Doctor of Philosophy  
Mathematical and Computational Sciences

Degree Program
A minimum of 60 credit hours is required, including
- Mathematics Option: at least 33 hours must be in courses numbered 5000 or above.
- Computer Science Option: at least 45 hours must be in courses numbered 5000 or above.
- Statistics Option: at least 33 hours must be in courses numbered 5000 or above.

Qualifying Examination:
1. Take a written examination, normally within the first 12 credit hours of study in the Ph.D. program.
   - Mathematics Option: Topics from real analysis, complex analysis and linear algebra (Math 4100, 4160, 4450).
   - Computer Science Option: Topics from the theory of programming languages, operating systems, analysis of algorithms, and computer systems (CS 4250, 4760, 5130, 5700).
   - Statistics Option: Topics from real analysis, linear algebra, mathematical statistics I and II (Math 4100, 4450, 4200 and 4210).
2. After passing Step 1, select one of the following (normally within the first 24 hours of study of the program):
   1. Pass a written examination in an approved area of the student's interest.
   2. Write a survey paper in a specialized area under the direction of a member of the graduate faculty and defend it in an oral examination.

Dissertation
All students must defend orally a written dissertation proposal to their dissertation committee. A dissertation embodying the results of original research must be accepted by the Department of Mathematics and Computer Science and the Graduate School.

Emphasis Area
- Mathematics
- Computer Science
- Statistics

Program Website: [http://umsl.edu/go/Math-PhD](http://umsl.edu/go/Math-PhD)

Application Requirements
1. Graduate School Application [http://umsl.edu/go/Apply-Now](http://umsl.edu/go/Apply-Now)
2. Three Letters of Recommendation
   a. Letters of recommendations from persons qualified to evaluate the student's academic ability are required.
3. Official transcripts from all universities attended
   a. Applicants must have completed at least a baccalaureate degree before beginning the program.
4. Entrance examinations
   a. Graduate Record Examination (GRE) (see [http://www.gre.org/ttindex.html](http://www.gre.org/ttindex.html)).
   b. International students are required to document English proficiency by providing scores from an internationally accepted standardized examination before a decision is made on admission.
5. Grade Point Average
   a. Minimum of 3.0 on 4.0 scale

Application Deadlines
Deadline for receipt of all admission materials
- Fall semester: July 1
- Spring semester: December 1

Application Fee
$50 for domestic applicants; $40 for international applicants

Assistantships
Assistantships are available for outstanding applicants. Please follow instructions to apply at [http://www.umsl.edu/mathcs/graduate-studies/graduate-information.html#assistantship](http://www.umsl.edu/mathcs/graduate-studies/graduate-information.html#assistantship)

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