MATHEMATICS, MASTER OF ARTS (049)

Program Coordinator
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This online program is intended for students who are secondary teachers who already hold teacher certification and are seeking rank change through earning a Master's degree. In addition, completion of this degree program would qualify the classroom teacher to teach dual credit mathematics courses at the high school level, teach at a community college or technical school, or pursue a PhD/EdD in mathematics education. This degree does not provide initial teacher certification or prepare a student for a PhD in mathematics.

Program Admission

To be admitted to the M.A. program, students must meet the following criteria:

1. Satisfy one of the following conditions:
   a. have a GPA of at least 3.0 in their undergraduate major, or
   b. have a GRE general score of at least 300.
2. A bachelor's degree in mathematics, OR the completion of the following undergraduate courses, with at most one deficiency:
   a. calculus sequence through multivariable calculus
   b. linear algebra
   c. discrete mathematics
   d. probability or calculus-based statistics
   e. abstract algebra
   f. geometry

Applicants must also have or be eligible for a teaching certificate for Secondary Mathematics (grades 8-12). A copy of the certificate or statement of eligibility must be submitted with the application.

Graduate Studies Admission

Please refer to the admission section (http://catalog.wku.edu/graduate/admission/) of this catalog for Graduate Studies admission requirements.

Program Requirements (30 hours)

This program is designed to develop mathematics teachers who can positively impact student learning in their classrooms and schools. Courses and experiences include a study of advanced mathematics. The capstone for the MA in Mathematics is a research project that focuses on the teaching and learning of mathematics, from an advanced perspective.

Comprehensive exams in mathematics are required. A student who chooses to do a thesis is required to complete 6 hours of MATH 599 and to give an oral defense of the thesis.

Code	Title	Hours
Required Courses		
MATH 501	Introduction to Probability and Statistics I	3
MATH 503	Introduction to Analysis	3
MATH 511	Algebra from an Advanced Perspective	3
MATH 512	Geometry from an Advanced Perspective	3
MATH 515	Introduction to Number Theory	3
MATH 585	Advanced Mathematical Thinking I	3
MATH 595	Advanced Mathematical Thinking II	3
Electives		
Select 9 hours of the following:		9
MATH 405G	Numerical Analysis	
MATH 406G	Numerical Linear Algebra with Applications in Data Science	
MATH 409G	History of Mathematics	
MATH 415G	Algebra and Number Theory	
MATH 417G	Algebraic Systems	
MATH 431G	Intermediate Analysis I	
MATH 435G	Partial Differential Equations	
MATH 439G	Topology I	
MATH 450G	Complex Variables	
MATH 470G	Introduction to Operations Research	
MATH 500	Readings in Mathematics	
MATH 504	Application of Technology to Problems in Mathematics	
MATH 510	Intermediate Statistics	
MATH 514	Mathematical Modeling and Applications	
MATH 517	Topics from Algebra	
MATH 529	Applied Probability	
MATH 531	Advanced Differential Equations	
MATH 532	Real Analysis	
MATH 535	Advanced Applied Mathematics- I	
MATH 536	Advanced Applied Mathematics- II	
MATH 539	Topology II	
MATH 540	Stochastic Processes	
MATH 541	Graph Theory	
MATH 542	Advanced Topics in Discrete Mathematics	
MATH 550	Complex Analysis	
MATH 570	Topics in Operations Research	
MATH 590	Special Topics in Mathematics	
MATH 599	Thesis/Research	
STAT 549	Statistical Methods I	
STAT 550	Statistical Methods II	
Total Hours		**30**

Secondary Education Completion Requirements

1. Successfully complete all courses with a grade of C or higher
2. Give acceptable presentation of action research in approved venue.
3. Achieve a minimum 3.0 GPA overall in all course work.
4. Successful completion of comprehensive exams.