

Department of Mathematics and Statistics

Department Head: Mohsen Razzaghi

Associate Director: Mohammad Sepehrifar

Graduate Coordinator: Seongjai Kim

Undergraduate Coordinator: Matt McBride

Associate Undergraduate Coordinator for Advising: Robert Banik

Office: 410 Allen Hall

The Department of Mathematics and Statistics offers a Bachelor of Arts degree and a Bachelor of Science degree. Both degrees are 124 hours. The department also offers undergraduate minors in mathematics and statistics which are described below.

Candidates for the Bachelor of Arts degree are required to complete a minimum of 36 hours of mathematics. Candidates for the Bachelor of Science degree are required to take a minimum of 42 hours of mathematics. Required courses for each degree are listed below. Students must also satisfy the General Education requirements and College Core requirements, including speech, computer literacy and writing requirements.

Mathematics courses below Calculus I (MA 1713), do not count toward a degree in mathematics. Entering freshmen who plan to major in mathematics but do not meet the prerequisites for MA 1713 are encouraged to take the necessary courses during the summer in order to avoid adding one or two semesters to their degree. Otherwise, students who wish to major in mathematics but who do not meet the prerequisites of MA 1713 should join the undeclared major until they are ready to take Calculus I. At that time, they will be assigned an advisor in the Department of Mathematics and Statistics.

For all degree programs, including minors, a student must have an overall C average and a C average in the math classes which count toward the degree. Moreover, students pursuing a B.A. or B.S. degree in mathematics must have at least a GPA of 2.5 in Calculus I-IV, Linear Algebra and Differential Equations (MA 1713, MA 1723, MA 2733, MA 2743, MA 3113 and MA 3253). Students who fail to meet this requirement must withdraw from the B.A. and B.S. degree programs in Mathematics, subject to appeal to the department's undergraduate coordinator.

Regarding graduate study, the Department of Mathematics and Statistics offers a Master of Science in Mathematics, Master of Science in Statistics, and a Doctor of Philosophy in Mathematical Sciences. Major areas of study for the Doctor of Philosophy in Mathematical Sciences include applied and computational mathematics, ordinary and partial differential equations, functional analysis and operator theory, graph theory, geometric combinatorics, topology and statistics. Please see the graduate coordinator for more details.

B.S. in Mathematics

General Education Requirements

English Composition

EN 1103	English Composition I	3
or EN 1104	Expanded English Composition I	
EN 1113	English Composition II	3
or EN 1173	Accelerated Composition II	

Creative Discovery

See A&S Core		3
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Humanities

History - see A&S Core		3
Literature - see A&S Core		3

Social/Behavioral Sciences

See A&S core		6
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Quantitative Reasoning

MA 1713	Calculus I	3
MA 1723	Calculus II	3

Natural Sciences

Choose one of three options:		15-18
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Option 1

PH 2213	Physics I	
PH 2223	Physics II	
PH 2233	Physics III	
CH 1213	Chemistry I	
CH 1223	Chemistry II	

CH 1211	Investigations in Chemistry I
Option 2	
PH 2213	Physics I
PH 2223	Physics II
PH 2233	Physics III
PLUS choose two of the following:	
BIO 1134	Biology I
BIO 1144	Biology II
BIO 3103	Genetics I
Option 3	
BIO 1134	Biology I
BIO 1144	Biology II
BIO 3103	Genetics I
CH 1213	Chemistry I
CH 1223	Chemistry II
CH 1211	Investigations in Chemistry I

College Requirements & Major Core

Foreign Language

Foreign Language I

Foreign Language II

Oral Communication Requirement

CO 1003	Fundamentals of Public Speaking	3
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Major Core

Students should check for prerequisites for all courses and consult their advisor.

MA 2733	Calculus III	3
MA 2743	Calculus IV	3
MA 3053	Foundations of Mathematics	3
MA 3113	Introduction to Linear Algebra	3
MA 3163	Introduction to Modern Algebra	3
MA 3253	Differential Equations I	3
MA 4313	Numerical Analysis I	3
MA 4633	Advanced Calculus I	3
MA 4643	Advanced Calculus II	3
Math Elective (3000+)		3
Math Elective (4000)		3

Writing Requirement

MA 4213	Senior Seminar in Mathematics	3
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Computer Literacy

CSE 1233	Computer Programming with C	3
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Free Electives

Consult advisor	30-40
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Total Hours	124
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(31 hours must be 3000/4000 from A&S)

Thrive in Five

Highly qualified students with a 3.50 GPA or higher on a 4.00 scale in all undergraduate work with a 3.50 GPA or higher on a 4.00 scale in math/stats courses and a minimum of 60 completed hours of undergraduate work may apply for the accelerated BS/MS degree in Mathematics or Statistics. In addition to the admission requirements for a Master's Degree program, the applicant should submit three recommendation letters from our current Graduate faculty in the program. The Department will reimburse the application fees during the first semester of starting the program. For details and specifics, please contact the Associate Undergraduate Coordinator for Advising.

