APPLIED MATHEMATICS - M.S.

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

Contact Information
• Program Coordinator: Artem Zvavitch | azvavitc@kent.edu | 330-672-3316
• Chat with an Admissions Counselor

Fully Offered
• Kent Campus

Admission Terms
• Fall
• Spring
• Summer

Examples of Possible Careers*
Data scientists and mathematical science occupations, all other
• 30.9% much faster than the average
• 33,200 number of jobs
• $98,230 potential earnings

Mathematical science teachers, postsecondary
• 1.3% slower than the average
• 60,100 number of jobs
• $73,650 potential earnings

Mathematicians
• 3.0% about as fast as the average
• 2,900 number of jobs
• $110,860 potential earnings

Natural sciences managers
• 4.8% about as fast as the average
• 71,400 number of jobs
• $137,940 potential earnings

Statisticians
• 34.6% much faster than the average
• 42,700 number of jobs
• $92,270 potential earnings

*Note
Source of occupation titles and labor data is from the U.S. Bureau of Labor
Statistics' Occupational Outlook Handbook. Data comprises projected percent change
in employment over the next 10 years; nation-wide employment numbers; and the yearly
median wage at which half of the workers in the occupation earned more than that amount
and half earned less.

Description
The Master of Science degree in Applied Mathematics is primarily a
terminal, pre-professional degree comprising coursework beyond the
bachelor’s degree emphasizing areas relevant to applications in the
sciences and including the engineering, biological, financial and physical
sciences. Students are required to write and defend a thesis in an area
agreed upon with a faculty advisor.

Admission Requirements
• Bachelor’s degree from an accredited college or university1 for unconditional admission
• Minimum 3.000 undergraduate GPA on a 4.000 point scale for unconditional admission
• Official transcript(s)
• Goal statement
• Résumé or vita
• Three letters of recommendation
• English language proficiency - all international students must provide
proof of English language proficiency (unless they meet specific
exceptions) by earning one of the following:
  • Minimum 525 TOEFL PBT score (paper-based version)
  • Minimum 71 TOEFL IBT score (Internet-based version)
  • Minimum 74 MELAB score
  • Minimum 6.0 IELTS score
  • Minimum 50 PTE score
  • Minimum 100 Duolingo English Test score

For more information about graduate admissions, please visit the
Graduate Studies admission website. For more information on
international admission, visit the Office of Global Education’s admission
website.

1 Applicants are not required to have an undergraduate degree in
applied mathematics; however, they are expected to have proficiency
in numerical analysis and statistics at the level of MATH 40012
and MATH 42202. They are also expected to have taken computer
science coursework equivalent to CS 13001. Those who do not meet
these specific requirements may be granted conditional admission by
the Graduate Studies Committee.

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

1. Engage effectively in problem solving, including exploring examples,
devising and testing conjectures and assessing the correctness of
solutions.
2. Reason in mathematical arguments at a level appropriate to
the discipline, including posing problems precisely, articulating
assumption and reasoning logically to conclusions.
3. Approach mathematical problems creatively, including trying multiple
approaches and modifying problems when necessary to make them
more tractable.
4. Communicate mathematics clearly both orally and in writing.
5. Teach university-level mathematics effectively.
6. Obtain depth in some subdiscipline of applied mathematics.

## Program Requirements

### Major Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
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<tr>
<td>MATH 60051</td>
<td>PROBABILITY I</td>
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<tr>
<td>&amp; MATH 60052</td>
<td>and PROBABILITY II</td>
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<tr>
<td>MATH 60061</td>
<td>MATHEMATICAL STATISTICS I</td>
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<tr>
<td>&amp; MATH 60062</td>
<td>and MATHEMATICAL STATISTICS II</td>
<td></td>
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<tr>
<td>MATH 62041</td>
<td>METHODS OF APPLIED MATHEMATICS I</td>
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<tr>
<td>&amp; MATH 62042</td>
<td>and METHODS OF APPLIED MATHEMATICS II</td>
<td></td>
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<tr>
<td>MATH 62251</td>
<td>NUMERICAL ANALYSIS I</td>
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<tr>
<td>&amp; MATH 62252</td>
<td>and NUMERICAL ANALYSIS II</td>
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<tr>
<td>MATH 67199</td>
<td>THESIS I</td>
<td>6</td>
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</tbody>
</table>

**Mathematics (MATH) Graduate Courses (50000 or 60000 level)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MATH 52031</td>
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<tr>
<td>MATH 52045</td>
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**Minimum Total Credit Hours:** 32

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1. A detailed plan of study should be submitted for advisor approval before the first 16 credit hours of graduate credit have been completed.

2. Candidates for the Master of Science degree must write and defend a thesis in an area agreed upon with their faculty advisor.

3. Minimum 20 credit hours of coursework must at the 60000 level or above (includes required MATH courses and thesis) for the degree. With permission of the advisor, students may apply a maximum of 12 credit hours of 50000-level Mathematics (MATH) courses toward the total required for the degree. Candidates who do not have an undergraduate degree in applied mathematics should include MATH 52031 and MATH 52045 in their program.