

# Mathematics Minor

For information, contact the Department of Mathematics, 123 Bachelor Hall, 513-529-5818.

This minor provides students with an increased understanding of, and competence in, mathematics. Building on a base of calculus and linear algebra, already required for many majors, students further develop their understanding by taking three upper-level courses in theoretical and/or applied mathematics.

To complete the minor in Mathematics, you must have at least a 2.00 grade point average (GPA) over the courses in the minor. All courses taken for the minor must be for a grade, not for credit/no-credit. This minor is not available to majors in Mathematics, Mathematics and Statistics, or Integrated Mathematics.

## Program Requirements

(19-24 semester hours)

| Code   | Title   | Credit Hours |
|--|---|--------------|
| Select one of the following courses:                                     |   | 4-5          |
| MTH 249  | Calculus II   |              |
| MTH 251  | Calculus II   |              |
| The following course is required:  |   | 4            |
| MTH 252  | Calculus III  |              |
| Select one of the following courses:                                     |   | 2-4          |
| MTH 222  | Introduction to Linear Algebra                          |              |
| MTH 222T   | Introduction to Linear Algebra (Honors) <sup>1</sup>    |              |
| MTH 246  | Linear Algebra and Differential Equations for Engineers |              |
| Select three courses from the list below.                                |   | 9-11         |
| At least two of these selected courses must be at the 400 level.         |   |              |
| At least one of these selected 400-level courses must be taken at Miami. |   |              |
| MTH 331  | Proof: Introduction to Higher Mathematics               |              |
| or MTH 331T  |   |              |
| MTH 347  | Differential Equations                                  |              |
| MTH 411  | Foundations of Geometry                                 |              |
| MTH 421  | Introduction to Abstract Algebra                        |              |
| MTH 425  | Number Theory   |              |
| MTH 432  | Optimization  |              |
| MTH 433  | Applied Linear Algebra                                  |              |
| MTH 435  | Mathematical Modeling Seminar                           |              |
| MTH 438  | Theory and Applications of Graphs                       |              |
| MTH 439  | Combinatorics   |              |
| MTH 441  | Real Analysis   |              |
| MTH 447  | Topics in Mathematical Finance                          |              |
| MTH 451  | Introduction to Complex Variables                       |              |
| MTH 453  | Numerical Analysis                                      |              |
| MTH 455  | Introduction to Partial Differential Equations          |              |

|   |  |
|---|--|
| MTH 483   | Introduction to Mathematical Logic         |
| MTH 486   | Introduction to Set Theory                 |
| MTH 491   | Introduction to Topology                   |
| MTH 495   | Introduction to Applied Nonlinear Dynamics |
| or MME 495 Introduction to Applied Nonlinear Dynamics |  |
| <b>Total Credit Hours</b>                             | <b>19-24</b>                               |

<sup>1</sup> MTH 222T must be taken concurrently with MTH 331T.