Syllabus

MATH 11B
Calculus with Applications
Summer 2022 • MWF: 4:30 – 7:00 PM

Instructor: Deewang Bhamidipati
(Please address me by my first name, which is pronounced *thee-waang*. Pronouns: he/him/his.)

Lectures: The lectures will be **synchronous** and will take place on Zoom (so will Office Hours). Lectures **will be recorded** and will be available for asynchronous viewing on Yuja via Canvas. You're highly encouraged to attend the lectures synchronously, or office hours if you can't attend lectures synchronously.

Office Hourse: Mondays and Fridays 3:00 – 4:00 PM (This is when you come and talk to me if you have any questions, or otherwise. Do not hesitate to make appointments with me if regular office hours don't work for you!)

Teaching Assistant: Wade Hampton **TA's Office Hours**: TBD

Canvas: I will be using Canvas primarily as a course repository. It will also be a place where you will receive course announcements, access the course schedule etc.
(Log in at `https://canvas.ucsc.edu` using your CruzID and Gold password.)

Zoom: I will be using Zoom to teach; links and more details will be available on Canvas.

Ed Discussion: We will be using Ed Discussion as a discussion forum for anything and everything course related. It will be checked frequently and unresolved questions will be answered. You're highly encouraged to collaborate with each other and answer each other's questions; engaging in such discussions amongst yourselves is an incredibly invaluable part of succeeding in this course. You can access it by navigating to it from the Canvas menu on the left on our Canvas course page.

Gradescope: Any non-Edfinity, especially written, assessment (see below) that needs to be turned in will have to be scanned and uploaded to Gradescope; links and more details will be available on Canvas.

Edfinity: We will us the online homework platform Edfinity. Compared to other platforms, edfinity provides quality service while being cost-effective. Some of the other products cost around $100 per quarter, while Edfinity is $25 per quarter.

Learning Outcomes:
- You will have a firm practical grasp on the notion of an integral and antiderivatives.
- You will know how to use different techniques to solve and calculate definite, indefinite integrals and antiderivatives.
- You will know how to use integrals to calculate area and volume.
- You will be able to apply your skill to solve integrals in application areas in the Life Sciences.
- You will be able to solve introductory differential equations.

References: Lectures will be based on the following books; also listed are some open source books that could be valuable references. You are **not** expected to buy copies of these books.

▷ *Biocalculus (Calculus for Life Sciences)* by James Stewart, Troy Day.

- ▷ *Calculus for Biology and Medicine* by Claudia Neuhauser, Marcus Roper.
- ▷ *Calculus for the Life Sciences (A Modeling Approach) Volume 1* by James L. Cornette, Ralph A. Ackerman (available digitally HERE for free!).

Assessment Distribution:

- PRE-CLASS (10%)

  These will consist of readings and review questions that you will be expected to have finished before we start that topic in class/before you start watching the lecture. They can be found under the relevant Modules on Canvas.

- WEEKLY IN-CLASS PROBLEM SUBMISSIONS (5%)

  You will be trying out some problems during class, as a part of group-work. You are expected upload your work on Saturday midnight, every week, to Canvas.

- STUDY JOURNAL (15%)

  You will be required to keep a 'study journal'.

  - ▷ Each week, for each lecture, you will write a brief (1-2 paragraph) summary of a topic from that that week's lectures which either you find (1) very interesting, or (2) very difficult!
  - ▷ If you find a topic interesting, you should explain why: what about it is particularly interesting or motivating? Why does you enjoy that topic? State the theorem, type of problem, formula or concept clearly and correctly at the beginning of your weekly write-up.
  - ▷ If you find a topic difficult, you should explain why: what about it is confusing or difficult? how can the you address your difficulty with that topic, and what tools are available to help deepen your understanding?
  - ▷ The Study Journal will be due weekly on Sunday midnight, with a paragraph for each lecture of the week (so, minimum of 3 paragraphs for most weeks, unless there is a test).

- HOMEWORK (25% + 10%)

  Homework will be due on weekly on Tuesdays.

  - ONLINE HOMEWORK ON EDFINITY (25%)

    The online homework is hosted on Edfinity. More details on how to access Edfinity will be available on Canvas.

  - WRITTEN HOMEWORK (10%)
    - ▷ You will choose three problems from the online homework and submit written solutions to those problems.
    - ▷ To choose these three problems, you will use your study journal: find the problems that you most struggle with.
    - ▷ Your work will be checked against your study journal; if your study journal says you are struggling with a particular topic, your choice of problems should reflect that.

- TEST A (20%)

  This three-hour test will have problems from the content covered in the first half of the course. There will be both an online and a written component. Dates will be available on Canvas.

- TEST B (20%)

  This three-hour test will be comprehensive. There will be both an online and a written component. Dates will be available on Canvas.

Late Submission (Time Banks): Our policy for late submissions (for homeworks) will be time banks. You have the option to choose **three one-day extensions** *or* **two two-day extensions** to be used on weekly homeworks, no questions asked!

Grading Scale: Passing grade is **C** or above.

A+	$\geq 95\%$	**B+**	80 – 84%	**C+**	65 – 69%	**D**	40 – 54%
A	85 – 94%	**B**	70 – 79%	**C**	55 – 64%	**F**	$< 40\%$

On Homeworks

- ▷ Please turn in the homeworks on the due date.
- ▷ Discuss the homework with your peers on Ed Discussion. (I insist on this.)
- ▷ When writing your answers, please pay particular attention to the presentation, clarity (and legibility, if a written submission) of your solutions. If I cannot read your work then you will not receive credit on the problem.

