Applied Mathematics, MS

College of Science and Technology
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The Applied Mathematics program provides a thorough background and research training in one of the key areas of Applied Mathematics, such as Mathematical Modeling and Analysis, Dynamics Systems and Differential Equations, Numerical Analysis and Fluid Dynamics, Probability and Statistics, Control Theory and Optimizations. The program also gives the students hands-on experience in current important applications in these areas, along with the statistical and computational skills to apply their knowledge to real world applications.

Additional Admission Requirements
A Bachelor's degree in Mathematics or a closed related field from an accredited institution

Program Outcomes:
- Students will develop research expertise in one of the areas of Applied Mathematics.
- Students will proficiently apply mathematical knowledge, technology skills, and logical reasoning and proof skills, in solving problems or developing new techniques in Applied Mathematics.
- Students will communicate effectively and with confidence using accurate symbolic representation and correct mathematical terminology orally, in writing, and when using technology according to the standards of the field of mathematics.
- Students will develop the ability to use mathematical reasoning and analysis to acquire a comprehensive understanding of Applied Mathematics. Students will be able to apply analytical reasoning skills in decision making as well as mathematics-based problem-solving skills in an interdisciplinary context.
- Students will demonstrate computational skills and knowledge of current technology, software and hardware used in Applied Mathematics.

Degree Requirements
Total credit hours: 30
- Core courses (9 credit hours): MATH 603, 651, and 690

Thesis option:
- Take 9 credit hours of 700 level MATH or STAT courses with approval of advisor
- Take 6 credit hours of graduate electives with approval of advisor
- Master's Thesis (MATH 797: 6 credit hours)
- Pass Master's Comprehensive Exam
- Pass thesis defense

Project Option:
- Take 9 credit hours of 700 level MATH or STAT courses with approval of advisor
- Take 9 credit hours of graduate electives with at least 3 credit hours at 700 level and approval of advisor
- Graduate Design Project (MATH 796: 3 credit hours)
- Pass Master's Comprehensive Exam
- Pass Graduate Design Project oral examination