

BS IN MATHEMATICS

The Bachelor of Science degree in Mathematics requires a minimum of 120 hours of coursework, with a minimum of 38 credits of MATH courses, including those in a specific BS concentration. In addition 26 hours of course work in a specific related area must be included.

BS in Mathematics with a concentration in Pure Mathematics

Prepares students for further study in mathematics at the graduate level, for jobs in service or public sectors where a high level of quantitative skills is prerequisite, particularly in the financial industry, or with further pedagogical training for careers as secondary educators. The concentration provides the foundation for an appreciation of the broad area of modern mathematics namely topology/geometry, algebra and analysis.

BS in Mathematics with a concentration in Applied Mathematics

Prepares students for further study in applied mathematics at the graduate level, for jobs in industrial, service or public sectors where a high level of quantitative skills is prerequisite. Examples of such career path include technical mathematicians, financial analysts, software engineers. The concentration provides the foundation for an understanding of the theoretical and computational principles of applied mathematics with an emphasis on modeling real world phenomena.

BS in Mathematics with a concentration in Statistics

Prepares students for further study in statistics at the graduate level, for jobs in industrial, service or public sectors where a knowledge of statistics is prerequisite. Examples of such career path include business or financial analysts, data scientists, or market researchers. The concentration provides the foundation for understanding of both the theory and applications of statistics, including the application of statistical methodology to real world problems and the proficient use of statistical software.

BS in Mathematics with a concentration in Applied Mathematics with Computer Science

Prepares students for further study in applied mathematics or computer science at the graduate level, for jobs in the industrial, service or public sectors where a high level of quantitative skills is combined with knowledge of computing is prerequisite. Examples of such career path include technical mathematicians, financial analysts, software engineers. The concentration provides foundation for an understanding of the theoretical and computational principles of applied mathematics with emphasis on the coding skills needed to solve real world problems.

BS in Mathematics with a concentration in Actuarial Science

Prepares students to enter the actuarial profession. Actuaries work in finance, business and government and are concerned with the estimation of risk. They make a crucial contribution in the insurance industry. The concentration provides the foundations in mathematics and finance needed to pass the examinations offered by the Society of Actuaries that are the gateway to the profession.

BS in Mathematics with a concentration in Data Science

Prepares student for further study of data science at the graduate level, for jobs business, industry and government that require a thorough understand for the statistical and computational principles required to extract information from data. Examples of career path include data scientist, business or financial analyst, security analyst, or research assistant in various biomedical fields. The concentration provides the foundations for both the computational skills needed to manipulate data and the statistical background needed to analyze it.

For the Bachelor of Science degree in mathematics, a minimum of 38 credits of MATH courses, including those in a specific BS concentration must be completed. In addition 26 hours of course work in a specific related area must be included.

Pure Mathematics Concentration

The following courses must be included:

MATH 1840 Calculus II For Mathematicians, Scientists And Educators or MATH 1860 Single Variable Calculus II
 MATH 1890 Elementary Linear Algebra or MATH 2890 Numerical Methods And Linear Algebra
 MATH 2850 Elementary Multivariable Calculus
 MATH 2190 Foundations of Mathematics or MATH 3190 Introduction To Mathematical Analysis

Pure Mathematics Courses

MATH 2860 Elementary Differential Equations
 MATH 4330 Abstract Algebra I
 MATH 4820 Introduction To Real Analysis I
 MATH 4880 Complex Variables

Select one of the following:

MATH 4300 Linear Algebra I
 MATH 4450 Introduction To Topology I
 MATH 4540 Classical Differential Geometry I

Select one of the following:

MATH 4830 Introduction To Real Analysis II
 MATH 4340 Abstract Algebra II

Two advanced MATH courses for 6 credits at the 3000 or 4000 level approved by the advisor

RELATED COURSES IN BACHELOR OF SCIENCE

The 26 semester hours of related area course work should be chosen according to the interests of the student in view of his or her anticipated career in mathematics. These courses could be in Accounting, Astronomy, Biology, Chemistry, Economics, Environmental Science, Engineering, Finance, Operations Analysis, Philosophy, Physics, Pharmacy and Pharmaceutical Sciences, Medicine and Life Sciences.

