors. See an advisor (or the honors advising sheet) for details.

Additionally, students must satisfy the following requirements to obtain the M.S. in Statistics:

- 30 total credit hours of accepted course work:
    - At least 24 hours must be MATH courses numbered 5000 or above.
    - Up to six credit hours may be in courses outside the Department of Mathematical & Statistical Sciences at the 4000 level or above, if approved by the student's academic advisor and by the Director of Statistical Programs.
    - Up to 9 credit hours of coursework may be transferred into the M.S. program. Only courses completed with a grade of B- or better may be considered for transfer credit. Credit cannot be transferred until the student has established a satisfactory record of at least six graduate credits in mathematics or statistics at CU Denver with a minimum GPA of 3.0. All transfer courses must be approved by the Director of Statistical Programs. Courses taken while registered as a non-degree student are considered transfer courses.
- The overall **graduate** grade point average must be 3.0 or higher. Grades below a B- are not accepted (but still contribute to the student's overall GPA). This includes all MATH courses numbered 5000 or above, additional courses with prior approval by the student's advisor and the Director of Statistical Programs, or courses outside the Department of Mathematical & Statistical Sciences at the 4000 level or above, if prior approval is given by the student's advisor and the Graduate Committee.
- All students must take and pass a final oral examination which includes a written report (M.S. non-thesis option) or thesis (M.S. with thesis option).

Additional Notes:

- Students continuing into the PhD program in Applied Mathematics are strongly encouraged to take Math 5718 (Applied Linear Algebra) and either Math 5070 (Applied Analysis) or Math 6131 (Real Analysis)
- The following courses will **NOT** count toward this degree: MATH 3040, MATH 3511, MATH 3800, MATH 3999, MATH 4012- 4014, MATH 4830, MATH 5000-5010, MATH 5012-5015, MATH 5017, MATH 5198, MATH 5250 and MATH 5830.

Example Plan of Study
BS in Mathematics / MS in Statistics

YEAR	FALL	SPRING	N1	N2	N3	N4
1	• MATH 1401: Calculus I • *[4 undergraduate non major courses]*	• MATH 2411: Calculus II • *[4 undergraduate non major courses]*	8	24	0	0
2	• MATH 2421: Calculus III • MATH 3191: Applied Linear Algebra • *[3 undergraduate non major courses]*	• MATH 3000: Introduction to Abstract Mathematics • MATH 3382: Statistical Theory • *[3 undergraduate non major courses]*	13	18	0	0
	Following the Spring semester, contact the Director of Statistical Programs to apply for entry into the 5 year BS/MS Program					
3	• 1 Undergrad MATH elective above 3000 excluding 3040, 3195, 3511, 3800, 4012-4015, 4830 • CSCI 1410/11: Introduction to Programming • MATH 4310: Introduction to Real Analysis 1 • *[2 undergraduate non major courses]*	• 1 Undergrad MATH elective above 3000 excluding 3040, 3195, 3511, 3800, 4012-4015, 4830 • MATH 5387: Applied Regression Analysis • *[3 undergraduate non major courses]*	13	15	3	3
4	• *[2 undergraduate non major courses]* • MATH5310: Probability • *MATH Statistics Elective*	• *[2 undergraduate non major courses]* • MATH 5320: Introduction to Mathematical Statistics • MATH 6330: Workshop in Statistical Consulting	0	12	12	9
5	• *[2 undergraduate non major courses]* • *MATH Statistics Elective* • MATH 5960: Master's Project or MATH 5950: Master's Thesis *GRADUATE FROM BS PROGRAM*	• *MATH Statistics Elective* • MATH *Other Elective* • MATH *Other Elective* *MATRICULATE INTO MS PROGRAM and* *GRADUATE FROM MS PROGRAM*	0	6	15	0
		TOTALS =	34	75	30	12

N1 = number of undergraduate hours applying to major requirements
N2 = number of undergraduate non-major hours
N3 = number of graduate hours
N4 = number of graduate hours that apply to both the BS in Mathematics and the MS in Statistics