

# APPLIED MATHEMATICS MAJOR

## Requirements for a Major in Applied Mathematics

### Bachelor of Science

Code	Title	Hours
<b>Required Courses</b>		
MATH 132	Calculus II	4
MATH 203	Multivariable Calculus	4
MATH 213	Elementary Linear Algebra	3
MATH 215	Mathematics Resources, Opportunities, and Career Seminar	1
MATH 220	Discrete Mathematics	3
MATH 307	Differential Equations: A Modeling Perspective	3
MATH 415	Mathematics Seminar	1
CSCI 111	Introduction to Computer Science	4
One APMA course numbered 400 or above		3
<b>Cognate Sequence</b>		
Must complete an approved cognate sequence of at least seven hours from a discipline in the natural, social, or computational sciences. Approved sequences include the following:		7
<i>Biology Cognate (any seven hours from)</i>		
BIOL 121	Foundations of Experimental Biology	
BIOL 123	Principles in Molecular Biology	
BIOL 340	Ecological Simulation	
BIOL 350	Biostatistics	
MATH 345	Mathematical Biology	
<i>Chemistry Cognate</i>		
CHEM 215	Principles of Chemistry \$50 course fee	
CHEM 220	Basic Inorganic Chemistry	
	or CHEM 230 Quantitative Chemical Analysis	
<i>Computer Science Cognate</i>		
CSCI 112	Data Structures	
CSCI 311	Algorithms	
<i>Cybersecurity Cognate</i>		
CSCI 112	Data Structures	
CSEC 321	Cryptography	
<i>Economics Cognate</i>		
ECON 201	Principles of Economics-Micro	
ECON 202	Principles of Economics-Macro	
ECON 312	Econometrics	
<i>Environmental Studies Cognate</i>		
EVST 105	Environmental Problem Solving I	
EVST 305	Environmental Problem Solving II	
<i>Geology Cognate</i>		
GEOL 101	Introduction to Geology and the Environment	
	or GEOL 102 A Geologic History of Earth	
	A 4 credit hour GEOL course numbered higher than 102	
<i>Physics Cognate</i>		

PHYS 151 Introductory Physics

PHYS 152 Introductory Physics

### Electives

Must complete five approved elective courses. These courses include 15 any 3+ credit hour APMA or MATH course numbered above 200. One of BIOL 350, CSCI 311, or PHYS 250 may be counted as an elective.

**Total Hours** 48