MATH B.S. - OPTION I: Applied Mathematics Option

(for majors from the 2019-2020 catalogue year)

Student_____ CIN_____ADVISOR_____

GE Requirements (39 units)	Term	Grade	Course Type
Block A: Basic Subjects (9)			
A1 Oral Communication Course =			
A2 Written Communication Course =			
A3 Critical Thinking & composition Course =			
American Institutions (6)			
US History course =			
US Constitution course =			
Block B: Natural Sciences (0)			
Fulfilled by major requirements			
Block C: Arts and Humanities (6)			
C1 Arts Course =			
C2 Humanities Course =			
Block D: Social Sciences (6)			
D1 Course =			
D2 Course =			
Block E: Lifelong Learning and Self Development (3)			
E Course =			
Block F: Upper Division GE from 3 different sub-blocks (9)			
Sub block B Course =			
Sub block C Course =			
Sub block D Course =			

VARIOUS GE REQUIREMENTS

1. One civic learning course (denoted by **cl**) at the upper division GE level.
2. One race/ethnicity course (denoted by **re**) AND one diversity course (denoted by **d**) or another **re** course.
3. One writing intensive course (denoted by **wi**).

The above requirements must be fulfilled in GE blocks. Choose accordingly. An IHE course is required of all first-time freshmen. Please see e-catalog for complete GE requirement rules and policies.

***DIRECTIVE ELECTIVE**

The approved list of all directive elective courses is on the next page.

Graduation Requirements

A minimum **40** units of upper division courses and **120** total units are required for graduation. For an extensive list of other graduation requirements, check "academic requirement" in your GET account.

Major Requirement (81 Units)	Term	Grade
Lower Division Required Courses (33)		
CS 2011 (3) or MATH 2170 (3)		
MATH 2110 Calculus I (4)		
MATH 2120 Calculus II (4)		
MATH 2130 Calculus III (3)		
MATH 2150 Differential Equations (3)		
MATH 2450 Foundations of Mathematics I (3)		
MATH 2550 Introduction to Linear Algebra (3)		
PHYS 2100 General Physics I (5)		
BIOL 1100 Principles of Biology I (5)		
Upper Division Required Courses (7)		
MATH 3450 Foundations of Mathematics II (4)		
MATH 4650 Analysis I (3)		
Directive Elective Course* (3)		
Course =		
Option Specific Required Courses (25-27)		
MATH 4570 Linear Algebra (3)		
MATH 4680 Introduction to Complex Analysis (3)		
MATH 4740 Theory of Probability (3)		
MATH 4900 Senior Seminar in Mathematics (4) *WI course*		
Select one from each of the following groups (12-14)		
Group I: MATH 4010 Ordinary Differential Equations (3) MATH 4030 Partial Differential Equations (3)		
Group II: MATH 4100 Vector Analysis (3) MATH 4670 Multivariate Analysis (3)		
Group III: MATH 4700 Numerical Analysis I (3) MATH 4720 Linear Programming (3)		
Group IV: PHYS 2200 General Physics II (5) BIOL 1200 Principles of Biology II (5) CHEM 1100 General Chemistry I (5) CS 2012 Introduction to Programming II (3) CS 2013 Programming with Data Structures (3)		
University Free Electives (2-4) (If you took PHYS 2200, BIOL 1200, or CHEM 1100 in Group IV above choose 2 units of any courses. If you took CS 2012 or CS 2013, choose 4 units.)		
Course(s) =		
Upper Division Electives (9)		
Course1 =		
Course2 =		
Course3 =		

Directive Elective Courses

This is the approved list of Directive Elective Courses. If there is a course that you would like to use that is not on the list, please contact the Department of Mathematics for approval.

- BINF 4000 – Bioinformatics and Computational Biology (3) **also listed as**
- CHEM 4860 – Bioinformatics and Computational Biology (3)

- BIOL 4800 – Modeling Biological Systems (3) **also listed as**
- MATH 4800 – Modeling Biological Systems (3)

- CS 2012 – Introduction to Programming II (3)
- ECON 2090 – Applied Business and Economics Statistics I (3)
- ECON 4010 – Mathematical Economics (3)
- EE 2440 – Digital Engineering (3)
- EE 3040 – Probability, Random Variable, and Random Processes (3)
- PHIL 2500 – Introduction to Symbolic Logic (3)