

Point Loma Nazarene University

Department of Mathematical, Information and Computer Science

MTH164-1	Calculus I
Class Time	F 7:30 am – 8:20 am MWF 8:30 am – 9:20 am
Location	RS 236
Instructor	Jesus Jimenez, Ph.D.
Office	RS 218
Phone	619-849-2634
Email	jjimenez@pointloma.edu
Office Hours	MWF 12:00 -1:00 pm, 2:30 – 4:00 pm, TH 11:00 am – 12:00 pm
Textbook	Calculus, 7 th Edition
Author	James Stewart
Exam 1	Sep 26
Exam 2	Oct 31
Exam 3	Nov 28
Final Exam	Dec 14 (8:00 - 10:00 AM)
Course Description	Calculus of the elementary functions of one variable, supported by the use of computer graphics and a symbolic computer algebra system. Limits, continuity, derivatives, integration and applications.

Grade Distribution

Three partial exams @ 150 points each	450	points
Final Exam	300	points
Homework	250	points
Total	1000	points

Grading Scale

	A	B	C	D	F
+		>86%	>76%	>66%	<59%
	>90%	>83%	>73%	>63%	
-	>88%	>80%	>70%	≥59%	

Course Requirements

Prerequisites

MTH123 or MTH133, or equivalent.

Homework

Homework will be assigned during the week and it will be collected the following Wednesday.

Final Exam

The Final Exam is a **COMPREHENSIVE** examination.

Resources

Library, Computer Lab

GENERAL EDUCATION

This course is one of the components of the General Education Program at Point Loma Nazarene University, under the category of *Developing Cognitive Abilities*. By including this course in a common educational experience for undergraduates, the faculty supports the pursuit of personal awareness and skill development, focusing on the analytical, communicative, and quantitative skills necessary for successful living in society.

ATTENDANCE

Attendance is expected at each class section. In the event of an absence you are responsible for the material covered in class and the assignments given that day. See the Point Loma Nazarene University Catalog for a statement of the university's policy with respect to attendance. Remember that missing more than one and a half week's worth of classes can result in a failing grade.

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.

ACADEMIC ACCOMADATIONS

While all students are expected to meet the minimum academic standards for completion of this course as established by the instructor, students with disabilities may require academic accommodations. At Point Loma Nazarene University, students requesting academic accommodations must file documentation with the Disability Resource Center (DRC), located in the Bond Academic Center. Once the student files documentation, the Disability Resource Center will contact the student's instructors and provide written recommendations for reasonable and appropriate accommodations to meet the individual needs of the student. This policy assists the University in its commitment to full compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities (ADA) Act of 1990, and ADA Amendments Act of 2008, all of which prohibit discrimination against students with disabilities and guarantees all qualified students equal access to and benefits of PLNU programs and activities.

Students with learning disabilities who may need accommodations should discuss options with the instructor during the first two weeks of class.

ACADEMIC HONESTY

The Point Loma Nazarene University community holds the highest standards of honesty and integrity in all aspects of university life. Academic honesty and integrity are strong values among faculty and students alike. Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose. 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. Such acts include plagiarism, copying of class assignments, and copying or other fraudulent behavior on examinations.

A student who is caught cheating on any item of work will receive a zero on that item and may receive an "F" for the semester. See the PLNU Catalog for a further explanation of the PLNU procedures for academic dishonesty.

FINAL EXAM: DATE AND TIME

The final exam date and time is set by the university at the beginning of the semester and may not be changed by the instructor. Only in the case that a student is required to take three exams during the same day of finals week is an instructor authorized to change the exam date and time for that particular student.

CLASS LEARNING OUTCOMES

Students will be comfortable using technology to solve problems.

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- Students will understand the theory of algorithms and computation.
- Students will be able to write correct and robust software.
- Students will be able to demonstrate facility with analytical concepts.
- Students will be able to demonstrate facility with algebraic structures.
- Students will be comfortable using technology to solve problems.
- Students will communicate effectively orally and in writing.
- Students will have an understanding of the historical development, contemporary progress and societal role of mathematics.

Mon	Wed	Fri
8/29/2011 Introduction (Meets Tuesday) A preview of calculus	8/31/2011 1.1 & 1.2	9/2/2011 1.3 New functions from old
9/5/2011 Labor Day	9/7/2011 2.1 Tangent and velocity problems	9/9/2011 2.2 The limit of a function
9/12/2011	9/14/2011 2.3 Calculating limits using the limit laws	9/16/2011 2.4 The precise definition of limit
9/19/2011 2.5 Continuity	9/21/2011 2.5 Continuity	9/23/2011 3.1 Derivatives and rates of change
9/26/2011 EXAM 1	9/28/2011 3.1 Derivatives and rates of change	9/30/2011 3.2 The derivative as a function
10/3/2011 3.3 Differentiation rules	10/5/2011 3.4 Derivatives of trigonometric functions	10/7/2011 3.5 The chain rule
10/10/2011 3.5 The chain rule	10/12/2011 3.6 Implicit differentiation	10/14/2011 3.7 Rates of change natural and social sciences
10/17/2011 3.8 Related rates	10/19/2011 3.8 Related rates	10/21/2011 Fall Break.
10/24/2011 3.9 Linear approximations and differentials	10/26/2011 4.1 Maximum and minimum values	10/28/2011 4.2 The mean value theorem
10/31/2011 EXAM 2	11/2/2011 4.3 How derivatives affect the shape of graphs	11/4/2011 4.4 Limits and infinity. Horizontal asymptotes
11/7/2011 4.5 Summary of curve sketching	11/9/2011 4.7 Optimization problems	11/11/2011 4.7 Optimization problems
11/14/2011 4.9 Antiderivatives	11/16/2011 5.1 Areas and distances	11/18/2011 5.2 The definite integral
11/21/2011 5.3 The fundamental theorem of calculus	11/23/2011 Thanksgiving Recess	11/25/2011 Thanksgiving Recess
11/28/2011 EXAM 3	11/30/2011 5.3 The fundamental theorem of calculus	12/2/2011 5.4 Indefinite integrals and net change theorem
12/5/2011 5.5 The substitution rule	12/7/2011 6.1 & 6.2 Area between curves and volumes	12/9/2011 6.3 Volumes by cylindrical shells
12/12/2011	12/14/2011	12/16/2011 Final Exam (10:30 am - 12:30 pm)