# Mathematics, B.A.

## Major in Mathematics, BA

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
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<td><strong>Credits Required for Major</strong></td>
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Minimum Residency 50% of Major Courses

Minimum GPA 2.0 for Major

## REQUIRED MATHEMATICS COURSES

- **Calculus I** - Choose 1 of the following:
  - MATH 161 Calculus 1
  - MATH 163H Honors Calculus 1
  - MATH 211 Calculus 2
  - MATH 310 Intro to Mathematical Proof
  - MATH 311 Calculus 3
  - MATH 322 Linear Algebra 1
  - MATH 345 Abstract Algebra 1
  - MATH 464 Real Analysis 1

## REQUIRED COURSES IF NO OPTION DECLARED

- Mathematic Stats I or Differential Equations - Choose 1 of the following:
  - MATH 335 Mathematical Statistics 1
  - MATH 365 Ordinary Differential Equation

Additional Required Mathematics Course - Choose 1 of the following:

- MATH 422 Linear Algebra 2
- MATH 435 Mathematical Statistics 2
- MATH 445 Abstract Algebra 2
- MATH 467 Partial Differential Equations

## Elective Mathematics Courses - Choose 12 hours from:

- MATH 335 Mathematical Statistics 1
- MATH 354 Classical and Transformational Geometry
- MATH 365 Ordinary Differential Equation
- MATH 370 Operations Research
- MATH 372 Financial Mathematics I
- MATH 375 Numerical Analysis
- MATH 393 Number Theory
- MATH 395 Introduction Combinatorics
- MATH 422 Linear Algebra 2
- MATH 435 Mathematical Statistics 2
- MATH 445 Abstract Algebra 2
- MATH 457 Elementary Differential Geometry
- MATH 465 Real Analysis 2
- MATH 467 Partial Differential Equations
- MATH 471 Mathematical Modeling
- MATH 472 Financial Mathematics II
- MATH 483 Point-Set Topology
- Any 4@8 MATH course(s)
- MATH 498 Independent Study
- MATH 535 Statistical Methods 1
- MATH 536 Statistical Methods 2
- MATH 566 Complex Variables
- MATH 592 Graph Theory

**Total Hours**

43-44

## Req Related for Mathematics, BA

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Minimum Residency 50% of Related Courses

Minimum GPA 2.0 for Related

## REQUIRED COURSES

- Intro. to Computing I
  - CSCI 161 Introduction to Programming I

## ADDITIONAL REQUIRED RELATED COURSES

- undefined - Choose 1 of the following options 1-2:
  - Option 1. A. College of Science and Technology Courses - Choose 2 classes totaling at least 6 hours from:
    - Any BIOL course(s)
    - Any CHEM course(s)
    - Any CSCI course(s)
    - Any ESCI course(s)
    - PHIL 312 Mathematical Logic
    - Any PHYS course(s)
  - Option 2. B. Three courses from a SINGLE department

If you select Option B. Three courses from a SINGLE department, your advisor must email a list of courses to degreeaudit@millersville.edu for them to fulfill this requirement.

## FOREIGN LANGUAGE COMPETENCY

Language competency through the elementary level (102 or higher) is required. FORL 101 is needed only if necessary to progress to 102.

**Total Hours**

4