
Degree: Bachelor of Science
Major: Mathematics Education



This major prepares students for a career teaching secondary school mathematics. Besides all the professional training required by accrediting agencies, a strong concentration in mathematics is a good preparation for teaching AP Calculus and Statistics. The program includes flexibility for a minor in another discipline.

| CURRICULUM | CREDITS |
|------------|---------|
|------------|---------|

University Requirements

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|---|-----|
| ENGL 110 Critical Reading and Writing (minimum grade C-)..... | 3 |
| First Year Experience | 0-4 |
| Discovery Learning Experience | 3 |
| Three credits in an approved course or courses stressing multi-cultural, ethnic, and/or gender-related course content..... | 3 |

College Requirements

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|---|------|
| Writing (minimum grade C-) | 3 |
| Second writing course taken after completion of 60 credit hours. | |
| Foreign Language | 0-12 |
| Completion of the intermediate-level course (107 or 112) in a given language. Number of credits needed and initial placement will depend on number of years of high school study of foreign language. Students with four or more years of high school work in a single foreign language may attempt to fulfill this requirement in that language by taking an exemption examination | |

Breadth Requirements

Eighteen credits from Groups A, B and C with a minimum of six credits from each group.

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|---------------|---|
| Group A..... | 6 |
| Group B | 6 |
| Group C | 6 |

Major Requirements (C- or better is required for major courses and related work.)

Mathematics Section

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|--|---|
| MATH 210 Discrete Mathematics I | 3 |
| MATH 242 Analytic Geometry and Calculus B | 4 |
| MATH 243 Analytic Geometry and Calculus C | 4 |
| MATH 245 Introduction to Proof | 3 |
| MATH 302 Ordinary Differential Equations | 3 |
| MATH 308 Historical Developments of Mathematical Concepts and Ideas | 3 |
| MATH 349 Elementary Linear Algebra | 3 |
| MATH 350 Probability Theory and Simulation Methods | 3 |
| MATH 450 Mathematical Statistics | 3 |
| MATH 451 Abstract Algebra I | 3 |
| MATH 540 College Geometry: A Historical Approach | 3 |
| One of the following modeling courses | 3 |
| MATH 512 Contemporary Applications of Mathematics | |
| MATH 518 Mathematical Models and Applications | |
| One course from the following list | 3 |
| MATH 315 Discrete Mathematics II | |
| MATH 401 Introduction to Analysis | |
| MATH 503 Advanced Calculus for Applications | |
| MATH 508 Introduction to Complex Variables and Applications | |

Computer and Information Sciences Section

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|--|---|
| Either CISC 106 (for those with no previous equivalent experience) or CISC 181 Introduction to Computer Science | 3 |
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Science Section

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|---|---|
| A two semester, 8 credit sequence of laboratory science (courses designed for non-majors in a discipline are not appropriate, except for CHEM 103–104). | 8 |
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Professional Development Section

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|--|---|
| MATH 279 Problem Solving Strategies I | 1 |
| MATH 379 Problem Solving Strategies | 1 |
| MATH 380 Approaches to Teaching Mathematics | 3 |
| MATH 382 Student Teaching Seminar in Secondary Math | 2 |
| | |
| EDUC 400 Student Teaching | 9 |
| EDUC 413 Adolescent Development and Educational Psychology | 4 |
| EDUC 414 Teaching Exceptional Adolescents | 3 |
| EDUC 419 Diversity in Secondary Education | 3 |
| EDUC 420 Reading in the Content Areas | 1 |

Additional Requirements

Nine additional credits in mathematics or in related disciplines at the 300 level or above

(Courses not approved for math majors cannot be counted towards these 9 additional credits. Courses in other disciplines can be in CISC, ECON, PHYS and STAT from an approved list maintained by the Department of Mathematical Sciences.)

Electives in sufficient number to complete the minimum number of credits required for graduation.

Credits to total a minimum of 124

For more information on this major, visit the web page

www.math.udel.edu/programs/ugrad/

Sample Curriculum — BSME

Freshman Year

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|--------------|-----------------|-----------|--------------|-------------------|-----------|
| MATH 242 | Calculus B | (4) | Breadth | Group A | (3) |
| CISC 106 | Gen Comp Sci | (3) | MATH 279 | Problem Solving I | (1) |
| ENGL 110 | Crit Read/Write | (3) | MATH 210 | Discrete Math I | (3) |
| Breadth | Group C | (3) | MATH 243 | Calculus C | (4) |
| UD FYE | UNIV 101 | (1) | Breadth | Group C | (3) |
| | | | Breadth | Group B | (3) |
| Total | | 14 | Total | | 17 |

Sophomore Year

| | | | |
|----------------------|--------------------------|----------------------|---------------------------|
| Foreign Language 106 | (4) | Foreign Language 107 | (4) |
| Breadth Group A | (3) | EDUC 419 | Diversity in Sec Math (3) |
| MATH 350 | Probab & Simulations (3) | MATH 450 | Math Stat (3) |
| MATH 349 | Linear Algebra (3) | MATH 302 | Diff Equations (3) |
| EDUC 413 | Educ Psychology (4) | MATH 245 | Intro to Proof (3) |
| Total | 17 | Total | 16 |

Junior Year

| | | | |
|--------------|-------------------------|---------------|-----------------------|
| MATH 451 | Abstract Algebra I (3) | MATH 308 | Math History (3) |
| MATH 540 | Geometry (3) | MATH 508 | Complex Variables (3) |
| EDUC 414 | Teaching Excep Adol (3) | Math Elective | (3) |
| EDUC 420 | Readings Cont Areas (1) | Elective | (3) |
| PHYS 207 | Physics I (4) | PHYS 208 | Physics II (4) |
| Elective | (3) | | |
| Total | 17 | Total | 16 |

Senior Year

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|---------------|------------------------|--------------|--------------------------|
| MATH 379 | Prob Solving Strat (1) | MATH 382 | Student Teaching Sem (2) |
| MATH 380 | Teaching Math (3) | EDUC 400 | Student Teaching (9) |
| MATH 518 | Math Models & Appl (3) | | |
| Math Elective | (3) | | |
| Math Elective | (3) | | |
| Elective | (3) | | |
| Total | 16 | Total | 11 |

Total number of credits: 124