

Point Loma Nazarene University
Math 153 Mathematical Analysis for Business and Economics
Spring 2016 (3 units)

Time and Place: MWF 8:30-9:25 a.m. RLC106

Instructor: Maria Zack, Ph.D.

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Office Number: S222

Office Hours:

Monday	7:30-8:30 a.m. & 11:00 a.m.-noon
Tuesday	By appointment
Wednesday	1:30-2:30 p.m.
Thursday	7:00-8:00 a.m.
Friday	3:30-4:30 p.m.

These are the hours that I will definitely be available. You can come by my office any time and if I am free I will help you. I keep a sign-up sheet on my office door and you can sign up for any empty time slot (there are slots other than my office hours) if you want to be sure that the time is reserved for you. If you have a question or just want to hang out, come by my office.

Text: *Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences* (13th Edition); by Ernest F. Haeussler, Richard S. Paul, Richard J. Wood

Other materials for the course: A scientific calculator is recommended.

Catalog Description:

MTH 153 - Mathematical Analysis for Business and Economics (3)

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): MTH113 or equivalent

Learning Outcomes:

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

Grading:

The components of the grades:

Homework	240
Projects and Activities (2-3)	60
Exam 1	200
Exam 2	200
Final	300
Total Points	1000

Approximate minimal points required to obtain a given grade are:

	A	B	C	D
+		(875, 900)	(775, 800)	(675, 700)
	[925, 1000]	[825, 875]	[725, 775]	[625, 675]
-	[900, 925)	[800, 825)	[700, 725)	[600, 625)

Note that scores of 599 or lower will result in an F.

Homework:

Homework will be assigned each day at the end of class. All homework assigned in a week will be **due at the start of class the next Wednesday**. No late homework will be accepted except by prior arrangement or with a documented emergency. Homework assignments are posted in Canvas. The object of the homework is to learn how to do the problems so I expect to see calculations on your homework using the terminology and methods of the class and not just the answer. A random selection (the same for all people) of the problems will be graded on any homework assignment.

Projects and Activities:

During the semester you will be assigned 2-3 activities or projects that may require group work outside of class.

Exams:

There is two in-class exams. If you do not take an exam you will receive a zero for it. Late exams may be taken only by prior arrangement or with a documented emergency. I must participate in the decision for you to miss an exam; this means that you need to phone me before missing an exam.

Final:

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. The final for MTH242 is cumulative and is given at the assigned final time on **FRIDAY MAY 6, FROM 7:30-10:00 AM.**

University Mission:

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 becomes an expression of faith. Being of Wesleyan heritage, we aspire 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.

Attendance:

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 in which a student is registered is considered essential to optimum academic achievement. Therefore, regular attendance and participation in each course are minimal requirements to be met. There are no allowed or excused absences except as approved in writing by the Provost for specific students participating in certain university-sanctioned activities. Excused absences still count toward the 10%-20% limits, but allow students to make up work,

quizzes, or tests missed as a result of a university-sanctioned activity. Activities of a unique nature, such as labs or other activities identified clearly on the syllabus, cannot be made up except in rare instances when instructors have given advanced, written approval for doing so. Whenever the number of accumulated absences in a class, for any cause, exceeds ten (10) percent of the total number of class meetings, the faculty member should send an e-mail to the student and the Vice Provost for Academic Administration (VPAA) warning of attendance jeopardy. If more than twenty (20) percent of the total number of class meetings is reported as missed, the faculty member or VPAA may initiate the student's de-enrollment from the course without further advanced notice to the student. If the date of de-enrollment is past the last date to withdraw from a class, the student will be assigned a grade of W or WF consistent with university policy in the Grading section of the catalog. There are no refunds for courses where a de-enrollment was processed. For more details see the PLNU catalog:

http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#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.

