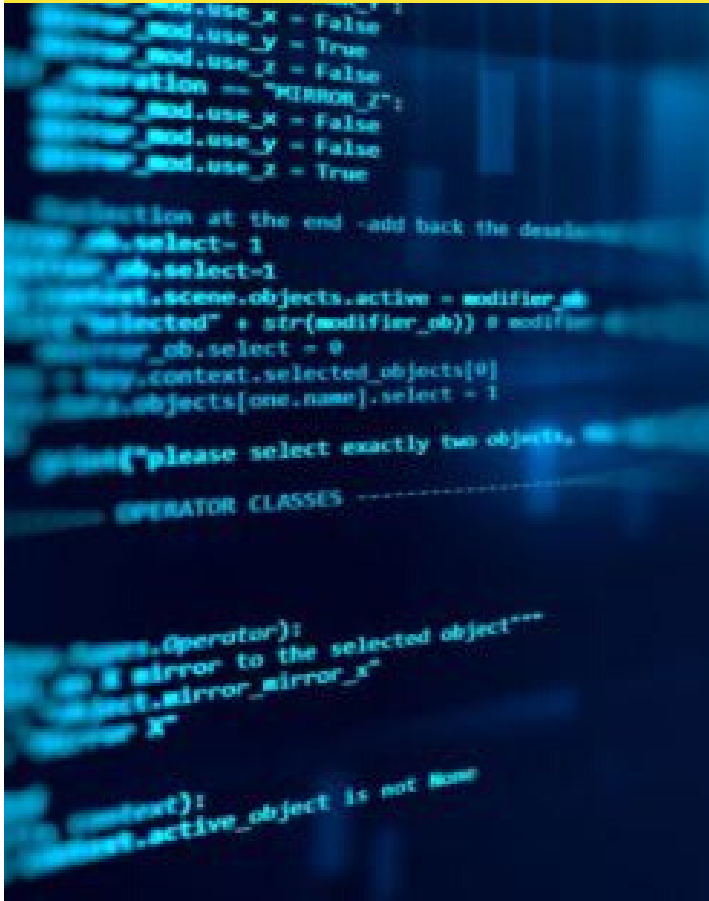
Interested?

Talk with the Math Undergraduate Advisor, Cydney Matteson, about switching to the Mathematical and Scientific Computation major. Set up your appointment at appointments.ucdavis.edu.

UCDAVIS
MATHEMATICS

Mathematical and Scientific Computaion



WHAT IS MATHEMATICAL AND SCIENTIFIC COMPUTATION?

Mathematical and Scientific Computation is the interplay between mathematical theory and modern computational tools for applications. The major has two emphases. The computational and mathematical biology emphasis is geared towards students interested in modelling biological systems, addressing such questions as how proteins cluster, how populations grow, or how species interact and evolve.
Students interested in other sciences, pure mathematics or engineering should choose the computation and mathematics emphasis.

PROGRAM OVERVIEW

As a first-year in the mathematical and scientific computation major, you will begin your study with basic preparatory mathematics courses and computer science and engineering courses in programming and software development. You will then choose the Mathematics or Mathematical Biology emphasis and plan your upper division work with the help of a faculty adviser. Both emphases require some coursework outside of the department. For Transfer Students: all lower-division requirements (equivalent to the first two years of courses) must be completed prior to transferring.

Sample Schedule

Year 1
Fall Quarter: MAT 21A
Winter Quarter: MAT 21B
Spring Quarter: MAT 21C, ENG 6

Year 2
Fall Quarter: MAT 21D, ECS 32A
Winter Quarter: MAT 22A, MAT 108
Spring Quarter: MAT 22B, MAT 127A

Year 3
Fall Quarter: MAT 127B, MAT 135B
Winter Quarter: MAT 127C, Biology Class
Spring Quarter: MAT 124, Enrichment Class

Year 4
Fall Quarter: MAT 150A, MAT 128A
Winter Quarter: MAT 128B, Enrichment Class
Spring Quarter: MAT 128C, Capstone

HOW DOES THIS MAJOR DIFFER FROM OUR OTHER MATH MAJORS?

Mathematical and Scientific Computation has an emphasis on computer science and numerical analysis courses. Additionally, based on the emphasis chosen, either Mathematical Biology (MAT 124) or Optimization (MAT 168) is required. Upper division coursework in computer science, biology, evolution and ecology, or statistics is also required.

POSSIBLE CAREER PATHS

Postgraduate Work: Many of those who go on to graduate school choose from a variety of schools, such as Harvard, MIT, Stanford, Princeton, and many graduate degree programs at UC Davis.Students who continue on to graduate school pursue a range of fields of study, such as bioinformatics, communication, economics, engineering, law, medicine, and statistics.

Industry: Some of our graduates have received jobs ranging from technology and social media companies (Google, Amazon, Facebook); Data Analytics firms (Acumen, Accenture); Investment firms (Morgan Stanley, Barclays).