

APPLIED MATHEMATICS, B.S.

Emphases

- Biology: Genetics (p. 1)
- Biology: Environmental Science (p. 1)
- Chemistry (p. 1)
- Physics (p. 2)

Biology: Genetics Emphasis

Code	Title	Units
Lower-Division Requirements		
CSC 1043 and CSC 1043L	Introduction to Computer Programming and Introduction to Computer Programming Lab	3
CSC 1054 and CSC 1054L	Objects and Elementary Data Structures and Objects and Elementary Data Structures Lab	4
MTH 1064 and MTH 1064L	Calculus I (GE) and Calculus I Lab (GE)	4
MTH 1074 and MTH 1074L	Calculus II and Calculus II Lab	4
MTH 2033	Linear Algebra	3
MTH 2074	Calculus III	4
Upper-Division Requirements		
CSC 3003	Python and UNIX	3
MTH 3012	Number Theory with Proofs	2
MTH 3033	Differential Equations	3
MTH 3043	Discrete Mathematics	3
MTH 3073	Mathematical Modeling	3
MTH 3083	Mathematical Probability and Statistics	3
MTH 4013	Complex Analysis	3
MTH 4024	Real Analysis	4
MTH 4044	Abstract Algebra	4
MTH 4053	Advanced Applied Statistics	3
MTH 4081	Senior Seminar in Mathematics	1
Choose one (1) course from the following: ¹		2
MTH 4072	Internship in Data Science	
MTH 4142	Data Science Project I	
Biology: Genetics Courses		
BIO 2010 and BIO 2010L	Cell Biology and Biochemistry (GE) and Cell Biology and Biochemistry Lab (GE)	4
BIO 3045 and BIO 3045L	Genetics and Genetics Lab	4
Total Units		64

Biology: Environmental Science Emphasis

Code	Title	Units
Lower-Division Requirements		
CSC 1043 and CSC 1043L	Introduction to Computer Programming and Introduction to Computer Programming Lab	3
CSC 1054 and CSC 1054L	Objects and Elementary Data Structures and Objects and Elementary Data Structures Lab	4
MTH 1064 and MTH 1064L	Calculus I (GE) and Calculus I Lab (GE)	4

MTH 1074 and MTH 1074L	Calculus II and Calculus II Lab	4
MTH 2033	Linear Algebra	3
MTH 2074	Calculus III	4
Upper-Division Requirements		
CSC 3003	Python and UNIX	3
MTH 3012	Number Theory with Proofs	2
MTH 3033	Differential Equations	3
MTH 3043	Discrete Mathematics	3
MTH 3073	Mathematical Modeling	3
MTH 3083	Mathematical Probability and Statistics	3
MTH 4013	Complex Analysis	3
MTH 4024	Real Analysis	4
MTH 4044	Abstract Algebra	4
MTH 4053	Advanced Applied Statistics	3
MTH 4081	Senior Seminar in Mathematics	1
Choose one (1) course from the following: ¹		2
MTH 4072	Internship in Data Science	
MTH 4142	Data Science Project I	
Biology: Environmental Science Courses		
BIO 2011 and BIO 2011L	Ecological and Evolutionary Systems (GE) and Ecological and Evolutionary Systems Lab (GE)	4
BIO 4083	Introduction to Geographic Information Systems (GIS)	3
Total Units		63

Chemistry Emphasis

Code	Title	Units
Lower-Division Requirements		
CSC 1043 and CSC 1043L	Introduction to Computer Programming and Introduction to Computer Programming Lab	3
CSC 1054 and CSC 1054L	Objects and Elementary Data Structures and Objects and Elementary Data Structures Lab	4
MTH 1064 and MTH 1064L	Calculus I (GE) and Calculus I Lab (GE)	4
MTH 1074 and MTH 1074L	Calculus II and Calculus II Lab	4
MTH 2033	Linear Algebra	3
MTH 2074	Calculus III	4
Upper-Division Requirements		
CSC 3003	Python and UNIX	3
MTH 3012	Number Theory with Proofs	2
MTH 3033	Differential Equations	3
MTH 3043	Discrete Mathematics	3
MTH 3073	Mathematical Modeling	3
MTH 3083	Mathematical Probability and Statistics	3
MTH 4013	Complex Analysis	3
MTH 4024	Real Analysis	4
MTH 4044	Abstract Algebra	4
MTH 4053	Advanced Applied Statistics	3
MTH 4081	Senior Seminar in Mathematics	1
Choose one (1) course from the following: ¹		2
MTH 4072	Internship in Data Science	

MTH 4142	Data Science Project I	
----------	------------------------	--

Chemistry Courses

CHE 1052 and CHE 1052L	General Chemistry I (GE) and General Chemistry I Lab (GE)	5
CHE 1053 and CHE 1053L	General Chemistry II and General Chemistry II Lab	4
CHE 2013	Analytical Chemistry	3

Total Units		68
--------------------	--	-----------

Physics Emphasis

Code	Title	Units
------	-------	-------

Lower-Division Requirements

CSC 1043 and CSC 1043L	Introduction to Computer Programming and Introduction to Computer Programming Lab	3
CSC 1054 and CSC 1054L	Objects and Elementary Data Structures and Objects and Elementary Data Structures Lab	4
MTH 1064 and MTH 1064L	Calculus I (GE) and Calculus I Lab (GE)	4
MTH 1074 and MTH 1074L	Calculus II and Calculus II Lab	4
MTH 2033	Linear Algebra	3
MTH 2074	Calculus III	4

Upper-Division Requirements

CSC 3003	Python and UNIX	3
MTH 3012	Number Theory with Proofs	2
MTH 3033	Differential Equations	3
MTH 3043	Discrete Mathematics	3
MTH 3073	Mathematical Modeling	3
MTH 3083	Mathematical Probability and Statistics	3
MTH 4013	Complex Analysis	3
MTH 4024	Real Analysis	4
MTH 4044	Abstract Algebra	4
MTH 4053	Advanced Applied Statistics	3
MTH 4081	Senior Seminar in Mathematics	1
Choose one (1) course from the following: ¹		2

MTH 4072	Internship in Data Science	
MTH 4142	Data Science Project I	

Physics Courses

PHY 2044 and PHY 2044L	University Physics I (GE) and University Physics I Lab (GE)	4
PHY 2054 and PHY 2054L	University Physics II and University Physics II Lab	4
PHY 4013	Thermodynamics	3

Total Units		67
--------------------	--	-----------