# General Curriculum in Mathematics

This is the default curriculum required for students who do not declare a concentration.

**STAT 301** Statistics I
or **STAT 305** Introduction to Probability and Simulation
or **STAT 425** Probability Theory

## Tracks
Choose three tracks from the following list, with at least one track chosen from the first four tracks listed. A track consists of two paired courses representing depth of study with a particular focus.¹

- **MATH 413** & **MATH 414** Introduction to Analysis II and Introduction to Analysis III
- **MATH 482** & **MATH 483** Abstract Algebra II and Abstract Algebra III
- **MATH 406** & **MATH 482** Linear Algebra III and Introduction to Analysis II
- **MATH 482** & **MATH 413** Abstract Algebra II and Introduction to Analysis II
- **MATH 408** & **MATH 409** Complex Analysis I and Complex Analysis II
- **MATH 435** & **MATH 440** Topology I and Topology I
- **MATH 504** & **MATH 550** Game Theory and Numerical Optimization
- **MATH 442** & **MATH 443** Euclidean Geometry and Modern Geometries
- **MATH 451** & **MATH 452** Numerical Analysis I and Numerical Analysis II
- **MATH 453** & **MATH 454** Linear Algebra III and Abstract Algebra II
- **MATH 455** & **MATH 456** Introduction to the History of Mathematics and Numerical Optimization

Select from the following approved electives: ²

- **CSC/CPE 202** Data Structures
- **CSC/CPE 203** Project-Based Object-Oriented Programming and Design
- **CSC 349** Design and Analysis of Algorithms
- **MATH 304** Vector Analysis
- **MATH 335** Graph Theory
- **MATH 341** Theory of Numbers
- **MATH 344** Linear Analysis II
- **MATH 350** Mathematical Software
- **MATH 404** Introduction to Differential Geometry
- **MATH 406** Linear Algebra III
- **MATH 408** Complex Analysis I
- **MATH 409** Complex Analysis II
- **MATH 413** Introduction to Analysis II
- **MATH 414** Introduction to Analysis III
- **MATH 416** Differential Equations II
- **MATH 418** Partial Differential Equations
- **MATH 419** Introduction to the History of Mathematics
- **MATH 435** Discrete Mathematics with Applications I
- **MATH 437** Game Theory
- **MATH 440** Topology I
- **MATH 442** Euclidean Geometry
- **MATH 443** Modern Geometries
- **MATH 451** Numerical Analysis I
- **MATH 452** Numerical Analysis II
- **MATH 453** Numerical Optimization
- **MATH 459** Senior Project Seminar
- **MATH 461** Senior Project I
- **MATH 462** Senior Project II
- **MATH 470** Selected Advanced Topics
- **MATH 475** Advanced Topics in Mathematics
- **MATH 476** Advanced Topics in Applied Mathematics
- **MATH 482** Abstract Algebra II
- **MATH 483** Abstract Algebra III
- **PHYS 132** General Physics II
- **PHYS 133** General Physics III
- **PHYS 211** Modern Physics I
- **PHYS 301** Thermal Physics I
- **PHYS 302** Classical Mechanics I
- **PHYS 322** Vibrations and Waves
- **PHYS 323** Optics
- **PHYS 405** Quantum Mechanics I
- **PHYS 408** Electromagnetic Fields and Waves
- **STAT 301** Statistics I
- **STAT 302** Statistics II
- **STAT 305** Introduction to Probability and Simulation
- **STAT 425** Probability Theory
- **STAT 426** Estimation and Sampling Theory
- **STAT 427** Mathematical Statistics

Total units: 44

¹ A single course cannot be used to satisfy multiple tracks.
² Maximum 8 units combined between MATH 475 and MATH 476.