

REQUIREMENTS

The core courses are designed to give students breadth of mathematical experience, while the concentrations allow students to go more in depth in an area of interest. *All students must complete at least 120 credits to graduate.*

For a B.S. Degree in Mathematics

A student must take all the core courses. Beyond the core courses, a student must either

- (a) complete a concentration, or
- (b) take at least 5 courses at the 300 level or above of which at least 2 are at the 400 level, and complete either a minor or 3 allied electives.

CORE COURSES

Mathematics

- | | |
|---|---|
| <ul style="list-style-type: none"> ___ MAT 225 Discrete Mathematics ___ MAT 211 Calculus I ___ MAT 212 Calculus II ___ MAT 213 Calculus III | <ul style="list-style-type: none"> ___ MAT 313 Statistics I ___ MAT 318 Elementary Linear Algebra ___ MAT 320 Introduction to Abstract Algebra ___ MAT 441 Real Analysis or ___ MAT 430 Complex Analysis |
|---|---|

Computer Science

- ___ CSC 110 Computer Science I **or** ___ CSC 180 Microcomputer Basic

CONCENTRATIONS

Applied Mathematics Concentration

- ___ MAT 322 Differential Equations
 - ___ MAT 326 Mathematical Modeling
 - ___ One of
 - MAT 410 Numerical Analysis
 - MAT 413 Statistics II
 - MAT 421 Number Theory and Cryptography
 - MAT 422 Partial Differential Equations
 - MAT 456 Deterministic Methods of Operations Research
 - MAT 476 Probability
 - ___ MAT 4xx elective
 - ___ MAT 4xx elective
- Either
complete a minor: _____
or
*Two Allied Electives and an Interdisciplinary Sequence**

Students with an interest in computer science, physics, biology, chemistry, or other sciences are encouraged to complete the applied mathematics concentration.

Statistics Concentration

- ___ MAT 413 Statistics II
 - ___ MAT 476 Probability
 - ___ MAT 486 Mathematical Statistics
 - ___ MAT 3xx or 4xx elective
 - ___ MAT 3xx or 4xx elective
- Either
complete a minor: _____
or
*Two Allied Electives and an Interdisciplinary Sequence**

Students with an interest in economics, finance, accounting, actuarial science, or the social sciences are encouraged to complete the statistics concentration.

Secondary Education Certification

- ___ MAT 326 Mathematical Modeling
- ___ MAT 333 Geometry
- ___ MAT 400 History of Mathematics
- ___ MAT 4xx elective
- ___ EEC 411 Introduction to Exceptionalities
- ___ TCH 205 The American School
- ___ TCH 260 Educational Psychology
- ___ EDU 371 Technology in the Mathematics Classroom
- ___ EDU 434 Teaching of Mathematics in the Middle Grades and High School I
- ___ EDU 435 Teaching of Mathematics in the Middle Grades and High School II
- ___ EDU 495 Student Teaching and Professional Practicum

Students who plan on teaching mathematics at the middle school or high school level should complete the secondary education concentration.

B.S. in Mathematics without Concentration

- ___ MAT 3xx or 4xx _____
- ___ MAT 3xx or 4xx _____
- ___ MAT 3xx or 4xx _____
- ___ MAT 4xx _____
- ___ MAT 4xx _____

Either
complete a minor: _____
or
*Three Allied Electives**

- _____
- _____
- _____

The "no concentration" option is appropriate for students who desire both depth and breadth across the mathematics curriculum.

*Allied electives include any course at the 300 level or above with prefixes ACC, BIO, CHM, CSC, ECO, ESS, MAT, or PHY.

A list of department-approved interdisciplinary sequences is available at <http://webspace.ship.edu/math/programs/>.

A department-approved internship can take the place of any 300-level MTH elective. See <http://webspace.ship.edu/math/programs/>.

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