### GENERAL CURRICULUM IN MATHEMATICS

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

**STAT 301** Statistics I 4
or **STAT 305** Introduction to Probability and Simulation

**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 |
| or MATH 406 | Linear Algebra III |
| MATH 406 & MATH 413 | Linear Algebra III and Introduction to Analysis II |
| or MATH 440 | Topology I |
| MATH 482 & MATH 413 | Abstract Algebra II and Introduction to Analysis II |
| or MATH 440 | Topology I |
| MATH 304 & MATH 404 | Vector Analysis and Introduction to Differential Geometry |
| MATH 335 & MATH 435 | Graph Theory and Discrete Mathematics with Applications I |
| MATH 444 & MATH 416 | Linear Analysis II and Differential Equations II |
| or MATH 418 | Partial Differential Equations |
| MATH 341 & MATH 437 | Theory of Numbers and Game Theory |
| MATH 410 & MATH 411 | Complex Analysis I and Complex Analysis II |
| MATH 442 & MATH 443 | Euclidean Geometry and Modern Geometries |
| MATH 451 & MATH 452 | Numerical Analysis I and Numerical Analysis II |
| or MATH 453 | Numerical Optimization |

**Approved Electives**

Select from the following: 2

- **CSC/CPE 202**: Data Structures
- **CSC/CPE 203**: Project-Based Object-Oriented Programming and Design
- **CSC 349**: Design and Analysis of Algorithms
- **CSC 365**: Introduction to Database Systems
- **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 410**: Complex Analysis I
- **MATH 411**: 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
or **MATH 460**: Senior Project Applied 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
- **MATH 531**: Discrete Mathematics with Applications II
- **MATH 541**: Topology II
- **PHYS 142**: General Physics II
or **PHYS 143**: General Physics III
- **PHYS 211**: Modern Physics I
- **PHYS 301**: Thermal Physics I
- **PHYS 305**: Classical Mechanics I
- **PHYS 323**: Optics
- **PHYS/CPE 345**: Quantum Computing
- **PHYS 405**: Quantum Mechanics I
- **PHYS 408**: Electromagnetic Fields and Waves I
- **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. Consultation with advisor is recommended prior to selecting Approved Electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.
3. Maximum of 8 units combined between MATH 475 and MATH 476.