

# MATH 11B: CALCULUS II WITH APPLICATIONS

2023 Summer Session 2

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**Instructor:** Amethyst Price                      **Time:** MWF 09:00AM-11:30AM  
**Email:** [amrprice@ucsc.edu](mailto:amrprice@ucsc.edu)                      **Place:** Zoom (Link in Canvas)

**Office Hours:** M 12:00 - 2:00PM (PT) and **by request** (Zoom - link in Canvas)

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<b>TA:</b> Fulya Tastan	<b>TA:</b> Boyu Chen
<b>Email:</b> <a href="mailto:ftastan@ucsc.edu">ftastan@ucsc.edu</a>	<b>Email:</b> <a href="mailto:bchen60@ucsc.edu">bchen60@ucsc.edu</a>
<b>Office Hours:</b> TH 9:00-11:00AM	<b>Office Hours:</b> TH 3:00 - 5:00PM

**Sections:** TBA

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**LSS Tutor:** Laya Ashely                      **Email:** [lashely@ucsc.edu](mailto:lashely@ucsc.edu)

**Small Group Tutoring:** TBA - must sign up on TutorTrac

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**Course Description:** Starting with the fundamental theorem of calculus and related techniques, the integral of functions of a single variable is developed and applied to problems in geometry, probability, physics, and differential equations. Polynomial approximations, Taylor series, and their applications conclude the course. Students cannot receive credit for this course and MATH 19B, or AM 11B, or AM 15B, or ECON 11B.

**Prerequisites:** MATH 11A or MATH 19A or AMS 15A or AP Calculus AB exam score of 4 or 5, or BC exam score of 3 or higher, or IB Mathematics Higher Level exam score of 5 or higher. Prerequisites waived for non-UCSC students.

**Course Modality:** Lectures will be held and recorded via Zoom during the scheduled times. Sections will be held on Zoom and will not be recorded. All office hours will also occur on Zoom.

**Textbook:** Biocalculus for Life Sciences by James Stewart and Troy Day (Optional)

## Course Policies:

- Attendance of lectures: not required, but highly recommended.
- Attendance of sections: Required, will complete quizzes in sections.
- Required materials: Canvas, Gradescope, Edfinity, Zoom
- Course discussion forum: Ed Discussion - linked to Canvas, will be used for all questions/communication outside of class and office hours.
- Curve: None - see assignment drop list and grading scale.
- Participation: Improvements and effort throughout the course - including participation in Ed Discussion posts - will be duly noted and may result in a grade bump.

**Assignments:**

- Quizzes - Completed on Canvas during Sections with TAs
- Edfinity Homework - Edfinity can be accessed directly through Canvas
- Written Homeworks - Submitted in Gradescope
- Reflections - Completed on Canvas
- Midterm - mini research project
- Final - Several portions, similar to other assignment types

**Exams:**

- All exams will be take-home (Not completed during lecture)
- The midterm will be a "mini-research project" - more details on Canvas.
- You will receive (TBA) days to complete the Midterm
- The final may be a mix of question types (e.g. Canvas multiple choice, written questions, exploration questions, explanation questions).
- You will receive (TBA) days to complete the Final
- Final may be a mix of question types (e.g. Canvas multiple choice, written questions, exploration questions - all similar to previous assignments).
- Written portions of exams will be submitted via Gradescope

**Late Policy/Dropped Assignments:**

- A 10 hour grace period will be given on all written assignments submitted on Gradescope.
- No other late assignments will be accepted.
- Your lowest quiz score will be dropped at the end of the course.
- No other assignments will be dropped.
- You will have a chance to make up some missed points on Edfinity Homework.
- No make-up quizzes or exams will be given for any reason.

**Sections:** Sections are put in place to help you gain a better understanding of the material. All quizzes will be given during sections and cannot be taken outside of sections. Therefore, attendance is required. There will be 2 sections per week, you only need to attend one.

**Times:** TBA

**Small Group Tutoring:** Small Group Tutoring provides a small interactive setting for students to engage in conversations about course material with other students. Each session is led by a current UCSC undergraduate student who has taken the course and done well in it. Tutoring sessions are 1-Hour long and generally have a capacity of 6 students. When students sign up for tutoring, students make a commitment to attend tutoring weekly for a majority of the quarter. All students can sign up for up to 2-Hours of tutoring a week per course they are enrolled in. More information on Canvas.

**Grade Distribution:**

Quizzes .....	10%
Written Homework .....	15%
Edfinity .....	20%
Midterm .....	25%
Final .....	30%
Reflections (Extra Credit) .....	5%

**Zoom Policy:**

- Please do not discuss personal matters (e.g. missing an assignment, rescheduling request, etc...) via the public Zoom chat. I am unable address concerns properly here. Please do one of the following instead:
  - come to office hours
  - send a private message via Ed Discussion
  - send me an email
- During lectures you may ask a question via the "private chat" method if you want to keep your question anonymous to your peers, however; I will read the question out-loud (without using your name) and answer the question to the whole class if I find it would be beneficial.
- I encourage you to turn your camera and your on to participate in class. This can also help your peers feel more comfortable doing the same!
- **Pet Policy:** If your pet joins you for class, please introduce them so we can say hello.