Academic Accommodations:

While all students are expected to meet the minimum academic standards for completion of their courses as established by the instructors, students with special needs 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. Students can also reach the Disability Resource Center by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. Once the student files documentation, the Disability Resource Center contacts the student's instructors and provides 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 special needs and guarantees all qualified students equal access to the benefits of PLNU programs and activities. For more details see the PLNU catalog:

http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#Academic_Accommodations

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. Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose. Violations of academic honesty include cheating, plagiarism, falsification, aiding academic dishonesty, and malicious interference. The details of PLNU's meaning of each of these words can be found in the PLNU catalog at:

http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#Academic_Honesty

A student remains responsible for the academic honesty of work submitted in PLNU courses and the consequences of academic dishonesty beyond receipt of the final grade in the class and beyond the awarding of the diploma. Ignorance of these catalog policies will not be considered a valid excuse or defense. Students may not withdraw from a course as a response to a consequence.

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

(http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#Academic_Honesty).

Copyright Protected Materials:

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.

Credit Hour:

In the interest of providing sufficient time to accomplish the stated course learning outcomes, this class meets the PLNU credit hour policy for a 3 unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request.

Monday	Tuesday	Wednesday	Thursday	Friday
NO CLASSES 11-Jan	12-Jan Introduction Chapter 0	13-Jan 1.1 Applications of Equations 1.2 Linear Inequalities	14-Jan	15-Jan 1.1 Applications of Equations More Practice
18-Jan 1.3 Applications of Inequalities	19-Jan	20-Jan 1.4 Absolute Value 1.5 Summation Notation	21-Jan	22-Jan 1.6 Sequences
MLK DAY 25-Jan	26-Jan	27-Jan 2.1 Functions	28-Jan	29-Jan 2.2 Special Functions
1-Feb 2.3 Combinations of Functions	2-Feb	3-Feb 2.4 Inverse Functions	4-Feb	5-Feb 2.5 Graphs
8-Feb 2.8 Functions of Several Variables	9-Feb	10-Feb 3.1 Lines 3.2 Linear Functions	11-Feb	12-Feb 3.3 Quadratic Functions
15-Feb 3.4 Systems of Linear Equations	16-Feb	17-Feb 3.5 Non-Linear Systems Exam Review	18-Feb STUDY SESSION	19-Feb EXAM #1
22-Feb 3.6 Applications of Systems of Equations	23-Feb	24-Feb PROJECT - NO CLASS	25-Feb	26-Feb 4.1 Exponential Functions
29-Feb 4.2 Logarithmic Functions	1-Mar	2-Mar 4.3 Properties of Logarithms	3-Mar	4-Mar 4.4 Log and Exponential Equations
SPRING 7-Mar	BREAK 8-Mar	SPRING 9-Mar	BREAK 10-Mar	SPRING 11-Mar
14-Mar 5.1 Compound Interest	15-Mar	16-Mar 5.2 Present Value	17-Mar	18-Mar 5.3 Continuous Compounding
21-Mar 5.4 Annuities	22-Mar	23-Mar 5.5 Amortization of Loans	24-Mar EASTER	25-Mar EASTER
EASTER 28-Mar	29-Mar	30-Mar 6.1 Matrices 6.2 Matrix Addition	31-Mar	1-Apr 6.2 Scalar Multiplication Exam Review
EXAM #2 4-Apr	5-Apr	6-Apr Go Over Exam 6.3 Matrix Multiplication	7-Apr	8-Apr 6.3 Matrix Multiplication
11-Apr 6.4 Solving Systems Reducing Matrices (part I)	12-Apr	13-Apr 6.5 Solving Systems Reducing Matrices (part II)	14-Apr	15-Apr GROUP PROJECT
18-Apr 7.1 Linear Inequalities in Two Variables	19-Apr	20-Apr 7.2 Linear Programming	21-Apr	22-Apr 7.3 Multiple Optimum Solutions
25-Apr 7.4 Simplex Method	26-Apr	27-Apr 7.7 Minimization	28-Apr	29-Apr Final Review
2-May	3-May	4-May	5-May STUDY SESSION	6-May FINAL EXAM 7:30-10:00 AM