

Applied Mathematics

The Mathematics Department offers graduate courses leading to the Master of Science degree in Applied Mathematics. The graduate program in Applied Mathematics prepares the successful candidate to pursue a Ph.D. program or assume immediate employment in business, industry, or government. To meet these goals, the program is designed to provide opportunities for advanced study and research on the application of mathematical methods to real problems. The primary research interests of the graduate faculty include stochastic processes, time series, applied statistics, computational fluid dynamics, discrete mathematics, numerical analysis, operator theory, scientific computing and functional analysis. The major course offerings consists of topics such as numerical analysis, ordinary differential equations, stochastic processes, nonlinear dynamics, and statistics.

Graduate students can choose one of two degree plans options- Thesis Plan or Comprehensive Examination Plan. Both plans require students to complete the 21 core credits. In the Thesis Plan, students take an additional nine credits of elective courses approved by the mathematics department. The student must also write and defend a thesis on an approved research problem of at least for credits. The Comprehensive Examination Plan requires the completion of an additional 15 credits of elective courses approved by the department. The student must also pass a comprehensive examination.

Graduate students are an integral part of the department's research activities. They work as graduate research assistants under the guidance of high-class research faculty. Research activities are supported through grants from several federal agencies and national laboratories, including the National Science Foundation, Office of Naval Research, US Army Research, Air Force Office of Scientific Research, NASA, and the Department of Energy. Financial assistance is available to qualified students through grants from federal agencies. This financial support pays up to \$9000 per academic year and covers part or all of the student's tuition and fees with a limit of nine hours per semester. Additional support for the summer is possible.

Degree Plan of Study: Applied Mathematics

Required Courses: 21 credits

		Cr.	
MAT	504	Advanced Linear Algebra	3
MAT	511	Advanced Ordinary Differential Equations	3
MAT	513	Elements of Real Analysis	3
MAT	515	Functions of Complex Variables	3
MAT	608	Partial Differential Equations I	3
MAT	614	Methods of Applied Mathematics I	3
MAT	616	Advanced Numerical Analysis	3

Degree Plan Courses: 13 or 16 credits

Plan A	MAT 681: Thesis	4
	MAT _____ (math elective)	3
	MAT _____ (math elective)	3
	MAT _____ (600 level math elective)	3

Plan B	MAT _____ (math elective)	3
	MAT _____ (math elective)	3
	MAT _____ (math elective)	3
	MAT _____ (math elective)	3
	MAT _____ (math elective)	3
	MAT 702: Comprehensive Examination	1

Total Credits: 34-37

This profile sheet should be used in concurrence with your academic catalog and the guidance of your academic advisor.