Choices include courses numbered 2000 to 4990 for the following departments: ACCT, ASTR, BUAD, BIOE, CHEE, CHEM, CIVE, EBUS, EEES, FINA, GEOL, IBUS, IE, INBT, INBY, ISOM, ME, MIME, MGMT, MKTG, NASC, PHYS, PSLS, and TE; plus BIOL 2150 to 2180, 3000 to 4000; ECON 1150, 1200, 2000 to 4990; EECS 1100 to 4990.

Applied Mathematics Concentration

The following courses must be included:

MATH 1840 Calculus II For Mathematicians, Scientists And Educators or MATH 1860 Single Variable Calculus II

MATH 1890 Elementary Linear Algebra or MATH 2890 Numerical Methods And Linear Algebra
 MATH 2850 Elementary Multivariable Calculus
 MATH 2190 Foundations of Mathematics or MATH 3190 Introduction To Mathematical Analysis

Applied Mathematics Courses:

MATH 3320 Introduction To Abstract Algebra or MATH 4330 Abstract Algebra I
 MATH 2860 Elementary Differential Equations
 MATH 4300 Linear Algebra I or MATH 4350 Applied Linear Algebra
 MATH 4820 Introduction To Real Analysis I or MATH 4880 Complex Variables

Select one of the following two-semester sequences:

MATH 4710 Methods Of Numerical Analysis I & MATH 4720 Methods Of Numerical Analysis II

MATH 4740 Advanced Applied Mathematics I & MATH 4750 Advanced Applied Mathematics II

Select one of the following:

MATH 3610 Statistical Methods I

MATH 4680 Introduction To Theory Of Probability

MATH 4800 Ordinary Differential Equations

MATH 4810 Partial Differential Equations

MATH 4860 Calculus Of Variations And Optimal Control I

One advanced MATH elective course for 3 credits at the 3000 or 4000 level approved by the advisor.

RELATED COURSES IN BACHELOR OF SCIENCE

The 24 semester hours of related area course work should be chosen according to the interests of the student in view of his or her anticipated career in mathematics. These courses could be in Accounting, Astronomy, Biology, Chemistry, Economics, Environmental Science, Engineering, Finance, Operations Analysis, Philosophy, Physics, Pharmacy and Pharmaceutical Sciences, Medicine and Life Sciences.

Choices include courses numbered 2000 to 4990 for the following departments: ACCT, ASTR, BUAD, BIOE, CHEE, CHEM, CIVE, EBUS, EEES, FINA, GEOL, IBUS, IE, INBT, INBY, ISOM, ME, MIME, MGMT, MKTG, NASC, PHYS, PSLs, and TE; plus BIOL 2150 to 2180, 3000 to 4000; ECON 1150, 1200, 2000 to 4990; EECS 1100 to 4990.

Statistics Concentration

The following courses must be included:

MATH 1840 Calculus II For Mathematicians, Scientists And Educators or MATH 1860 Single Variable Calculus II
 MATH 1890 Elementary Linear Algebra or MATH 2890 Numerical Methods And Linear Algebra
 MATH 2850 Elementary Multivariable Calculus
 MATH 2190 Foundations of Mathematics or MATH 3190 Introduction To Mathematical Analysis

Statistics Courses:

MATH 3610 Statistical Methods I

MATH 3620 Statistical Methods II

MATH 4350 Applied Linear Algebra

MATH 4600 Advanced Statistical Methods I

MATH 4610 Applications Of Statistics II

MATH 4680 Introduction To Theory Of Probability

MATH 4690 Introduction To Mathematical Statistics
 MATH 2860 or one advanced MATH elective course for 3 credits at the 3000 or 4000 level approved by the advisor.