**Gradescope:** You will use Gradescope to submit (a portion of) your "exams". Get familiar with this tool at [https://www.gradescope.com/get\\_started](https://www.gradescope.com/get_started). Check out the video titled "For students: Submit PDF homework" to review how to upload your image and PDF files to Gradescope.

**Ed Discussion:** We will use Ed Discussion for all outside communication in this course. If you have a question regarding homework, concepts, logistics, or anything the whole class might benefit from - post it on here. If you email me a question that I think falls under the above description - I will ask you to restate this question on Ed Discussion. Answering questions for your peers is **highly encouraged!** I will not respond to questions immediately, to give you all a chance to reply. I will also not respond to questions after 8 pm (PST). *Active participation in Ed Discussion including contributing to the learning of your peers will be duly noted and may result in a grade bump.*

**Important Dates:**

Add/Swap Deadline .....	08/03
Drop Deadline (tuition reversed) .....	08/07
Request "W" Deadline (no tuition reversed) .....	08/20
Change Grade Option Deadline .....	08/27
Grades Posted .....	09/07
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Midterm Project .....	08/15-19
Final Exam .....	08/30-09/01

**Important Summer Differences:**

- There is no "Add by Petition" in summer. You must enroll by the deadline above.
- You will **not** be dropped for non-attendance or non-payment. **You must drop yourself.**
- Dropping before the deadline results in a full-tuition reversal/refund.

- Withdraw posts a W for the grade and full tuition is charged (no refund).
- You cannot withdraw from a course in your portal, you must fill out the DocuSign form on the summer website.

For all other deadlines, here is the summer academic calendar: <https://summer.ucsc.edu/studentlife/index.html>  
For questions regarding summer info, email [summer@ucsc.edu](mailto:summer@ucsc.edu).

**Slug Support Program:** College can be a challenging time for students and during times of stress, it is not always easy to find the help you need. Slug Support can give help with everything from basic needs (housing, food, or financial insecurity) to getting the technology you need during remote instruction. To get started with SLUG Support, please contact the Dean of Students Office at 831-459-4446 or you may send us an email at [deanofstudents@ucsc.edu](mailto:deanofstudents@ucsc.edu).

**Slug Help/Technology** The ITS Support Center is your single point of contact for all issues, problems, or questions related to technology services and computing at UC Santa Cruz. To get technological help, simply email [help@ucsc.edu](mailto:help@ucsc.edu)

**DRC:** UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) via email, preferably within the first two weeks of the quarter. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at [drc@ucsc.edu](mailto:drc@ucsc.edu).

**Title IX:** The Title IX Office is committed to fostering a campus climate in which members of our community are protected from all forms of sex discrimination, including sexual harassment, sexual violence, and gender-based harassment and discrimination. Title IX is a neutral office committed to safety, fairness, trauma-informed practices, and due process. The Title IX Office is working remotely and is conducting meetings and interviews via zoom and phone. If you want to make a report or request a consult, you can expect the fastest response by using their online reporting link. For questions about making a report, your reporting responsibilities, and/or questions about the UC Policy on Sexual Violence and Sexual Harassment (<https://policy.ucop.edu/doc/4000385/SVSH>) call 831-459-2462.

**Academic Honesty:** Academic integrity is taken extremely seriously. You CANNOT search or post any of the assignments (quizzes, exams, homework) on any websites (including Chegg!). You CANNOT collaborate during midterm, final, and quizzes. For homework, you are encouraged to discuss problems together but make sure to complete your homework on your own. If any of these rules are not followed, you will receive 0 from that assignment and may be reported for a violation of academic integrity. The details of the policy can be found at [https://www.ue.ucsc.edu/academic\\_misconduct](https://www.ue.ucsc.edu/academic_misconduct).

## Topics Covered

- 5. Integrals:
  - 5.1 Areas, Distances, and Pathogenesis
  - 5.2 The Definite Integral
  - 5.3 The Fundamental Theorem of Calculus
  - 5.4 The Substitution Rule
  - 5.5 Integration by Parts
  - 5.6 Partial Fractions
  - 5.8 Improper Integrals
- 6. Applications of Integrals
  - 6.1 Area Between Curves
  - 6.3 Further Applications to Biology
  - 6.4 Volumes
- Taylor Polynomials
- 7. Differential Equations
  - 7.1 Modeling with Differential Equations
  - 7.2 Phase Plots, Equilibria, and Stability
  - 7.4 Separable Equations
  - 7.5 Systems of Differential Equations