PURE MATHEMATICS - M.S.

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

About This Program

The Pure Mathematics M.S. program offers a comprehensive curriculum and research opportunities to prepare students for a successful career in mathematics. Read more...

Contact Information

- Program Coordinator: **Artem Zvavitch** | azvavitc@kent.edu | 330-672-3316
- Connect with an Admissions Counselor: U.S. Student | International Student

Program Delivery

- **Delivery:**
  - In person
- **Location:**
  - Kent Campus

Examples of Possible Careers and Salaries*

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

Secondary school teachers, except special and career/technical education

- 3.8% about as fast as the average
- 1,050,800 number of jobs
- $62,870 potential earnings

Statisticians

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

* Source of occupation titles and labor data comes 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.

For more information about graduate admissions, visit the graduate admission website. For more information on international admissions, visit the international admission website.

Admission Requirements

- Bachelor's degree from an accredited college or university[1]
- Minimum 2.750 undergraduate GPA on a 4.000 point scale
- Official transcript(s)
- Résumé or vita
- Goal statement
- 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 pure mathematics; however, they are expected to have proficiency in algebra and analysis at the level of MATH 41001, MATH 41002, MATH 42001 and MATH 42002. Those who do not meet these specific requirements may be granted conditional admission by the Graduate Studies Committee.

Application Deadlines

- **Fall Semester**
  - Application deadline: March 1
- **Spring Semester**
  - Application deadline: October 1
- **Summer Term**
  - Application deadline: March 1

Applications submitted after these deadlines will be considered on a space-available basis.

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements		
MATH 67199	THESIS I	6
Mathematics Electives		8
Mathematics Sequence Electives, choose from the following: [1]		18
MATH 61051 & MATH 61052	ABSTRACT ALGEBRA I and ABSTRACT ALGEBRA II	
MATH 62051 & MATH 62052	FUNCTIONS OF A REAL VARIABLE I and FUNCTIONS OF A REAL VARIABLE II	
MATH 62151 & MATH 62152	FUNCTIONS OF A COMPLEX VARIABLE I and FUNCTIONS OF A COMPLEX VARIABLE II	
MATH 66051 & MATH 66052	INTRODUCTION TO TOPOLOGY I and INTRODUCTION TO TOPOLOGY II	
Minimum Total Credit Hours:		**32**

[1] Students must complete, at minimum, two of the sequences and one semester of one of the remaining sequences. With prior permission from the Graduate Studies Committee, maximum 6 credit hours of mathematically related coursework from other departments can be applied to meet the Mathematics Sequence Electives.

Graduation Requirements

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

Program note

Each student should submit a detailed plan of study for approval by the advisor by the time the first 16 credit hours of graduate credit have been completed.

Program Learning Outcomes

Graduates of this program will be able to:

1. Reason in mathematical arguments at a level appropriate to the discipline, including using precise definitions, articulating assumptions and reasoning logically to conclusions.
2. Engage effectively in problem solving, including exploring examples, devising and testing conjectures and assessing the correctness of solutions.
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 a deeper understanding of some subdiscipline of mathematics.

Full Description

The Master of Science degree in Pure Mathematics is primarily a terminal, pre-professional degree comprising coursework beyond the bachelor's degree that emphasizes theoretical ares of the discipline, including algebra, analysis, geometry, number theory and topology. Students are required to write and defend a thesis in an area agreed upon with a faculty advisor.