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

Minor Prerequisites
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CS 1062</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

or MATH 12003  ANALYTIC GEOMETRY AND CALCULUS II (min C grade)  3-5

or MATH 12013  BRIEF CALCULUS II  8-10

Selection A or B, choose from the following:

MATH 20015  LINEAR ALGEBRA (min C grade in either course) or MATH 20001  APPLIED LINEAR ALGEBRA

or 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)

or MATH 32052  MATHEMATICAL METHODS IN THE PHYSICAL SCIENCES II

Minor Electives, choose from the following:  6

MATH 23022  DISCRETE STRUCTURES FOR COMPUTER SCIENCE

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

Minimum Minor GPA  2.000

Minimum Overall GPA  2.000

• 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.