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

(for majors from the 2024-2025 catalogue year)

Student_____ CIN_____ADVISOR_____

GE Requirements (39 units)	Term	Grade	Course Type
Block A: English Language Comm. & Critical Thinking (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 (3)			
D Course =			
Block E: Lifelong Understanding & Self Development (3)			
E Course =			
Block F: Ethnic Studies (3)			
F Course =			
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.

****Upper Division Electives**

The approved list of upper division 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 (32)		
CS 2010 (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: Mechanics (4)		
BIOL 1100 Cellular Basis of Life (5)		
Upper Division Required Courses (7)		
MATH 3450 Foundations of Mathematics II (4)		
MATH 4650 Analysis I (3)		
Option Specific Required Courses (28-30)		
MATH 4570 Linear Algebra (3)		
MATH 4900 Senior Seminar in Mathematics (4) *WI course*		
Group I : Select three courses from the following group (9)		
MATH 4700 Intro Numerical Linear Algebra (3)		
MATH 4710 Intro to Numerical Methods (3)		
MATH 4720 Linear Optimization (3)		
MATH 4800 Topics in Math Modeling (3)		
Group II: Select three courses from following group (9)		
MATH 4010 Ordinary Differential Equations (3)		
MATH 4030 Partial Differential Equations (3)		
MATH 4100 Vector Analysis (3)		
MATH 4740 Theory of Probability (3)		
MATH 4750 Intro to Math Statistics (3)		
***Group III: Select one course from the following group (3-5)** BIOL 1200 Diversity of Life (5) CHEM 1100 General Chemistry I (5) CS 2011 Introduction to Programming I (4) ECON 2090 Applied Business and Economic Statistics I (3) ECON 4010 Mathematical Economics (3) PHYS 2200 General Physics II (5) BINF 4000/CHEM 4860 Bioinformatics (3)		
University Free Electives (3-5) (If you took a 5-unit course in Group IV above, choose 3 units of any courses. If you took a 3-unit course, choose 5 units.)		
Course(s) =		
***Upper Division Electives (9)** At least 6 units must be MATH		
Course1 =		
Course2 =		
Course3 =		

***Upper Division Electives**

- MATH 3200 – Selected Topics in History of Mathematics (3)
- MATH 3540 – Selected Topics in Mathematics (3)
- MATH 4010 – Ordinary Differential Equations (3)
- MATH 4030 – Partial Differential Equations (3)
- MATH 4100 – Vector Analysis (3)
- MATH 4200 – Mathematical Logic (3)
- MATH 4300 – Modern Geometry (3)
- MATH 4460 – Theory of Numbers (3)
- MATH 4540 – Selected Topics in Advanced Math (3)
- MATH 4550 – Modern Algebra I (3)
- MATH 4560 – Modern Algebra II (3)
- MATH 4660 – Analysis II (3)
- MATH 4670 – Multivariate Analysis (3)
- MATH 4680 – Introduction to Complex Analysis (3)
- MATH 4690 – Introduction to Topology (3)
- MATH 4700 – Introduction to Numerical Linear Algebra (3)
- MATH 4710 – Introduction to Numerical Methods (3)
- MATH 4720 – Linear Optimization (3)
- MATH 4740 – Theory of Probability (3)
- MATH 4750 – Introduction to Mathematical Statistics (3)
- MATH 4800 – Topics in Mathematical Modeling (3)
- MATH 4840 – Graph Theory (3)
- MATH 4990 – Undergraduate Directed Study (1-3)

- BINF 4000/CHEM 4860 – Bioinformatics (3)
- ECON 4010 – Mathematical Economics (3)
- PHYS 4101 – Mathematical Methods of Physics (3)
- PHYS 4102 – Mathematical Methods of Physics (3)