Summary of Requirements for Focus in Mathematical Sciences

You may elect to focus in Mathematical Sciences.

The Mathematical Sciences Focus is designed for Mathematics, Chemistry, and Physics majors.

You cannot major or minor in Mathematical Sciences.

Focus

Coordinator:
Marc Michael, Chair, Department of Mathematics

1. Core Mathematics Courses: (3 hours)
   - MATH 415 Foundations of Mathematics
   - MATH 425 Introduction to Real Analysis
   - MATH 440 Modern College Geometry
   - MATH 451 Modern Higher Algebra
   - MATH 460 Introductory Topology
   - MATH 465 Theory of Numbers

2. Applied Mathematics: (9 hours)
   - MATH 380 Introduction to Probability and Statistics
   - MATH 426 Introduction to Complex Analysis
   - MATH 432 Differential Equations
   - MATH 436 Mathematical Physics
   - MATH 437 Combinatorics and Graph Theory
   - MATH 470 Mathematical Models and Applications
   - MATH 480 Probability and Statistics
   - MATH 492 Internship Seminar

3. Required Courses in Other Departments:
   - Computer Science (7-8 hours)
     - COSC 240 Computer Science I
     - COSC 241 Computer Science II
     - COSC 350 Low-Level Programming Concepts
     - COSC 450 Programming Language Principles and Paradigms
   - Science (3-4 hours)
     - PHYS 261 Principles of Physics I (GEP Group C) or
     - CHEM 441 Physical Chemistry I

Summary of Requirements for Double Major in Mathematics and Secondary Teacher Education

If you wish to complete a Maryland State-approved program in teaching secondary Mathematics, you must:

- Complete the BA/BS in Mathematics.
- Declare a second major in Secondary Teacher Education. See the Secondary Teacher Education Program Coordinator for details.
- Within the electives portion of the Mathematics major, you must select certain courses in order to qualify for Maryland State certification and to meet NCATE accreditation standards. These courses are listed below.

1. Basic Core Curriculum (21 hours)
   - MATH 236 Calculus I (Core Skill 3)
   - MATH 237 Calculus II
   - MATH 238 Calculus III
   - MATH 315 Foundations of Mathematics
   - MATH 350 Linear Algebra I
   - MATH 491 Seminar in Mathematics (Capstone)

2. Mathematics Teaching Certification Option Requirements (21 hours)
   - MATH 380 Introduction to Probability and Statistics
   - MATH 425 Real Analysis
   - Or MATH 426 Complex Analysis
   - MATH 437 Combinatorics and Graph Theory
   - MATH 440 Modern College Geometry
   - MATH 461 History of Mathematics
   - MATH 465 Theory of Numbers
   - MATH 451 Modern Higher Algebra