



Mathematics, Information, and Computer Sciences – School of STEM
MTH1053 – Mathematical Analysis for Business and Economics

Spring 2026

3 units

Tuesday, Thursday 9:30-11:45am

Rohr Science (RS) 395

Final Exam: May 5th, 10:30am-1:00pm

Instructor information:	Dr. Elizabeth Holmen-Crow, Assistant Professor of Mathematics
Phone:	619-849-2634
Email:	Dr. Holmen-Crow: ecrow@pointloma.edu
Office hours:	Location: Rohr Science 234 (through RS 230) Times posted in Canvas

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.

General Education:

PLNU provides a foundational course of study in the liberal arts informed by the life, death, and resurrection of Jesus Christ. In keeping with the Wesleyan tradition, the curriculum equips students with a broad range of knowledge and skills within and across disciplines to enrich major study, lifelong learning, and vocational service as Christ-like participants in the world's diverse societies and culture.

Course Description:

This course focuses on learning and using basic mathematical tools that are fundamental to business applications. Applications of these tools include supply and demand, optimization, cost-benefit analysis, equilibrium (systems of equations), interest, and loan amortization.

Prerequisite(s): MTH 1013 or equivalent.

Course and Program Learning Outcomes:

1. Students will develop an ability to use mathematics to analyze supply and demand.

2. Students will be able to use mathematics to solve a variety of interest problems.
3. Students will develop an ability to use mathematics to solve equilibrium, optimization, and cost-benefit problems

General Education Learning Outcomes:

The GE Learning Outcome assessed in this class is: GELO 1e. Quantitative Reasoning: Students will be able to solve problems that are quantitative in nature.

The Signature Assignment for assessing this GELO is: Questions on the Final Exam

Required Texts and Recommended Study Resources

Students are responsible for having the required course textbooks prior to the first day of class.

All supplemental materials posted on this course site (including articles, book excerpts, or other documents) are provided for your personal academic use. These materials may be protected by copyright law and should not be duplicated or distributed without permission of the copyright owner.

- **Textbook:** *Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences*, 13th Edition
Author: Ernest F. Haeussler, Richard S. Paul, and Richard J. Wood

Assessment and Grading

The grade components are written homework, quizzes, midterm exams, and the final exam.

Graded Components

- **Homework:** Homework problems will be assigned regularly and posted on Canvas. You may work with other people on your homework, but the work you submit must be in your own words. Plagiarism will not be tolerated. Homework is due at the start of class on Thursdays. Late work will not be accepted. Your lowest homework grade will be dropped.
- **Quizzes:** Quizzes will be given at the beginning of class time, so please be in your seat before the class period begins (less disruption to others). Quizzes are designed to take no more than ten minutes to complete. However, fifteen to twenty minutes of class time are set aside to complete these activities. Unless otherwise noted, quizzes will happen on Thursdays. During the course, you may find that you must be absent on the day of a quiz due to a personal situation. For this reason, you are allowed to drop your two lowest quiz scores. There will be no make-up quizzes, no exceptions, so use your dropped quizzes wisely.
- **Examinations and the Final Examination.** Examinations and the Final Examination will include problems and questions over material assigned in the text, readings and handouts, as well as material presented in class. No examination shall be missed without prior consent or a well-documented emergency beyond your control. In that case, the make-up exam will take place at 8:30 AM on the Saturday before final exams (May 2, 2026). A score of zero will be assigned for an examination that is missed without prior consent or a well-documented emergency beyond your control.
- **Final Examination Policy.** Successful completion of this class requires taking the cumulative 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.

- **Late work will not be accepted** without prior consent or a well-documented emergency.
- The examination schedule is included in the daily schedule. This instructor does not intend to accept excuses such as poor communication with parents, benefactors, surf team sponsors and/or travel agents.

Grading Distribution:

Grade Distribution	
Two Midterms Exams	45%
Final Exam (Cumulative)	30%
Written Homework	20%
Quizzes	10%
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, 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
A [92.5-100]	B+ [87.5-90)	C+ [77.5-80)	D+ [67.5-70)	F [0-60)
A- [90-92.5)	B [82.5-87.5)	C [72.5-77.5)	D [62.5-67.5)	
	B- [80-82.5)	C- [70-72.5)	D- [60-62.5)	

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.

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.

Artificial Intelligence (AI) Policy:

You are allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro 1.5, Grammarly Go, Perplexity, etc.) 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.

PLNU Academic Accommodations Policy:

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2533). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. Professors are able to view a student's approved accommodations through Accommodate.

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. Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes. 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. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any accommodations.

PLNU Attendance and Participation Policy:

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university withdrawal date or, after that date, receive an "F" grade.

LomaBooks Instructions for Students:

This course is part of our course material delivery program, LomaBooks. The bookstore will provide each student with a convenient package containing all required physical materials; all digitally delivered materials will be integrated into Canvas.

You should have received an email from the bookstore confirming the list of materials that will be provided for each of your courses and asking you to select how you would like to receive any printed components (in-store pick up or home delivery). If you have not done so already, please confirm your fulfillment preference so the bookstore can prepare your materials.

For more information about LomaBooks, please go: [Here](#)

Additional Course Information:

Additional PLNU policies and practices that apply to this course can be found at the following link:

<https://docs.google.com/document/d/11BgAANLOJ9tjt837d24EZ181ukM2qzHF/edit?usp=sharing&ouid=10991071565151117850&rtpof=true&sd=true>

Date	Tuesday	Date	Thursday
1/13/2026	Course Introduction Applications of Equations (1.1)	1/15/2026	Linear Inequalities (1.2) Applications of Inequalities (1.3)
1/20/2026	Absolute Values (1.4) Sequences (1.6)	1/22/2026	Summation Notation (1.5)
1/27/2026	Functions (2.1) Graphing (2.5)	1/29/2026	Special Functions (2.2) Combinations of Functions (2.3)
2/3/2026	Inverse Functions (2.4) Functions of Several Variables (2.8)	2/5/2026	Lines (3.1) Applications of Linear Functions (3.2)
2/10/2026	Quadratic Functions (3.3) Systems of Linear Functions (3.4)	2/12/2026	Nonlinear Systems (3.5) Applications of Systems of Equations (3.6)
2/17/2026	Review for Exam 1	2/19/2026	Exam 1
2/24/2026	Exponential Functions (4.1) Logarithmic Functions (4.2)	2/26/2026	Properties of Logarithms (4.3)
3/3/2026	Logarithmic & Exponential Functions (4.4)	3/5/2026	Intro to Financial Math & Simple Interest
Spring Break			
3/17/2026	Compound Interest (5.1) Interest Compounded Continuously (5.3)	3/19/2026	Present Value (5.2)
3/24/2026	Annuities (5.4)	3/25/2026	Amortization of Loans (5.5) Perpetuities (5.6)
3/31/2026	Matrices (6.1) Matrix Addition, Scalar Multiplication (6.2)	4/2/2026	Easter Break
4/7/2026	Review for Exam 2	4/9/2026	Exam 2
4/14/2026	Matrix Multiplication (6.3) Solving Systems with Matrices (6.4)	4/16/2026	Solving Systems with Matrices (6.5) Linear Inequalities in two Variables (7.1)
4/21/2026	Linear Programming (7.2) Counting Principle & Sample Spaces (8.1/8.3)	4/23/2026	Permutations (8.1) Combinations (8.2)
4/28/2026	Probability (8.4)	4/30/2026	Final Exam Review
Finals Week	Final Exam <i>Tuesday, 5/5 @10:30am-1:00pm</i>	Finals Week	