VASSAR COLLEGE
Requirements for the Mathematics and Statistics major

After Math 121/126/127 (Single Variable Calculus/Calculus IIA and IIB) or prior equivalent coursework or qualifying AP Calculus score, majors must complete 10 graded units at the 200- or 300-level.

**Foundation courses**
- Math 220 - Multivariable Calculus
- Math 221 - Linear Algebra

**Gateway courses**
- Math 261 - Number Theory
- Two of:
  - Math 228 - Ordinary Differential Equations and Applications
  - Math 240 - Introduction to Statistics

With an advisor, choose a pathway in the major.

**Core pathway**
- Math 321 - Real Analysis
- Math 361 - Modern Algebra
- One 200- or 300-level course
- Two additional 300-level courses

**Applied pathway**
- Math 215 - Introduction to Mathematical Modeling or Math 217 - Introduction to Numerical Analysis
- Math 321 - Real Analysis
- Math 328 - Nonlinear Differential Equations and Applications
- Two 300-level course, one of which must be in applied mathematics

**Statistics pathway**
- Math 241 - Probability
- Math 242 - Applied Statistical Modeling
- Three 300-level courses, two of which must be in statistics

**Intensive**
- Math 301 - Topics in Advanced Mathematics and Statistics taken in the senior year

**Recommendations:** The department recommends that majors take Math 217 or a programming course in computer science. Students following pathways in applied mathematics or statistics are recommended to take courses in related fields where mathematics and/or statistics are applied.

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1 or Math 215 or Math 217 with prior coursework equivalent to Math 228
2 or Math 242 with advanced placement
3 Students who use Math 215 or Math 217 to fulfill the Gateway requirement must take an additional 200- or 300-level elective
4 Students who use Math 242 to fulfill both the Gateway and Pathway requirements must take an additional 200- or 300-level elective