APPLIED MATHEMATICS - MINOR

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

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

Fully Offered
- Delivery: In person
- Location: Kent Campus, Stark Campus

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

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 Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 10675</td>
<td>ALGEBRA FOR CALCULUS BOOST (KMCR)</td>
<td></td>
</tr>
<tr>
<td>or MATH 10775</td>
<td>ALGEBRA FOR CALCULUS PLUS (KMCR)</td>
<td></td>
</tr>
<tr>
<td>or MATH 11010</td>
<td>ALGEBRA FOR CALCULUS (KMCR)</td>
<td></td>
</tr>
<tr>
<td>MATH 11022</td>
<td>TRIGONOMETRY (KMCR)</td>
<td></td>
</tr>
</tbody>
</table>

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
- EMAT 15310 CREATIVE CODING

Minor Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 12002</td>
<td>ANALYTIC GEOMETRY AND CALCULUS I (KMCR) (min C grade)</td>
<td>5</td>
</tr>
<tr>
<td>MATH 12003</td>
<td>ANALYTIC GEOMETRY AND CALCULUS II (min C grade)</td>
<td>5</td>
</tr>
</tbody>
</table>

Choose from the following: 8-10

Selection A
- MATH 21001 LINEAR ALGEBRA (min C grade)
- 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: 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 42021 NUMERICAL COMPUTING I
- MATH 42022 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

<table>
<thead>
<tr>
<th>Minimum Minor GPA</th>
<th>Minimum Overall GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>2.00</td>
</tr>
</tbody>
</table>

- 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).