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 Mathematics minor offers study in several areas of pure mathematics and can be combined with several majors, including those in the sciences and education.

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
[MATH]

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisite Requirements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MATH 10774 ALGEBRA FOR CALCULUS STRETCH II (KMCR) or MATH 10775 ALGEBRA FOR CALCULUS PLUS (KMCR) or MATH 11010 ALGEBRA FOR CALCULUS (KMCR) |
MATH 11022 TRIGONOMETRY (KMCR) |
Computer Programming Elective, choose from the following:
CS 10051 INTRODUCTION TO COMPUTER SCIENCE (KMCR) |
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 (min C grade in both courses) |
DSCI 15310 COMPUTATIONAL THINKING AND PROGRAMMING |

Minor Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 12002 ANALYTIC GEOMETRY AND CALCULUS I (KMCR)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>MATH 12003 ANALYTIC GEOMETRY AND CALCULUS II</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>MATH 21001 LINEAR ALGEBRA WITH APPLICATIONS</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 22005 ANALYTIC GEOMETRY AND CALCULUS III</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MATH 31011 PROOFS IN DISCRETE MATHEMATICS</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

or MATH 32044 ORDINARY DIFFERENTIAL EQUATIONS
or Mathematics Upper-Division Course (MATH 40000 level)
Mathematics Electives, choose from the following: 6

Algebra
MATH 41001 MODERN ALGEBRA I (ELR) (WIC) |
MATH 41002 MODERN ALGEBRA II (ELR) (WIC) |
MATH 41021 THEORY OF MATRICES |
MATH 47011 THEORY OF NUMBERS |

Analysis
MATH 42001 ANALYSIS I (ELR) (WIC) |
MATH 42002 ANALYSIS II (ELR) (WIC) |
MATH 42041 ADVANCED CALCULUS |
MATH 42045 PARTIAL DIFFERENTIAL EQUATIONS |
MATH 42048 COMPLEX VARIABLES |

Geometry/Topology
MATH 42021 GRAPH THEORY AND COMBINATORICS |
MATH 45011 DIFFERENTIAL GEOMETRY |
MATH 45021 EUCLIDEAN GEOMETRY |
MATH 45022 LINEAR GEOMETRY |
MATH 46001 ELEMENTARY TOPOLOGY |

Minimum Total Credit Hours: 26

Graduation Requirements
Minimum Minor GPA 2.000

• 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).