

M.S. in Mathematical Sciences

The program has a history of successfully preparing students for doctoral studies as well as for positions in industry and teaching.

Each student's program is designed individually to meet the student's interests and goals.

Applicants whose degrees are from non-English speaking institutions are required to demonstrate English proficiency. Please consult the Graduate School (<https://www.utep.edu/graduate/future-students/applicant-timelines.html>) website for required scores.

Departmental Requirements

For the MS degree, both thesis and non-thesis options are available. The thesis option requires 24 semester hours of coursework plus the completion of the six-semester-hour thesis. The non-thesis option requires 36 semester hours of coursework including MATH 5396 or STAT 5396. In either case, a maximum of nine (9) semester hours of approved upper-division undergraduate courses is acceptable. Particular courses of study for the MS must be approved by the departmental committee on graduate studies. The passing of a comprehensive examination is required. All full-time MS students must enroll in MATH 5195 or STAT 5195 each semester in residence, excluding summers and the last semester of thesis.

Degree Plan

Required Credits: 30-36

Code	Title	Hours
MS in Mathematics (All courses require a grade of C or better)		
Required Courses:		
MATH 5331	Real Variables	3
MATH 5351	Complex Variables	3
STAT 5380	Mathematical Statistics I	3
Select thesis or non-thesis option:		7-13
Thesis Option		
MATH 5195	Graduate Seminar	
MATH 5398	Thesis 1	
MATH 5399	Thesis 2	
Non-Thesis Option		
MATH 5195	Graduate Seminar	
MATH 5396	Graduate Research	
Other Electives:		
Select 9 additional hours from the following:		
MATH 5311	Topics in Applied Mathematics	
MATH 5321	Principles of Analysis	
MATH 5325	Principles of Algebra	
MATH 5329	Numerical Analysis	
MATH 5330	Comp Methods of Linear Algebra	
MATH 5335	Techniques in Optimization	
MATH 5341	General Topology	
MATH 5343	Numer Solution Part Diff Equat	
MATH 5345	Numerical Optimization	
MATH 5370	Special Topics	
Other Electives (thesis or non-thesis):		
Select fourteen hours from the following:		14
MATH 5311	Topics in Applied Mathematics	
MATH 5321	Principles of Analysis	
MATH 5325	Principles of Algebra	
MATH 5329	Numerical Analysis	
MATH 5330	Comp Methods of Linear Algebra	
MATH 5335	Techniques in Optimization	
MATH 5341	General Topology	

MATH 5343	Numer Solution Part Diff Equat
MATH 5345	Numerical Optimization
MATH 5370	Special Topics
STAT 5329	Statistical Programming
STAT 5335	Applied Experimental Design
STAT 5336	Categorical Data Analysis
STAT 5354	Post-Genomic Analysis
STAT 5370	Special Topics
STAT 5381	Mathematical Statistics II
STAT 5385	Applied Regression Models
STAT 5386	Stochastic Processes
STAT 5388	Multivariate Data Analysis
STAT 5391	Time Series Analysis
STAT 5392	Statistical Computing
STAT 5428	Intro to Statistical Analysis
STAT 5474	Statistical Machine Learning I
STAT 5494	Statistical Machine Learn. II

Total Hours **30-36**

Applied Mathematics Track

Thesis Option

Code	Title	Hours
Required Courses		
MATH 5309	Intro to Applied Analysis	3
MATH 5321	Principles of Analysis	3
MATH 5322	Linear Algebra	3
MATH 5329	Numerical Analysis	3
MATH 5398	Thesis 1	3
MATH 5399	Thesis 2	3
MATH 5195	Graduate Seminar	1

All full-time students must enroll in MATH 5195 each semester in residence, excluding summers and the last semester of thesis.

Free Elective Course Menu for Thesis Option (11 credit hours required)

MATH 5XXX / STAT 5XXX - Any graduate level MATH/STAT courses	11
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Total Hours **30**

Non-Thesis Option

Code	Title	Hours
Required Courses		
MATH 5309	Intro to Applied Analysis	3
MATH 5321	Principles of Analysis	3
MATH 5322	Linear Algebra	3
MATH 5329	Numerical Analysis	3
MATH 5396	Graduate Research	3
MATH 5195	Graduate Seminar	1

All full-time students must enroll in MATH 5195 each semester in residence, excluding summers and the last semester of thesis.

Free Elective Course Menu for Thesis Option (20 credit hours required)

MATH 5XXX / STAT 5XXX - Any graduate level MATH/STAT courses	20
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Total Hours **36**