## College of Science - Mathematics, BS with Concentration in Mathematical Statistics

**Catalog Year:** 2020-2021

### Mason Core Requirements: 27 credits

**Course Information**

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<tr>
<th>Requirement</th>
<th>Course</th>
<th>Credits</th>
<th>Earned</th>
<th>Needed</th>
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<tr>
<td>Written Communication</td>
<td>ENGH 101 (100)</td>
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<tr>
<td>Oral Communication</td>
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<tr>
<td>*Quantitative Reasoning</td>
<td>*Satisfied by Major Requirements</td>
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<tr>
<td>*Information Technology</td>
<td>*Satisfied by Major Requirements (CS 112)</td>
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<tr>
<td>Global Understanding</td>
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<td>Literature</td>
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<tr>
<td>*Natural Science</td>
<td>*Satisfied by Major Requirements</td>
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<tr>
<td>Arts</td>
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<tr>
<td>Social &amp; Behavioral Sciences</td>
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<td>Western Civilization/World History</td>
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<tr>
<td>Written Communication</td>
<td>ENGH 302</td>
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<tr>
<td>Synthesis/Capstone</td>
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### Major Requirements (66 - 71 credits in major with Concentration in Mathematical Statistics)

A maximum of 6 credits of grades below 2.00 in coursework designated MATH or STAT may be applied toward the major.

#### Major Requirements (66 - 71 credits in major)

- **MATH 113**: Analytic Geometry and Calculus I
- **MATH 114**: Analytic Geometry and Calculus II
- **MATH 203**: Linear Algebra
- **MATH 213**: Analytic Geometry and Calculus III or
- **MATH 215**: Analytic Geometry and Calculus III (Honors)
- **MATH 214**: Elementary Differential Equations or
- **MATH 216**: Theory of Differential Equations
- **MATH 300**: Introduction to Advanced Mathematics
- **MATH 217**: Advanced Linear Algebra
- **CS 112**: Introduction to Computer Programming

#### Science Requirement: Select a one-year sequence of a laboratory science from the following courses (8-9 credits):

- **BIOL 213 and One from the following**:
  - Cell Structure and Function AND Biodiversity, Foundations of Ecology & Evolution, OR General Genetics
- **CHEM 211/213 & CHEM 212/214**: General Chemistry I & II with Labs
- **GEOL 101 & GEOL 102**: Introductory Geology I & II
- **PHYS 160/161 or 260/261**: University Physics I & II with Labs

### Mathematical Statistics (31 - 36 credits)

- **MATH 125**: Discrete Mathematics I
- **MATH 315**: Advanced Calculus I
- **MATH 351**: Probability
- **MATH 352**: Statistics
- **MATH 453**: Advanced Mathematical Statistics
- **MATH 551**: Regression and Time Series
- **STAT 362**: Introduction to Computer Statistical Packages

#### Select one from the following (3 credits):

- **STAT 260, 350 or 360**: Intro to Statistical Practice I, Introductory Statistics I, Introduction to Statistical Practice II

#### Select two from the following (6 credits):

- **STAT 455, 460, 462, 463, 465, 472, 474**: Experimental Design, Intro to Biostatistics, Applied Multivariate Statistics, Intro to Exploratory Data Analysis, Nonparametric Statistics, Intro to Statistical Learning, Intro to Survey Sampling

### Additional Science: Select additional science credits from one of the following three options (4-9 credits):

- A second sequence from the choices under "Science" above
- 6 credits from more advanced courses in biology, chemistry, geology, or physics
- The 4-credit option of PHYS 262 and PHYS 263

### Degree Notes

Approx. 22-27 credits may be completed with elective courses to bring the degree total to 120 with 45 of these credits at the 300/400 level. All graduating seniors are required to have an exit interview.

### Advisor Notes:

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