

# APPLIED MATHEMATICS - M.S.

## College of Arts and Sciences

Department of Mathematical Sciences  
 233 Mathematics and Computer Science Building  
 Kent Campus  
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## 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.

## Fully Offered At:

- Kent Campus

## Admission Requirements

- Bachelor's degree from an accredited college or university<sup>1</sup> 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

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.

<sup>1</sup> 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

Code	Title	Credit Hours
<b>Major Requirements<sup>1</sup></b>		
Choose two sequences from the following:		13-14
MATH 60051 & MATH 60052	PROBABILITY I and PROBABILITY II	
MATH 60061 & MATH 60062	MATHEMATICAL STATISTICS I and MATHEMATICAL STATISTICS II	
MATH 62041 & MATH 62042	METHODS OF APPLIED MATHEMATICS I and METHODS OF APPLIED MATHEMATICS II	
MATH 62251 & MATH 62252	NUMERICAL ANALYSIS I and NUMERICAL ANALYSIS II	
MATH 67199	THESIS I <sup>2</sup>	6
Mathematics (MATH) Graduate Courses (50000 or 60000 level) <sup>3</sup>		12
Minimum Total Credit Hours:		32

- <sup>1</sup> A detailed plan of study should be submitted for advisor approval before the first 16 credit hours of graduate credit have been completed.
- <sup>2</sup> Candidates for the Master of Science degree must write and defend a thesis in an area agreed upon with their faculty advisor.
- <sup>3</sup> 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.