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
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 413 or MATH 440 Linear Algebra III and Introduction to Analysis II and Topology I
MATH 482 & MATH 413 or MATH 440 Abstract Algebra II and Introduction to Analysis II and 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 344 & MATH 416 or MATH 418 Linear Analysis II and Differential Equations II or Partial Differential Equations
MATH 350 & MATH 341 or MATH 344 Mathematical Software and Theory of Numbers or Linear Analysis II
MATH 408 & MATH 409 Complex Analysis I and Complex Analysis II
MATH 437 & MATH 453 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 459 or MATH 460 Senior Project Seminar and Senior Project Applied Seminar
MATH 461 & MATH 462 Senior Project I and Senior Project II
MATH 470 Selected Advanced Topics
MATH 475 Advanced Topics in Mathematics ²
MATH 476 Advanced Topics in Applied Mathematics ²
MATH 482 Abstract Algebra II
MATH 483 Abstract Algebra III
PHYS 132 General Physics II
or 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 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

Select from the following approved electives: 16
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
or MATH 460 Senior Project Applied Seminar
MATH 461 Senior Project I
& MATH 462 and Senior Project II
MATH 470 Selected Advanced Topics
MATH 475 Advanced Topics in Mathematics ²
MATH 476 Advanced Topics in Applied Mathematics ²
MATH 482 Abstract Algebra II
MATH 483 Abstract Algebra III
PHYS 132 General Physics II
or 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 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 Maximum 8 units combined between MATH 475 and MATH 476.