

Applied Math Major 2022-2023 Curriculum Chart

Calculus
Complete one sequence

MATH 19A Calculus for Sci., Engr. & Math [F/W/Sp/Su]	&	MATH 19B Calculus for Sci., Engr. & Math [F/W/Sp/Su]
OR		
MATH 20A Honors Calculus	&	MATH 20B Honors Calculus

Linear Algebra & Differential Equations

AM 10 (Strongly Preferred) Math Methods for Engineers I [F/W/Sp]	AND	AM 20 (Strongly Preferred) Math Methods for Engineers II [W/Sp]
OR		
MATH 21 Linear Algebra [F/W/Sp/Su]	MATH 24 Differential Equations [F/W/Sp/Su]	

Discrete Math

CSE 16 Applied Discrete Mathematics [F/W/Sp]

Multivariable Calculus
Complete one sequence

Math 23A Vector Calculus [F/W/Sp/Su]	OR	AM 30 (Strongly Preferred) Multivariate Calculus for Engineers [F/Sp]
MATH 23B Vector Calculus [F/W/Sp/Su]		

Lower Division Electives*

ELECTIVE	ELECTIVE
_____	_____

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

Programming
Complete One

CSE 20 Beginning Programming in Python [F/W/Sp]
OR
CSE 13S Computer Systems and C Programming [F/W/Sp]
OR
ECE 13 Computer Systems and C Programming [F/Sp]

Upper-Division Courses

AM 100 Mathematical Methods for Engineers [F]	AM 112 Introduction to Partial Differential Equations OR AM 212A* Applied Partial Differential Equations [W]	AM 114 Introduction to Dynamical Systems OR AM 214* Applied Dynamical Systems [F]	AM 129 Foundations of Scientific Computing for Scientists and Engineers [F]	STAT 131 Introduction to Probability Theory OR CSE 107 Probability & Statistics for Engineers [F/W]
AM 147 Computational Methods & Applications [W]				

* 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.

Upper-Division Electives*

ELECTIVE	ELECTIVE	ELECTIVE
_____	_____	_____

A list of the upper division electives can be found on the BE Undergraduate Advising website here:
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Comprehensive Requirement

AM 170A* Mathematical Modeling 1 [W]	AND	AM 170B Mathematical Modeling 2 [Sp]
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♣The DC requirement is satisfied by completing AM 170A

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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 in preparation for the upper division electives. Students are encouraged to plan ahead carefully in consultation with undergraduate advising in making their selection.

♥ Students are required to take three upper-division elective courses. 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.

Please review the [Applied Math Career Electives document](#) as you select upper division electives that align with your professional goals: <https://docs.google.com/document/d/1dhLayvCKhc4PsO87nT5-apR5h-yIkyfWjYRWSNe2hOE/edit?usp=sharing>

Student Name:

Staff Advisor: