APPLIED MATHEMATICS - MINOR

College of Arts and Sciences
Department of Mathematical Sciences
233 Mathematics and Computer Science Building
Kent Campus
330-672-2430
math@math.kent.edu
www.kent.edu/math

Description
The Applied Mathematics minor offers courses in several areas of mathematics that are applicable to sciences and can be combined with science majors.

Fully Offered At:
• Kent Campus
• Stark Campus

Admission Requirements
Admission to a minor is open to students declared in a bachelor's degree, the A.A.B. or A.A.S. degree or the A.T.S. degree (not Individualized Program major). Students declared only in the A.A. or A.S. degree or the A.T.S. degree in Individualized Program may not declare a minor. Students may not pursue a minor and a major in the same discipline.

Minor Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MATH 10675</td>
<td>ALGEBRA FOR CALCULUS BOOST (KMCR) or MATH 10775 ALGEBRA FOR CALCULUS PLUS (KMCR) or MATH 11010 ALGEBRA FOR CALCULUS (KMCR)</td>
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<tr>
<td>MATH 11022</td>
<td>TRIGONOMETRY (KMCR)</td>
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Prerequisite Electives, choose from the following:

CS 10062  PROGRAMMING FOR PROBLEM SOLVING IN SCIENCES
CS 13001  COMPUTER SCIENCE I: PROGRAMMING AND PROBLEM SOLVING
CS 13011 & CS 13012  COMPUTER SCIENCE IA: PROCEDURAL PROGRAMMING and COMPUTER SCIENCE IB: OBJECT ORIENTED PROGRAMMING 1
EMAT 15310  CREATIVE CODING

Minor Requirements

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<tbody>
<tr>
<td>MATH 12002</td>
<td>ANALYTIC GEOMETRY AND CALCULUS I (KMCR) (min C grade)</td>
<td>5</td>
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<tr>
<td>MATH 12003</td>
<td>ANALYTIC GEOMETRY AND CALCULUS II (min C grade)</td>
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Choose from the following:  8-10

Selection A

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>MATH 21001</td>
<td>LINEAR ALGEBRA (min C grade)</td>
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<tr>
<td>MATH 22005</td>
<td>ANALYTIC GEOMETRY AND CALCULUS III (min C grade)</td>
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<tr>
<td>MATH 32044</td>
<td>ORDINARY DIFFERENTIAL EQUATIONS</td>
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Selection B

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<tr>
<td>MATH 32051</td>
<td>MATHEMATICAL METHODS IN THE PHYSICAL SCIENCES I (min C grade)</td>
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<tr>
<td>MATH 32052</td>
<td>MATHEMATICAL METHODS IN THE PHYSICAL SCIENCES II</td>
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Minor Electives, choose from the following:  
• MATH 23022  DISCRETE STRUCTURES FOR COMPUTER SCIENCE 3
  • or MATH 31011  PROOFS IN DISCRETE MATHEMATICS

MATH 40011  PROBABILITY THEORY AND APPLICATIONS
MATH 40012  THEORY OF STATISTICS
MATH 40051  TOPICS IN PROBABILITY THEORY AND STOCHASTIC PROCESSES
MATH 41021  THEORY OF MATRICES
MATH 42011  MATHEMATICAL OPTIMIZATION
MATH 42031  MATHEMATICAL MODELS AND DYNAMICAL SYSTEMS
MATH 42039  MODELING PROJECTS (ELR) (WIC)
MATH 42041  ADVANCED CALCULUS
MATH 42045  PARTIAL DIFFERENTIAL EQUATIONS
MATH 42048  COMPLEX VARIABLES
MATH 42201  NUMERICAL COMPUTING I
MATH 42202  NUMERICAL COMPUTING II

Minimum Total Credit Hours: 24

1. A minimum C grade must be earned in CS 13011 and CS 13012.
2. Students should select electives in consultation with the student's minor advisor.
3. Credit for both MATH 23022 and MATH 31011 is not permitted. Students planning to take Computer Science upper-division courses (CS 30000 or 40000 level) must take MATH 23022.

Graduation Requirements

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<tr>
<th>Minimum Minor GPA</th>
<th>Minimum Overall GPA</th>
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<td>2.000</td>
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• Students must complete at least two upper-division (30000 or 40000 level) courses in the minor at Kent State on a graded basis (A-F).

• Minimum 6 credit hours in the minor must be upper-division coursework (30000 and 40000 level).

• Minimum 6 credit hours in the minor must be outside of the course requirements for any major or other minor the student is pursuing.

• Minimum 50 percent of the total credit hours for the minor must be taken at Kent State (in residence).