Communication Guidelines

- ▷ Please contact me primarily via Canvas, especially if the topic is of a sensitive or personal nature. If your question is math-related, then please please ask your question on Ed Discussion directly or anonymously.
- ▷ Please make sure you give me as much information as you possibly can about the subject you intend to discuss when you contact me.
- ▷ You are more than welcome to contact me at any time, you will get a response from me promptly between 9 AM - 7 PM, Monday to Saturday.
- ▷ You can send me an email (at bdeewang@ucsc.edu) if, and only if, your attempts at contacting me on Canvas have yielded no response from me.
- ▷ **Never hesitate to reach out, I always want to hear from you.**

practice, discuss, ask

practice problems

discuss problems with your peers

ask me questions; more importantly: ask ***follow-up*** questions

SUBSEQUENT ADDENDUMS, IF ANY, TO ABOVE WILL BE MADE VIA CANVAS.

I RESERVE THE RIGHT TO CHANGE ANY PARTICULAR OF THE SYLLABUS ABOVE.

(ANY CHANGES WILL BE TO YOUR ADVANTAGE, AND YOU WILL BE INFORMED OF THEM PROMPTLY VIA CANVAS.)

Summer Deadlines:

- (Session 1) Drop: **Monday, June 28**; Request for "W": **Friday, July 9**;
- (Session 2) Drop: **Monday, August 2**; Request for "W": **Friday, August 13**;
- (8-Week & 10-Week) Drop: **Monday, July 5**; Request for "W": **Friday, July 23**.

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).

For all dates and deadlines, including 'change of grade option' (P/NP) and grades due, here is the summer academic calendar: https://summer.ucsc.edu/studentlife. For questions about dropping, requesting a W grade for a course, or withdrawing from the summer quarter, email summer@ucsc.edu.

DRC Remote Accommodations: The Disability Resources Center (DRC) reduces barriers to inclusion and full participation for students with disabilities by providing support to individually determine reasonable academic accommodations. Operations continue via remote appointments. If you have questions or concerns about exam accommodations or any other disability-related matter, email the DRC Schedulers at drc@ucsc.edu for an appointment; you can also visit their website at http://drc.ucsc.edu.

CAPS (Counseling and Psychological Services): This is a stressful time, so if you are in distress, managing heightened stress and anxiety, or want to get more support and a counselor's perspective on something you're going through, CAPS provides a variety of services for your needs, please visit their website for more information https://caps.ucsc.edu.

Title IX: The university cherishes the free and open exchange of ideas and enlargement of knowledge. To maintain this freedom and openness requires objectivity, mutual trust, and confidence; it requires the absence of coercion, intimidation, or exploitation. The principal responsibility for maintaining these conditions must rest upon those members of the university community who exercise most authority and leadership: faculty, managers, and supervisors.

The university has therefore instituted a number of measures designed to protect its community from sex discrimination, sexual harassment, sexual violence, and other related prohibited conduct. Information about the Title IX Office, the online reporting link, applicable campus resources, reporting responsibilities, the UC Policy on Sexual Violence and Sexual Harassment, and the UC Santa Cruz Procedures for Reporting and Responding to Reports of Sexual Violence and Sexual Harassment can be found at titleix.ucsc.edu.

The Title IX Office is actively responding to reports and requests for consultation. If you are not currently working with someone in the office and want to make a report/request a consult, you can expect the fastest response by using our online reporting link.

For more information please visit the Title IX Operations under Covid-19 page.

Report an Incident of Hate or Bias: UC Santa Cruz is committed to maintaining an objective, civil, diverse and supportive community, free of coercion, bias, hate, intimidation, dehumanization or exploitation. The Hate/Bias Response Team is a group of administrators who support and guide students seeking assistance in determining how to handle a bias incident involving another student, a staff member, or a faculty member. To report an incident of hate or bias, please use the Hate/Bias Reporting Form.

Religious Accommodations: UC Santa Cruz welcomes diversity of religious beliefs and practices, recognizing the contributions differing experiences and viewpoints can bring to the community. There may be times when an academic requirement conflicts with religious observances and practices. If that happens, students may request the reasonable accommodation for religious practices. The instructor will review the situation in an effort to provide a reasonable accommodation without penalty. You should first discuss the conflict and your requested accommodation with your instructor early in the term. You or your instructor may also seek assistance from the Dean of Students office.

Small Group Tutoring: Small Group Tutoring (SGT) supports students academically to advance educational equity by designing inclusive learning environments outside of the classroom. In SGT, you can expect the Tutor to facilitate cooperative group activities designed to have students work together on the course content and develop study skills for the course, please visit their website for more information `https://lss.ucsc.edu`.

Academic Integrity: Academic integrity is the cornerstone of a university education. Academic dishonesty diminishesvthe university as an institution and all members of the university community. It tarnishes the value of a UCSC degree. All members of the UCSC community have an explicit responsibility to foster an environment of trust, honesty, fairness, respect, and responsibility. All members of the university community are expected to present as their original work only that which is truly their own. All members of the community are expected to report observed instances of cheating, plagiarism, and other forms of academic dishonesty in order to ensure that the integrity of scholarship is valued and preserved at UCSC. For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the Academic Integrity page at the Division of Undergraduate Education.