

APPLIED MATHEMATICS, B.S.

Requirements for a Major in Applied Mathematics

Code	Title	Hours
Required Courses		
Thirty-nine semester hours, nine hours of which must be at the 4000-level, including the following:		
MTH 1321	Calculus I	3
MTH 1322	Calculus II	3
MTH 2311	Linear Algebra	3
MTH 2321	Calculus III	3
MTH 3300	Foundations of Mathematics	3
STA 3381	Probability and Statistics	3
One of the following:		3
MTH 3312	Foundations of Combinatorics and Algebra	
MTH 3323	Introduction to Analysis	
MTH 4314	Abstract Algebra	
MTH 4326	Advanced Calculus I	
Nine semester hours from one of the following groups: ¹		9
<i>Statistical</i>		
STA 4382	Intermediate Statistical Methods	
STA 4385	Mathematical Statistics I	
STA 4386	Mathematical Statistics II	
STA 4387	Introduction to Probability Models	
<i>Differential</i>		
MTH 3325	Ordinary Differential Equations ¹	
MTH 3326	Partial Differential Equations	
MTH 4329	Theory of Functions of a Complex Variable	
<i>Numerical</i>		
MTH 3324	Numerical Methods	
MTH 4322	Numerical Analysis	
MTH 4328	Numerical Linear Algebra	
Nine semester hours of 3000-4000 level MTH or STA courses		9
A grade of "C" or better in thirty-nine hours of MTH and STA courses used for the major.		
Subtotal		39
Required Courses in Other Fields		
Eight semester hours of science courses with appropriate labs (with no more than 4 hours of GEO) selected from the following:		8
CSI 1401	Introduction to Programming I	4
or CSI 1430	Introduction to Computer Science I with Laboratory	
or STA 2450	Introduction to Computing for the Mathematical and Statistical Sciences	
CSI 1402	Introduction to Programming II	4
or CSI 1440	Introduction to Computer Science II with Laboratory	
or STA 4330	SAS Programming for Statistical Science	
or STA 4350	Statistical Machine Learning	
or STA 4373	Computational Methods in Statistics	

BIO 1305 & BIO 1105	Modern Concepts of Bioscience and Modern Concepts of Bioscience Laboratory
BIO 1306 & BIO 1106	Modern Concepts of Bioscience, continued and Modern Concepts of Bioscience Laboratory
CHE 1301 & CHE 1101	Basic Principles of Modern Chemistry I and General Chemistry Laboratory I
CHE 1302 & CHE 1102	Basic Principles of Modern Chemistry II and General Chemistry Laboratory II
ENV 1301 & ENV 1101	Exploring Environmental Issues and An Introduction to Environmental Analysis (Lab)
GEO 1306 & GEO 1106 or GEO 1307 & GEO 1106	The Earth Through Time and The Earth Through Time, Laboratory Evolution and Extinction and The Earth Through Time, Laboratory
GEO 1401	Earthquakes and Other Natural Disasters
GEO 1402	World Oceans
GEO 1403	Environmental Geology
GEO 1405	The Dynamic Earth
GEO 1408	Earth Science
NSC 1306 & NSC 1106	Introduction to Neuroscience and Introduction to Neuroscience Laboratory
PHY 1420	General Physics I
PHY 1430	General Physics II
Total Hours	55

¹ A student applying for medical school is recommended to select Statistical and take MTH 3325 Ordinary Differential Equations as a 3000-level course.