RELATED COURSES IN BACHELOR OF SCIENCE

The 24 semester hours of related area course work should be chosen according to the interests of the student in view of his or her anticipated career in mathematics. These courses could be in Accounting, Astronomy, Biology, Chemistry, Economics, Environmental Science, Engineering, Finance, Operations Analysis, Philosophy, Physics, Pharmacy and Pharmaceutical Sciences, Medicine and Life Sciences.

Choices include courses numbered 2000 to 4990 for the following departments: ACCT, ASTR, BUAD, BIOE, CHEE, CHEM, CIVE, EBUS, EEES, FINA, GEOL, IBUS, IE, INBT, INBY, ISOM, ME, MIME, MGMT, MKTG, NASC, PHYS, PSLs, and TE; plus BIOL 2150 to 2180, 3000 to 4000; ECON 1150, 1200, 2000 to 4990; EECS 1100 to 4990.

Mathematics with Computer Science Concentration

The following courses must be included:

MATH 1840 Calculus II For Mathematicians, Scientists And Educators

or MATH 1860 Single Variable Calculus II

MATH 1890 Elementary Linear Algebra or MATH 2890 Numerical Methods And Linear Algebra

MATH 2850 Elementary Multivariable Calculus

MATH 2190 Foundations of Mathematics or MATH 3190 Introduction To Mathematical Analysis

Computer Science Courses:

MATH 2860 Elementary Differential Equations

MATH 4380 Discrete Structures And Analysis Of Algorithms

MATH 4710 Methods Of Numerical Analysis I

MATH 3320 Introduction To Abstract Algebra or MATH 4330 Abstract Algebra I

MATH 4820 Introduction To Real Analysis I or MATH 4880 Complex Variables

Select one of the following:

MATH 4350 Applied Linear Algebra

MATH 4720 Methods Of Numerical Analysis II

Two advanced MATH courses for 6 credits at the 3000 or 4000 level approved by the advisor

The related area courses should include a total of 18 hours in EECS courses from EECS 1100 - EECS 4990. At least two of these courses should be from EECS 2500 or the 3000 or 4000 level as approved by the advisor.

RELATED COURSES IN BACHELOR OF SCIENCE

The 24 semester hours of related area course work should be chosen according to the interests of the student in view of his or her anticipated career in mathematics. These courses could be in Accounting, Astronomy, Biology, Chemistry, Economics, Environmental Science, Engineering, Finance, Operations Analysis, Philosophy, Physics, Pharmacy and Pharmaceutical Sciences, Medicine and Life Sciences.

Choices include courses numbered 2000 to 4990 for the following departments: ACCT, ASTR, BUAD, BIOE, CHEE, CHEM, CIVE, EBUS, EEES, FINA, GEOL, IBUS, IE, INBT, INBY, ISOM, ME, MIME, MGMT, MKTG, NASC,

PHYS, PSLS, and TE; plus BIOL 2150 to 2180, 3000 to 4000; ECON 1150, 1200, 2000 to 4990; EECS 1100 to 4990.

Actuarial Sciences Concentration

The following courses must be included:

MATH 1840 Calculus II For Mathematicians, Scientists And Educators or MATH 1860 Single Variable Calculus II
 MATH 1890 Elementary Linear Algebra or MATH 2890 Numerical Methods And Linear Algebra
 MATH 2850 Elementary Multivariable Calculus
 MATH 2190 Foundations of Mathematics or MATH 3190 Introduction To Mathematical Analysis

Actuarial Science Courses:

MATH 3610 Statistical Methods I
 MATH 3620 Statistical Methods II
 MATH 2860 Elementary Differential Equations
 MATH 4620 Theory Of Interest
 MATH 4680 Introduction To Theory Of Probability
 MATH 4690 Introduction To Mathematical Statistics
 MATH 4760 Actuarial Mathematics I
 MATH 4770 Actuarial Mathematics II

The related area courses should include the following:

ECON 1150 Principles Of Macroeconomics
 ECON 1200 Principles Of Microeconomics
 BUAD 1020 Micro-Computer Applications In Business
 BUAD 2040 Financial Accounting Information
 BUAD 2050 Accounting For Business Decision-Making
 BUAD 3040 Principles Of Financial Management
 FINA 3600 Risk Management
 INFS 3150 Principles Of Structured Computer Programming And Problem Solving

RELATED COURSES IN BACHELOR OF SCIENCE

The 24 semester hours of related area course work should be chosen according to the interests of the student in view of his or her anticipated career in mathematics. These courses could be in Accounting, Astronomy, Biology, Chemistry, Economics, Environmental Science, Engineering, Finance, Operations Analysis, Philosophy, Physics, Pharmacy and Pharmaceutical Sciences, Medicine and Life Sciences.

Choices include courses numbered 2000 to 4990 for the following departments: ACCT, ASTR, BUAD, BIOE, CHEE, CHEM, CIVE, EBUS, EEES, FINA, GEOL, IBUS, IE, INBT, INBY, ISOM, ME, MIME, MGMT, MKTG, NASC, PHYS, PSLS, and TE; plus BIOL 2150 to 2180, 3000 to 4000; ECON 1150, 1200, 2000 to 4990; EECS 1100 to 4990.

Data Science Concentration

The following courses must be included:

MATH 1840 Calculus II For Mathematicians, Scientists And Educators or MATH 1860 Single Variable Calculus II
 MATH 1890 Elementary Linear Algebra or MATH 2890 Numerical Methods And Linear Algebra
 MATH 2850 Elementary Multivariable Calculus
 MATH 2190 Foundations of Mathematics or MATH 3190 Introduction To Mathematical Analysis

Data Science Courses:

MATH 1980 Topics in Mathematics: Intro to Data Science
 MATH 2860 Elementary Differential Equations
 MATH 3610 Statistical Methods I
 MATH 3620 Statistical Methods II
 MATH 4350 Applied Linear Algebra
 MATH 4600 Advanced Statistical Methods I
 MATH 4610 Applications Of Statistics II
 MATH 4640 Statistical Computing
 MATH 4680 Introduction To Theory Of Probability
 MATH 4690 Introduction To Mathematical Statistics
 MATH 4940 Internship

The related area courses should include the following:

PHIL 1010 Introduction to Logic
 EECS 1510 Object Oriented Programming
 EECS 2500 Linear Data Structures
 EECS 2510 Nonlinear Data Structures
 EECS 2520 Discrete Structures
 EECS 4560 Database Structure
 EECS 4590 Algorithms
 EECS 4740 Artificial Intelligence
 EECS 4750 Machine Learning

Related Courses in Bachelor of Science

The 26 semester hours of related area course work should be chosen according to the interests of the student in view of his or her anticipated career in mathematics. These courses could be in Accounting, Astronomy, Biology, Chemistry, Economics, Environmental Science, Engineering, Finance, Operations Analysis, Philosophy, Physics, Pharmacy and Pharmaceutical Sciences, Medicine and Life Sciences.

Choices include courses numbered 2000 to 4990 for the following departments: ACCT, ASTR, BUAD, BIOE, CHEE, CHEM, CIVE, EBUS, EEES, FINA, GEOL, IBUS, IE, INBT, INBY, ISOM, ME, MIME, MGMT, MKTG, NASC, PHYS, PSLS, and TE; plus BIOL 2150 to 2180, 3000 to 4000; ECON 1150, 1200, 2000 to 4990; EECS 1100 to 4990.

