Applied Math Major
2020-2021 Curriculum Chart

Calculus

Complete one sequence

MATH 19A Calculus for Sci., Engr. & Math **&** **MATH 19B** Calculus for Sci., Engr. & Math

OR

MATH 20A Honors Calculus **&** **MATH 20B** Honors Calculus

Linear Algebra & Differential Equations

AM 10 (Strongly Preferred) Math Methods for Engineers I

OR

MATH 21 Linear Algebra

AND

AM 20 (Strongly Preferred) Math Methods for Engineers II

OR

MATH 24 Differential Equations

Discrete Math

CSE 16 Applied Discrete Mathematics

Programming

Complete One

CSE 20 Beginning Programming in Python

OR

CSE 13S Computer Systems and C Programming

OR

CSE 13E Embedded Systems and C Programming

Multivariable Calculus

Complete one sequence

Math 23A Vector Calculus

&

MATH 23B Vector Calculus

OR

AM 30 (Strongly Preferred) Multivariate Calculus for Engineers

Lower Division Electives♦

ELECTIVE _____

ELECTIVE _____

A list of the lower division electives can be found on the BSOE Undergraduate Advising website here*: https://undergrad.soe.ucsc.edu/applied-math-lower-division-electives*

Upper-Division Courses

AM 100 Mathematical Methods for Engineers

AM 147 Computational Methods & Applications

AM 112 Introduction to Partial Differential Equations

OR

AM 212A♦ Applied Partial Differential Equations

AM 114 Introduction to Dynamical Systems

OR

AM 214♦ Applied Dynamical Systems

AM 129 Foundations of Scientific Computing for Scientists and Engineers

OR

AM 209 Foundations of Scientific Computing

STAT 131 Introduction to Probability Theory

OR

CSE 107 Probability & Statistics for Engineers

Upper-Division Electives♥

ELECTIVE _____

ELECTIVE _____

ELECTIVE _____

A list of the upper division elective can be found on the BSOE Undergraduate Advising website here: *https://undergrad.soe.ucsc.edu/applied-math-upper-division-electives*

Comprehensive Requirement

AM 170A♣ Mathematical Modeling 1

AND

AM 170B Mathematical Modeling 2

♣The DC requirement is satisfied by completing AM 170A

Applied Math Major
2020-2021 Curriculum Chart

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Key Legend

♦ Students are required to take two lower-division electives from the following list, in preparation for the upper division electives. Students are encouraged to plan ahead carefully in consultation with undergraduate advising in making their selection.

* Students who intend to pursue an M.S. degree in scientific computing and applied mathematics later are strongly encouraged to take the AM 212A and AM 214 options.

♥ Students are required to take three upper-division elective courses from the following list of possible electives. Note that many of these electives have lower-division prerequisites. Students should plan carefully which ones to take to ensure they are prepared for their selected upper-division electives. Also note that enrollment in the graduate courses is by permission of the instructor, who will verify adequate preparation.

Student Name:

Staff Advisor:

Faculty Advisor: