

	<b>MICS/Point Loma Nazarene University</b>  <b>MTH 1074: Calculus II</b>  <b>Spring 2024</b>  4.0 Units; pre-requisite MTH 1064 or equivalent
	Meetings: Monday, Wednesday & Friday: 8:30-9:25 am  Tuesday: 7:25-9:10 am (LAB)
Location: RLC 108	Phone: 619.849.2723
<b>Exam dates: 2/5, 3/1, and 4/8</b>	Email: catherinecrockett@pointloma.edu
<b>Final Exam: 5/1, 7:30-10:00 am</b>	Office Hours: WMF 11:00 am – 12:00 pm, MW 1:30 pm – 2:30 pm, Thu 10:00 am – 12:00 pm or by appointment
More course information in Canvas	Office: RS 222

### PLNU Mission

#### To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

### Department Mission

The Mathematical, Information, and Computer Sciences department at Point Loma Nazarene University is committed to maintaining a curriculum that provides its students with the tools to be productive, the passion to continue learning, and Christian perspectives to provide a basis for making sound value judgments.

**COURSE DESCRIPTION:** A continuation of Calculus I supported by the use of computer graphics and a symbolic computer algebra system. Methods of integration, sequences, series, elementary differential equations, polar coordinates and parametric equations.

**STUDENT LEARNING OUTCOMES:** Upon completion of this course, students will be able to:

1. Demonstrate facility with analytical concepts.
2. Demonstrate facility with algebraic structures.
3. Use technology to solve problems.
4. Speak about their work with precision, clarity and organization.
5. Write about their work with precision, clarity and organization.
6. Collaborate effectively in teams.

7. Identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand.
8. Gather relevant information, examine information and form a conclusion based on that information.
9. Understand and create arguments supported by quantitative evidence, and they can clearly communicate those arguments in a variety of formats.

## REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

- **Text: Calculus, by James Stewart, 9th ed. or Calculus: Multivariable Calculus**
- Calculator: A scientific calculator (including Ln and Cos in the \$10 to \$20 range).
- Access to a computer.
- A platypus that's house trained and able to walk on a lead preferred.

## ASSESSMENT AND GRADING

### Graded Components

**Homework (15% of course grade):** Homework will be assigned every class meeting. All homework assigned in a week will be due on Wednesday of the following week. No late homework will be accepted except by prior(meaning more than 24 hours before) arrangement (with me) or with a documented emergency. The object of the homework is to learn how to do the problems so there should be calculations on your homework using the terminology and methods of the class and not just an answer.

### Comments on homework:

- This is the minimum amount of homework that is required but you may need to do several odd numbered problems to make sure you get the answer in the textbook.
- Please be sure that your homework is stapled together, and the problems are in order.
- **Homework will be scored on a combination of completeness and correctness. All work necessary to complete a problem must be shown to earn credit.**
- Start working on your homework early. These problems are difficult and meant to be done a little at a time over the course of a few days.
- When doing homework, please note it is normal to not be able to do every problem correct on the first attempt. Do not be discouraged, instead seek help.
- The two lowest homework scores will be dropped before calculating course grade.

**Weekly Classwork (total is 5% of course grade):** Attendance at each class is required. In these class meetings, we will work have lectures, work on activities and problems. Some classwork may be graded, and some you will get full credit just for attempting.

**Lab (total is 10% of course grade):** The lab grade consists of weekly reports (50% of the lab grade), one lab mid-term (20% of the lab grade) and a lab final exam (30% of the lab grade).

- Lab work will be assigned every lab meeting and will be due at the start of the next lab meeting.
- A lab report is late if it is not received prior to the start of lab on the due date. Late reports will not be accepted; however, the lowest lab score will be dropped.

- Lab reports will be scored on a combination of completeness and correctness. A random selection (the same for all people) of the portions of the lab will be graded on any lab report. Please be sure that your lab reports are organized, coherent and readable.

**Exams (45%, final 25% of course grade):** There are three exams and one final exam. The exams will include problems and questions over material assigned in the text, readings, and handouts, as well as material presented in class. If you do not take an exam, you will receive a zero for it. Late exams may be taken only by prior arrangement with me or a well-documented emergency beyond your control. The examination schedule is included in the daily schedule. I do not intend to accept excuses such as poor communication with parents, benefactors, sport team sponsors and/or travel agents.

**THE FINAL EXAM IS A COMPREHENSIVE EXAMINATION.**

(May 1<sup>st</sup>, Wednesday, 7:30 – 10:00 am)

Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the [Class Schedules](#) site. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

<b>Grading Distribution</b>	<b>Percent</b>
Three Examinations at 15% each	45
Final Exam	25
Homework	15
Lab reports	5
Lab mid term	2
Lab final	3
Weekly Classwork	5
Total	100

## Grading Scale

Grades are based on the number of points accumulated throughout the course with the following exception. **A student must pass at least one of Exam 1, Exam 2, Exam 3 or the Final Exam in order to pass the class. That is, a score of 60% must be achieved on one of the Exams, or else the final grade will be an F regardless of all other point totals.** Approximate minimal percentages required to obtain a given grade are:

Standard Grade Scale Based on Percentages					
	A	B	C	D	F
+		87.5- 90	77.5-80	67.5-70	
	92.5 -100	82.5-87.5	72.5-77.5	62.5 -67.5	0-60
-	90-92.5	80-82.5	70-72.5	60-62.5	

## STATE AUTHORIZATION

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

## INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Incompletes will only be assigned in extremely unusual circumstances.

## COURSE CREDIT HOUR INFORMATION

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 4-unit class delivered over fifteen weeks. Specific details about how the class meets the credit hour requirement can be provided upon request. (Based on 37.5 hours of student engagement per credit hour.)

## PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

**PLNU ACADEMIC HONESTY POLICY**

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

**ARTIFICIAL INTELLIGENCE (AI) POLICY**

You are allowed to use Artificial Intelligence (AI) tools (e.g, ChatGPT, iA Writer, Marmot, Botowski) to generate ideas, but you are not allowed to use AI tools to generate content (text, video, audio, images) that will end up in any work submitted to be graded for this course. If you have any doubts about using AI, please gain permission from the instructor.

**SEXUAL MISCONDUCT AND DISCRIMINATION**

Point Loma Nazarene University faculty are committed to helping create a safe learning environment for all students. If you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that help and support are available through the Title IX Office at <http://pointloma.edu/Title-IX> . Please be aware that under Title IX of the Education Amendments of 1972, it is required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at <mailto:counselingservices@pointloma.edu> or find a list of campus pastors at <http://pointloma.edu/Title-IX>.

**PLNU ACADEMIC ACCOMMODATIONS POLICY**

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center ([EAC@pointloma.edu](mailto:EAC@pointloma.edu) or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course and/or if they do not wish to utilize some or all of the elements of their AP in that course.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC.

**PLNU ATTENDANCE AND PARTICIPATION POLICY**

Attendance is expected at each class session. In the event of an absence, you are responsible for the material covered in class and the assignments given that day.

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See the Undergraduate Academic Catalog [Class Attendance](#).

**CLASS ENROLLMENT**

It is the student's responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

**SPIRITUAL CARE**

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Student Life and Formation](#).

**Tentative Daily Schedule:**

week	Monday	Tuesday	Wednesday	Friday
1 1/8- 1/12	Course Introduction Review of Calculus 1	Introduction to Lab	Review of Calculus 1: Limits, derivatives, and integrals	Review of Calculus 1: u- substitution
2 1/15- 1/19	No Class- MLK	Lab #1	7.1: Integration by parts	7.2: Trig. integrals
3 1/22-1/26	7.3: Trigonometric Substitution	Lab #2	7.3: Trigonometric Substitution	7.4: Integration of rational functions by partial fractions
4 1/29-2/2	7.4: Integration of rational functions by partial fractions	Lab #3	7.5: Strategy for integration	Review for Exam #1
5 2/5- 2/9	<b>Exam #1</b>	Lab #4	7.8: Improper integrals	5.2 & 5.3: Volumes by revolution
6 2/12- 2/16	8.1: Arc Length	Lab #5	8.2: Area of a surface of revolution	8.3 & 8.4: Applications
7 2/19- 2/23	10.1: Curves Defined by parametric equations	Review for Lab exam	10.2: Calculus with Parametric Curves	10.3: Polar Coordinates
8 2/26- 3/1	10.4: Area and Lengths in Polar Coordinates	<b>Lab Exam</b>	Review for Exam #2	<b>Exam #2</b>
<b>SPRING BREAK 4/3 to 4/3</b>				
9 3/11- 3/15	11.1: Sequences	Lab #6	11.2: Series	11.2: Series
10 3/18-3/22	11.3: The Integral Test	Lab #7	11.4: Comparison Tests	11.5: Alternating Series
11 3/25-3/29	11.6: A.C. & Ratio Test	Lab #8	11.6: A.C. & Root Test	Easter Break
12 4/1- 4/5	Easter Break	Lab #9	11.7: Testing Series	Review for Exam #3
13 4/8-4/12	<b>Exam #3</b>	Lab #10	11.8: Power Series	11.9: Representations of Functions as Power series
14 4/15- 4/19	11.10: Taylor and Maclaurin Series	Review	11.11: Applications of Taylor Polynomials	9.1: Modeling with Differential equations
15 4/22-4/26	9.2: Direction Fields and Euler's method	<b>Lab Final Exam</b>	9.3: Separable Equations	Review for final
<b>Finals week 4/29- 5/3</b>			<b>Final Exam 7:30 to 10:00 am.</b>	