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]
  OR
- 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]

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]

Multivariable Calculus
Complete one sequence
- Math 23A Vector Calculus [F/W/Sp/Su]
  OR
- MATH 30 (Strongly Preferred) Multivariate Calculus for Engineers [F/Sp]
  OR
- 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

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

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]

* 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.

The DC requirement is satisfied by completing AM 170A
### Applied Math Major
#### 2022-2023 Curriculum Chart

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### 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](https://docs.google.com/document/d/1dhLayvCKhc4PsO87nT5-apR5h-ylyWfJYnWSNe2hOE/edit?usp=sharing) as you select upper division electives that align with your professional goals.

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**Student Name:**

**Staff Advisor:**