BACHELOR OF SCIENCE IN MATHEMATICS

- Pure Mathematics Concentration (p. 3)
- Applied Mathematics Concentration (p. 4)
- Statistics Concentration (p. 6)
- Mathematics With Computer Science Concentration (p. 5)
- Actuarial Sciences Concentration (p. 7)
- Data Science Concentration (p. 7)

Bachelor of Science in Mathematics: Concentration: Pure Mathematics

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term		Hours
NSM 1000	Natural Sciences & Mathematics	2
MATH 1830 or MATH 1850	Calculus I For Mathematicians, Scientists And Educators or Single Variable Calculus I	4

ENGL 1110	College Composition I	3
Natural Sciences Core		3
Natural Science Core Laboratory		1
Social Sciences Core		3
Hours		16

Second Term

MATH 1840	Calculus II For Mathematicians, Scientists or MATH 1860 And Educators or Single Variable Calculus II	4
ENGL 1130	College Composition II: Academic Disciplines And Discourse	3
Natural Sciences Core		3
Social Sciences Core		3
Diversity of US		3
Hours		16

Third Term

MATH 2850	Elementary Multivariable Calculus	4
MATH 3190	Introduction To Mathematical Analysis or MATH 2190 or Foundations of Mathematics	3
Non-US Diversity		3
Arts/Humanities Core		3
NSM Science Elective		3
Hours		16

Fourth Term

MATH 3320	Introduction To Abstract Algebra ¹	3
MATH 2860	Elementary Differential Equations	3
NSM Science Elective		3
Arts/Humanities Core		3
Related Field		3
Hours		15

Fifth Term

MATH 1890	Elementary Linear Algebra or MATH 2890 or Numerical Methods And Linear Algebra	3
MATH 4330	Abstract Algebra I	3
Elementary Foreign Language I		4
Elective		3
Related Elective		3
Hours		16

Sixth Term

MATH 4880	Complex Variables	3
MATH 4340	Abstract Algebra II or MATH 4830 or Introduction To Real Analysis II	3
Related Electives		6
Writing Across the Curriculum (WAC)		3
Hours		15

Seventh Term

MATH 4820	Introduction To Real Analysis I	3
Select one of the following:		3
MATH 4450	Introduction To Topology I	

MATH 4300	Linear Algebra I	
MATH 4540	Classical Differential Geometry I	
Advanced Math Elective		3
Related Electives		6
Hours		15

Eighth Term

Elective		3
Advanced Math Elective		3
Related Electives		9
Hours		15
Total Hours		124

¹ Recommended 3000/4000 elective

Bachelor of Science in Mathematics: Concentration: Applied Mathematics

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term		Hours
NSM 1000	Natural Sciences & Mathematics	2
MATH 1830	Calculus I For Mathematicians, Scientists or MATH 1850 And Educators or Single Variable Calculus I	4
ENGL 1110	College Composition I	3
Natural Sciences Core		4
Natural Sciences Laboratory		1
Hours		14

Second Term

MATH 1840	Calculus II For Mathematicians, Scientists or MATH 1860 And Educators or Single Variable Calculus II	4
ENGL 1130	College Composition II: Academic Disciplines And Discourse	3
Natural Sciences Core		4
Social Sciences Core		3
Diversity of US		3
Hours		17

Third Term

MATH 2850	Elementary Multivariable Calculus	4
MATH 3190	Introduction To Mathematical Analysis or MATH 2190 or Foundations of Mathematics	3
Non-US Diversity		3
Arts/Humanities Core		3
NSM Science Elective		3
Hours		16

Fourth Term

MATH 2860	Elementary Differential Equations	3
MATH 3320	Introduction To Abstract Algebra (or Related Field or Elective) ¹	3

MATH 1890	Elementary Linear Algebra	3
or MATH 2890	or Numerical Methods And Linear Algebra	

Arts/Humanities Core	3
Related Field or Elective	3
Hours	15

Fifth Term

MATH 4710	Methods Of Numerical Analysis I	3
or MATH 4740	or Advanced Applied Mathematics I	

MATH 4330	Abstract Algebra I (or Related Field or Elective)	3
-----------	---	---

NSM Science Elective	4
Related Field or Elective	3

Hours	13
--------------	-----------

Sixth Term

MATH 4720	Methods Of Numerical Analysis II	3
or MATH 4750	or Advanced Applied Mathematics II	

