PURE MATHEMATICS - M.A.

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 Career*

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

*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 Arts degree in Pure Mathematics comprises a flexible program of coursework in mathematics beyond the bachelor’s degree emphasizing theoretical areas of the discipline (algebra, analysis, geometry, number theory and topology). There is no thesis requirement or option. Students in the pure mathematics Ph.D degree can apply for this M.A. degree after completing the requisite number of credit hours.

Admission Requirements

• Bachelor’s degree from an accredited college or university\(^1\) 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 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.

Program Learning Outcomes

Graduates of this program will be able to:

1. Reason in mathematical arguments, 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. Understand and appreciate connections among different subdisciplines of mathematics.
7. Be aware of and understand a broad range of mathematical subdisciplines.
8. Obtain a broader and deeper understanding of core mathematics disciplines of algebra and analysis.

**Program Requirements**

**Major Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mathematics Electives</td>
<td>14</td>
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<tr>
<td></td>
<td>Mathematics Sequence Electives, choose from the following:</td>
<td>18</td>
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<tr>
<td>MATH 61051 &amp; MATH 61052</td>
<td>ABSTRACT ALGEBRA I and ABSTRACT ALGEBRA II</td>
<td></td>
</tr>
<tr>
<td>MATH 62051 &amp; MATH 62052</td>
<td>FUNCTIONS OF A REAL VARIABLE I and FUNCTIONS OF A REAL VARIABLE II</td>
<td></td>
</tr>
<tr>
<td>MATH 62151 &amp; MATH 62152</td>
<td>FUNCTIONS OF A COMPLEX VARIABLE I and FUNCTIONS OF A COMPLEX VARIABLE II</td>
<td></td>
</tr>
<tr>
<td>MATH 66051 &amp; MATH 66052</td>
<td>INTRODUCTION TO TOPOLOGY I and INTRODUCTION TO TOPOLOGY II</td>
<td></td>
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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 Arts degree must pass the departmental qualifying examination at the master's level in algebra and analysis.

**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.