

APPLIED MATHEMATICS - PH.D.

College of Arts and Sciences

Department of Mathematical Sciences
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Kent Campus
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Description

The Ph.D. degree in Applied Mathematics is for those interested in becoming professional scholars, college and university teachers, or independent workers in private, industrial or government research institutions.

Fully Offered At:

- Kent Campus

Admission Requirements

- Passage of the departmental qualifying examination at the master's level
- Master's degree from an accredited university or college for unconditional admission
- 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

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.

Program Learning Outcomes

Graduates of this program will be able to:

1. Understand and appreciate connections between mathematics and other disciplines.
2. Be aware of and understand a broad range of mathematical subdisciplines.
3. Obtain a broader and deeper understanding of core applied mathematics subdisciplines, including numerical analysis, probability and mathematical statistics.
4. Obtain a deep understanding of some subdiscipline.

5. Engage effectively in problem solving, including exploring examples, devising and testing conjectures and assessing the correctness of solutions.
6. Reason in mathematical arguments at a level appropriate to the discipline, including posing problems precisely, articulating assumptions and reasoning logically to conclusions.
7. Approach mathematical problems creatively, including trying multiple approaches and modifying problems when necessary to make them more tractable.
8. Develop and carry out a research program in applied mathematics.
9. Communicate mathematics clearly both orally and in writing.
10. Teach university-level mathematics effectively.

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements		
Mathematics Doctoral-Level Coursework (MATH 70000 or 80000 level) ¹		30
MATH 87199	DISSERTATION I ²	30
Minimum Total Credit Hours:		60

- ¹ A cognate of maximum 10 credit hours may be counted toward the completion of the degree subject to the approval of the student's advisor and the graduate studies committee.
- ² Each doctoral candidate, upon admission to candidacy, must register for MATH 87199 for a total of 30 credit hours. It is expected that a doctoral candidate will continuously register for Dissertation I, and thereafter MATH 87299, each semester, including summer, until all requirements for the degree have been met. It is expected that candidates will present the results of their research in a defense open to students and faculty, at which the dissertation will be presented and defended before the dissertation committee.

Candidacy

This examination will be a comprehensive examination in the field of the major subject, and will be a substantially deeper test than the qualifying examination.