



## ONLINE COURSES

*Since 2019, the potential for learning "online" is something we have all become aware of. However, we at UCSC Math have been teaching in this way since 2015, when it comes to our Online Calculus courses. These are not hasty conversions of in-person classes, but rather carefully-designed ways to learn. Online Calculus courses use the interactive capability of software to present course content that is customized to each student individually. We think the advantages are considerable. They might be ideal for you !*

The Mathematics Department offers MATH 19A/B (Calculus for Science, Engineering and Mathematics) and MATH 23A/B (Vector Calculus) **ONLINE** as well as in the "traditional lecture format." These online courses are offered to all UC students through UC's cross-campus enrollment system, and can also be taken by non-UC students. They articulate fully at all UCs as prerequisites and general education requirements. UC Santa Cruz students can register for these courses as they would a regular, in-person course. For more see [UCOnline](#).

(Watch an informational video about [UC-wide Online Courses](#).) (Read an [article about them](#).)

To find out when particular courses are offered,  
go to <https://uconline.edu/search>

## Tentative schedule for UCSC 22-23 academic year:

Class	Fall 22	Winter 23	Spring 23	Summer 23
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<b>Math 19A</b>	<b>Both</b>	<b>Online</b>	<b>Classroom</b>	<b><i>Online</i></b>
<b>Math 19B</b>	<b>Classroom</b>	<b>Both</b>	<b>Online</b>	<b><i>Online</i></b>
<b>Math 23A</b>	<b>Online</b>	<b>Online</b>	<b>Both</b>	<b><i>Online</i></b>
<b>Math 23B</b>	<b>Classroom</b>	<b>Classroom</b>	<b>Classroom</b>	<b><i>Online</i></b>

## Available courses include

- [Math 19A \(Calculus for STEM 1\)](#)
- [Math 19B \(Calculus for STEM 2\)](#)
- [Math 23A \(Vector Calculus 1\)](#)
- [Math 23B \(Vector Calculus 2\)](#)

## What is online Calculus and how does it work?

There are approximately 90 short, focused lectures per course, each lasting from 5-15 minutes. These are presented online through [Canvas](#), UC Online Education's learning management system. Each lecture can be viewed any time, anywhere internet is available. The lectures, which are captioned, can be paused and reviewed as often as students wish.

The interactive textbook is available online through The Macmillan Publishing Company. Carefully-designed questions check students' progress as they read through the book, and adapt content accordingly.

Low-stakes quizzes are given online, but proctored exams are offered both in-class (through the usual University method) and online (through an online proctoring service called "[ProctorU](#)."

In addition to optional (but encouraged) in-person secondary sections, students also use an online discussion platform accessible through [Canvas](#), called "Piazza." This platform promotes peer-to-peer collaborative learning, and also allows students to pose questions to their instructors.

Sections and office hours are offered in the traditional in-person format, as well as on-line through [Zoom](#). This setup is designed to meet the needs of local as well as remote students, and accommodates a variety of learning styles.

**In-person, drop-in sections listed in the [UCSC Schedule of Classes](#) are for additional support as needed-- no enrollment is necessary; anyone can attend at any time.**

Instructors Tony Tromba and Frank Bauerle present an overview of each course in these videos.

[\(19A video\)](#) [\(19B video\)](#) [\(23 video\)](#)