

# MATHEMATICS MAJOR: CONCENTRATION IN STATISTICS AND MODELING

## Admission Requirements for the Mathematics Major

Rigorous high school coursework with above-average grades in mathematics and/or computer science courses.

## Requirements for a Major in Mathematics

Students must complete a core of six mathematics courses and one computer science class and in addition select one of three concentrations.

Code	Title	Credits
<b>Core Courses</b>		<b>(25 credits)</b>
MA-200	Calculus I	4
MA-201	Calculus II	4
MA-240	Theory of Proof	4
MA-260	Linear Algebra	3
MA-310	Calculus III	4
MA-470	Capstone Experience	3
<i>Ancillary Course</i>		
CS-135	Programming for Non-CS Majors	3
<b>Total Credits</b>		<b>25</b>

MA-200, MA-201 and MA-240 must be completed with grades of at least C- by the end of the sophomore year. A student may only retake any of these courses at most once to increase a grade below C-; and may retake at most two of these courses to increase a grade below C-.

## Requirements for the Concentration in Statistics and Modeling

Code	Title	Credits
CS-265	Database Applications	3
MA-302	Probability and Statistics	3
MA-303	Mathematical Modeling	3
MA-304	Data Analysis	4
MA-327	Combinatorics and Graph Theory	3
MA-380	Probability	3
MA-410	Real Analysis	3
<b>Total Credits</b>		<b>22</b>

## Department of Mathematics: Mathematics Major Concentration in Statistics and Modeling Sample Timeline for Completion of Degree

<b>Year One</b>		
<b>Semester One</b>		<b>Credits</b>
MA-200	Calculus I	4
CS-135	Programming for Non-CS Majors (QR)	3
EN-101	College Writing I	3
LASC	First-Year Seminar (FYS)	3
LASC	LASC Elective (CA)	3
<b>Credits</b>		<b>16</b>
<b>Semester Two</b>		
MA-201	Calculus II	4

MA-240	Theory of Proof	4
EN-102	College Writing II	3
LASC	LASC Elective (CON)	3
LASC	LASC Elective (USW)	3
<b>Credits</b>		<b>17</b>

### Year Two

#### Semester Three

MA-260	Linear Algebra	3
MA-302	Probability and Statistics	3
MA-310	Calculus III	4
CS-265	Database Applications	3
LASC	LASC Elective (NSP)	3
<b>Credits</b>		<b>16</b>

#### Semester Four

MA-304	Data Analysis	4
LASC	LASC Elective (NSP LAB)	4
SELECT	General Elective	3
SELECT	General Elective	3
<b>Credits</b>		<b>14</b>

### Year Three

#### Semester Five

MA-380	Probability	3
LASC	LASC Elective (GP)	3
LASC	LASC Elective (ICW)	3
SELECT	General Elective	3
SELECT	General Elective	3
<b>Credits</b>		<b>15</b>

#### Semester Six

MA-303	Mathematical Modeling	3
MA-327	Combinatorics and Graph Theory	3
LASC	LASC Elective (TLC)	3
LASC	LASC Elective (HBS)	3
SELECT	General Elective	3
<b>Credits</b>		<b>15</b>

### Year Four

#### Semester Seven

MA-410	Real Analysis	3
MA-470	Capstone Experience	3
LASC	LASC Elective (DIV)	3
SELECT	General Elective	3
SELECT	General Elective	3
<b>Credits</b>		<b>15</b>

#### Semester Eight

SELECT	General Elective	3
SELECT	General Elective	3
SELECT	General Elective	3
SELECT	General Elective	3
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>120</b>

Students are required to meet with their academic advisor to review their courses for the upcoming semester. A minimum of 120 credits is required for graduation. First-year and transfer students with 45 or fewer

credits at the time of admission shall complete two academic programs (a major/major or major/minor) to qualify for graduation. For more information, please view the MajorPlus section of this catalog.