VASSAR COLLEGE
Requirements for the Mathematics and Statistics major

After Math 121/126/127 (Single Variable Calculus/Calculus IA 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.

**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

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

**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