MATH 4880	Complex Variables	3
or MATH 4820	or Introduction To Real Analysis I	

Social Sciences Core	3
NSM Science Elective	3

Writing Across the Curriculum (WAC)	3
-------------------------------------	---

Hours	15
--------------	-----------

Seventh Term

MATH 4820	Introduction To Real Analysis I (or Related Field or Elective)	3
or MATH 4880	or Complex Variables	

Select one of the following:	3
------------------------------	---

MATH 3610	Statistical Methods I	
-----------	-----------------------	--

MATH 4680	Introduction To Theory Of Probability	
-----------	---------------------------------------	--

MATH 4800	Ordinary Differential Equations	
-----------	---------------------------------	--

MATH 4810	Partial Differential Equations	
-----------	--------------------------------	--

MATH 4860	Calculus Of Variations And Optimal Control I	
-----------	--	--

MATH 4350	Applied Linear Algebra	3
or MATH 4300	or Linear Algebra I	

Related Field or Elective	3
---------------------------	---

Related Field or Elective	3
---------------------------	---

Hours	15
--------------	-----------

Eighth Term

MATH 4300	Linear Algebra I (or Related Field or Elective)	3
or MATH 4350	or Applied Linear Algebra	

Math Elective 3000-4000 Level	3
-------------------------------	---

Related Field or Elective	3
---------------------------	---

Related Field or Elective	3
---------------------------	---

Related Field or Elective	3
---------------------------	---

Hours	15
--------------	-----------

Total Hours	120
--------------------	------------

¹ May take MATH 4330 instead in fall semester.

Bachelor of Science in Mathematics: Concentration: Computer Science

Below is a sample program of study. Consult your degree audit for your program requirements.

First Term **Hours**

NSM 1000	Natural Sciences & Mathematics	2
----------	--------------------------------	---

MATH 1830	Calculus I For Mathematicians, Scientists	4
or MATH 1850	And Educators	
	or Single Variable Calculus I	

ENGL 1110	College Composition I	3
-----------	-----------------------	---

Natural Science Core	4
----------------------	---

Natural Science Core Laboratory	1
---------------------------------	---

Hours	14
--------------	-----------

Second Term

MATH 1840	Calculus II For Mathematicians, Scientists	4
or MATH 1860	And Educators	
	or Single Variable Calculus II	

ENGL 1130	College Composition II: Academic Disciplines And Discourse	3
-----------	--	---

Natural Science Core	4
----------------------	---

Social Science Core	3
---------------------	---

Diversity of US	3
-----------------	---

Hours	17
--------------	-----------

Third Term

MATH 2850	Elementary Multivariable Calculus	4
-----------	-----------------------------------	---

MATH 3190	Introduction To Mathematical Analysis	3
or MATH 2190	or Foundations of Mathematics	

Non-US Diversity	3
------------------	---

NSM Science Elective	3
----------------------	---

Arts/Humanities Core	3
----------------------	---

Hours	16
--------------	-----------

Fourth Term

MATH 3320	Introduction To Abstract Algebra (or	3
or MATH 4330	Related Field or Elective)	
	or Abstract Algebra I	

MATH 2860	Elementary Differential Equations	3
-----------	-----------------------------------	---

MATH 1890	Elementary Linear Algebra	3
or MATH 2890	or Numerical Methods And Linear Algebra	

Arts/Humanities Core	3
----------------------	---

EECS elective	3
---------------	---

Hours	15
--------------	-----------

Fifth Term

MATH 4710	Methods Of Numerical Analysis I	3
-----------	---------------------------------	---

MATH 4330	Abstract Algebra I (or Related Field or	3
or MATH 3320	Elective)	
	or Introduction To Abstract Algebra	

