APPLIED MATHEMATICS - MINOR

College of Arts and Sciences
Department of Mathematical Sciences
www.kent.edu/math

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

Contact Information
- Program Coordinator: Xiaoyu Zheng | xzheng3@kent.edu | 330-672-9089
- Speak with an Advisor
  - Kent Campus
  - Stark Campus

Program Delivery
- Delivery:
  - In person
- Location:
  - 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.

Program Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>Minor Prerequisites</td>
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<tr>
<td>CS 10062</td>
<td>PROGRAMMING FOR PROBLEM SOLVING IN SCIENCES (min C grade)</td>
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<tr>
<td>CS 13001</td>
<td>COMPUTER SCIENCE I: PROGRAMMING AND PROBLEM SOLVING (min C grade)</td>
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<td>CS 13011 &amp; CS 13012</td>
<td>COMPUTER SCIENCE IA: PROCEDURAL PROGRAMMING and COMPUTER SCIENCE IB: OBJECT ORIENTED PROGRAMMING (min C grade)</td>
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<tr>
<td>EMAT 25310</td>
<td>CREATIVE CODING (min C grade)</td>
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| Minor Requirements |                                          |              |
| MATH 12002 | ANALYTIC GEOMETRY AND CALCULUS I (KMCR) (min C grade) | 5            |
| MATH 12003 | ANALYTIC GEOMETRY AND CALCULUS II (min C grade) | 3-5          |
| or MATH 12013 | BRIEF CALCULUS II |              |
| Section A or B, choose from the following: |                                          | 8-10         |
| Selection A |                                          |              |

| MATH 21001 | LINEAR ALGEBRA (min C grade in either course) or MATH 21002 | APPLIED LINEAR ALGEBRA |              |
| MATH 22005 | ANALYTIC GEOMETRY AND CALCULUS III (min C grade) |              |
| MATH 32044 | ORDINARY DIFFERENTIAL EQUATIONS |              |

Selection B
- MATH 32051 | MATHEMATICAL METHODS IN THE PHYSICAL SCIENCES I (min C grade) |              |
- MATH 32052 | MATHEMATICAL METHODS IN THE PHYSICAL SCIENCES II |              |

Minor Electives, choose from the following: 1 6
- MATH 23022 | DISCRETE STRUCTURES FOR COMPUTER SCIENCE 2 |              |
- or MATH 31011 | PROOFS IN DISCRETE MATHEMATICS |              |
- MATH 40011 | PROBABILITY THEORY AND APPLICATIONS |              |
- MATH 40012 | THEORY OF STATISTICS (WIC) |              |
- 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: 22

1 Students should select electives in consultation with their minor advisor.
2 Credit for both MATH 23022 (or its equivalent CS 23022) and MATH 31011 is not permitted toward the minor. Students planning to take Computer Science upper-division courses (CS 30000 or 40000 level) must take MATH 23022.

Graduation Requirements

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<th>Minimum Minor GPA</th>
<th>Minimum Overall GPA</th>
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- 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).

Program Learning Outcomes
Graduates of this program will be able to:

1. Formulate, analyze and solve problems using a variety of problem solving strategies.