B.A. in Mathematics

General Education Requirements

English Composition

EN 1103	English Composition I	3
or EN 1104	Expanded English Composition I	
EN 1113	English Composition II	3
or EN 1173	Accelerated Composition II	

Creative Discovery

See A&S core		3
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Humanities

History - see A&S Core		3
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Literature - see A&S Core		3
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Social/Behavioral Sciences

See A&S core		6
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Quantitative Reasoning

MA 1713	Calculus I	3
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MA 1723	Calculus II	3
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Natural Sciences

Choose a BIO course

BIO 1134	Biology I	4
or BIO 1144	Biology II	

AND Choose CH sequence or PH sequence

CH 1213	Chemistry I	3
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CH 1223	Chemistry II	3
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CH 1211	Investigations in Chemistry I	1
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OR

PH 2213	Physics I	
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PH 2223	Physics II	
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College Requirements & Major Core

Foreign Language

Foreign Language I		3
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Foreign Language II		3
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Foreign Language III		3
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Additional Humanities

Philosophy - see A&S core		3
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Humanities Electives from at least 2 different areas		9
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Additional Social Sciences Electives

Of the 18 total hours, courses must spread over at least 4 disciplines with a max of one Economics and a max of 2 in each remaining discipline; 6 hours need to be from A&S requirements.		12
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Oral Communication Requirement

CO 1003	Fundamentals of Public Speaking	3
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Major Core

Students should check for prerequisites for all courses and consult their advisor.

MA 2733	Calculus III	3
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MA 2743	Calculus IV	3
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MA 3053	Foundations of Mathematics	3
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MA 3113	Introduction to Linear Algebra	3
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MA 3163	Introduction to Modern Algebra	3
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MA 3253	Differential Equations I	3
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MA 4633	Advanced Calculus I	3
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Math Elective - 3000+		3
Math Elective - 4000		3
Writing Requirement		
MA 4213	Senior Seminar in Mathematics	3
Computer Literacy		
CSE 1233	Computer Programming with C	3
Free Electives		
Consult advisor		17-18
Total Hours		124
(31 hours must be 3000/4000 from A&S)		

Thrive in Five

Highly qualified students with a 3.50 GPA or higher on a 4.00 scale in all undergraduate work with a 3.50 GPA or higher on a 4.00 scale in math/stats courses and a minimum of 60 completed hours of undergraduate work may apply for the accelerated BS/MS degree in Mathematics or Statistics. In addition to the admission requirements for a Master's Degree program, the applicant should submit three recommendation letters from our current Graduate faculty in the program. The Department will reimburse the application fees during the first semester of starting the program. For details and specifics, please contact the Associate Undergraduate Coordinator for Advising.

Math Minor

A minor in mathematics consists of the following courses, all of which must be completed with a grade of C or higher:

MA 1713	Calculus I	3
MA 1723	Calculus II	3
MA 2733	Calculus III	3
MA 2743	Calculus IV	3
MA 3113	Introduction to Linear Algebra	3
MA 3253	Differential Equations I	3

One additional math course at the 3000 level and one additional 4000-level math course

Statistics (ST)

Major Advisor: Associate Professor Mohammad Sepehrifar

Statistics Minor: A minor in statistics consists of ST 3123 Introduction to Statistical Inference/Introduction to Statistical Inference and an additional 15 hours of ST 4000+ coursework.

Courses in statistics are designed to satisfy two objectives. The first objective is to provide graduate training for those students wishing to pursue a career as professional statisticians. Both graduate and undergraduate courses are available for this purpose. The second is to provide minors for students from other disciplines.

Graduate study is offered in the Department of Mathematics and Statistics leading to the degree of Master of Science in Mathematics, Master of Science in Statistics, and a Doctor of Philosophy in Mathematical Sciences. Many applied statistics courses are offered which are suitable for a minor in statistics at the master's or doctoral level. Specific course requirements for the graduate minor in statistics may be obtained from the Graduate Coordinator of the Department of Mathematics and Statistics.

Admission to the master's program in statistics is open to graduates in all disciplines. The program of study is a blend of both statistical theory and statistical methods. In addition, there is ample flexibility in the non-thesis option to allow a graduate student with special interests in an area of statistical application to minor in that particular applied field. The department awards a limited number of teaching assistantships. For further details, consult the Graduate Coordinator of the Department of Mathematics and Statistics.