NSM Science Elective	3
EECS elective	3
Hours	12
Sixth Term	
MATH 4720 Methods Of Numerical Analysis II or MATH 4350 or Applied Linear Algebra	3
MATH 4880 Complex Variables (or Related Field or or MATH 4820 Elective) or Introduction To Real Analysis I	3
Social Sciences Core	3
EECS elective	3
Writing Across the Curriculum (WAC)	3
Hours	15
Seventh Term	
MATH 4380 Discrete Structures And Analysis Of Algorithms	3
EECS 2500 Linear Data Structures (or EECS 3000- 4000 level)	4
MATH 4820 Introduction To Real Analysis I (or Math or MATH 4880 Elective 3000-4000 Level) or Complex Variables	3
EECS elective	3
NSM Science Elective	3
Hours	16
Eighth Term	
Math Elective 3000-4000 Level	3
EECS 2500 Linear Data Structures (or EECS 3000-4000 level course)	3
Related Field or Elective	3
Related Field or Elective	3
Related Field or Elective	3
Hours	15
Total Hours	120

Bachelor of Science in Mathematics: Concentration: Statistics

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term	Hours
NSM 1000 Natural Sciences & Mathematics	2
MATH 1830 Calculus I For Mathematicians, Scientists or MATH 1850 And Educators or Single Variable Calculus I	4
ENGL 1110 College Composition I	3
Natural Sciences Core	4
Natural Sciences Laboratory	1
Hours	14

Second Term	
MATH 1840 Calculus II For Mathematicians, Scientists or MATH 1860 And Educators or Single Variable Calculus II	4
ENGL 1130 College Composition II: Academic Disciplines And Discourse	3
Natural Sciences Core	4
Social Science Core	3
Diversity of US	3
Hours	17

Third Term	
MATH 2850 Elementary Multivariable Calculus	4
MATH 3190 Introduction To Mathematical Analysis or MATH 2190 or Foundations of Mathematics	3
MATH 3610 Statistical Methods I	3
Non-US Diversity	3
NSM Science Elective	3
Hours	16

Fourth Term	
MATH 1890 Elementary Linear Algebra or MATH 2890 or Numerical Methods And Linear Algebra	3
MATH 3620 Statistical Methods II	3
Arts/Humanities Core	3
Social Sciences Core	3
NSM Science Elective	4
Hours	16

Fifth Term	
MATH 4680 Introduction To Theory Of Probability	3
NSM Science Elective	3
Arts/Humanities Core	3
Related Field or Elective	3
Related Field or Elective	3
Hours	15

Sixth Term	
MATH 4690 Introduction To Mathematical Statistics	3
Writing Across the Curriculum (WAC)	3
Related Field or Elective	3
Related Field or Elective	3
Related Field or Elective	3
Hours	15

Seventh Term	
MATH 4600 Advanced Statistical Methods I	3
Math Elective 3000-4000 Level	3
Related Field or Elective	3
Related Field or Elective	3
Related Field or Elective	3
Hours	15

Eighth Term	
MATH 4350 Applied Linear Algebra	3

MATH 4610	Applications Of Statistics II	3
Related Field or Elective		3
Related Field or Elective		3
Hours		12
Total Hours		120

Bachelor of Science in Mathematics: Concentration: Actuarial Science

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term		Hours
NSM 1000	Natural Sciences & Mathematics	2
MATH 1840 or MATH 1860	Calculus II For Mathematicians, Scientists And Educators ¹ or Single Variable Calculus II	4
ENGL 1110	College Composition I	3
ECON 1150	Principles Of Macroeconomics	3
Hours		12

Second Term		Hours
MATH 2850	Elementary Multivariable Calculus	4
MATH 1890 or MATH 2890	Elementary Linear Algebra or Numerical Methods And Linear Algebra	3
ENGL 1130	College Composition II: Academic Disciplines And Discourse	3
ECON 1200	Principles Of Microeconomics	3
BUAD 1020	Micro-Computer Applications In Business	3
Hours		16

Third Term		Hours
MATH 4680	Introduction To Theory Of Probability	3
MATH 3190 or MATH 2190	Introduction To Mathematical Analysis or Foundations of Mathematics	3
BUAD 2040	Financial Accounting Information	3
Natural Science Core		4
Natural Science Core Laboratory		1
Arts/Humanities Core		3
Hours		17

Fourth Term		Hours
MATH 4690	Introduction To Mathematical Statistics	3
MATH 4620	Theory Of Interest (For actuarial FM exam)	3
Arts/Humanities Core		3
Natural Science Core		3
Related Field or Elective		3
Hours		15

Fifth Term		Hours
MATH 3610	Statistical Methods I	3
MATH 2860	Elementary Differential Equations	3
BUAD 2050	Accounting For Business Decision-Making	3

Social Science Core	3
NSM Science Elective	3
Hours	15

Sixth Term		Hours
MATH 3620	Statistical Methods II	3
BUAD 3040	Principles Of Financial Management	3
Writing Across the Curriculum (WAC)		3
Diversity of US		3
NSM Science Elective		3
Hours		15

Seventh Term		Hours
MATH 4760	Actuarial Mathematics I	3
FINA 3600	Risk Management	3
Non-US Diversity		3
Related Field or Elective		3
NSM Science Elective		3
Hours		15

Eighth Term		Hours
MATH 4770	Actuarial Mathematics II	3
INFS 3150	Principles Of Structured Computer Programming And Problem Solving	3
Related Field or Elective		9
Hours		15
Total Hours		120

¹ Actuarial Science students need to start in Calculus II or may take MATH 2850 in the summer.

Bachelor of Science in Mathematics: Concentration: Data Science

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term		Hours
NSM 1000	Natural Sciences & Mathematics	2
MATH 1830 or MATH 1850	Calculus I For Mathematicians, Scientists And Educators or Single Variable Calculus I	4
ENGL 1110	College Composition I	3
PHIL 1010	Introduction To Logic	3
Natural Sciences Core		4
Natural Science Core Laboratory		1
Hours		17

Second Term		Hours
MATH 1840 or MATH 1860	Calculus II For Mathematicians, Scientists And Educators or Single Variable Calculus II	4
MATH 1980	Topics In Mathematics (Intro to Data Science)	1

EECS 1510	Introduction To Object Oriented Programming	3
ENGL 1130	College Composition II: Academic Disciplines And Discourse	3
Diversity of US		3
Hours		14
Third Term		
MATH 1890	Elementary Linear Algebra	3
MATH 2850	Elementary Multivariable Calculus	4
MATH 3610	Statistical Methods I	3
EECS 2500	Linear Data Structures	3
Non-US Diversity		3
Hours		16
Fourth Term		
MATH 2190	Foundations of Mathematics	3
MATH 2860	Elementary Differential Equations	3
MATH 3620	Statistical Methods II	3
EECS 2510	Non-Linear Data Structures	3
EECS 2520	Discrete Structures	3
Hours		15
Fifth Term		
MATH 4680	Introduction To Theory Of Probability	3
MATH 4640	Statistical Computing	3
EECS 4560	Database Management Systems	3
NSM Science Elective		4
Arts/Humanities Core		3
Hours		16
Sixth Term		
MATH 4350	Applied Linear Algebra	3
MATH 4690	Introduction To Mathematical Statistics	3
Social Science Core		3
NSM Science Elective		4
Arts/Humanities Core		3
Hours		16
Seventh Term		
MATH 4600	Advanced Statistical Methods I	3
EECS 4750	Machine Learning	3
EECS 4590	Algorithms	3
EECS 4740	Artificial Intelligence	3
Social Science Core		3
Hours		15
Eighth Term		
MATH 4610	Applications Of Statistics II	3
EECS Elective		3
MATH 4940	Internship in the Mathematical Sciences	3
Elective		3
Elective (WAC)		3
Hours		15
Total Hours		124

¹ Recommended 3000/4000 elective

Students will produce and judge the validity of rigorous mathematical arguments.
 Students will explain and illustrate mathematical ideas and arguments.
 Students will read and construct mathematical proofs.
 Students will construct proofs and/or derivations of mathematical statements.