Syllabus for Business Mathematics

Math 153 - Spring 2017

Tues & Thurs 9:30 to 10:45 am in RCL 108

Instructor: Kevin Stovall **email:** kstovall@pointloma.edu

Office Hours: 8:30 to 9:30 am, Tues & Thurs in RS 211, or other times by appointment

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.

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.

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.

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 16 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request.

Important Dates:	**Exam #1: Thursday, Feb 23**
	Exam #2: Thursday, April 6
	Final Exam: Thursday, May 4th 10:30am to 1:00pm

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): 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: Grades for the course will be based on the following (percentage of the course grade):
Homework (20%),
Quizzes (10%)
Exams (40%)
Final exam (30%)

Grading Scale: Approximate minimum percentages required to obtain a given grade are:

Grades in percentages

	A	B	C	D	F
+		[87.5,90)	[77.5, 80)	[67.5, 70)	[0,60)
	[92.5,100]	[82.5,87.5)	[72.5, 77.5)	[62.5,67.5)	
-	[90, 92.5)	[80, 82.5)	[70, 72.5)	[60, 62.5)	

*You will be able to view your grades in CANVAS.

Homework (20%):
Homework will be assigned every class meeting. All homework assigned in a week will be due **at the start of class** the next Thursday. No late homework will be accepted except by prior arrangement or with a documented emergency. 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 an answer. Homework will be scored on a combination of completeness (with work shown) and correctness. A random selection (the same for all people) of the problems will be graded on any homework assignment. The two lowest homework scores will be dropped.

Quizzes (10%): Quizzes will be given in class throughout the semester. There are no make-up quizzes; however your lowest two quiz scores will be dropped.

Exams and Final Exam (40% and 30% of the grade): Exams and the Final Exam 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 by me or a well-documented emergency beyond your control. A score of zero will be assigned for an examination that is missed without prior consent or a well-documented emergency beyond your control. The examination schedule is included in the daily schedule.
Please note: I do not intend to accept excuses such as miscommunication with parents, benefactors, sport team sponsors and/or travel agents.

Please note:	**The Final Exam is COMPREHENSIVE.**
	May 4th, 10:30am to 1:00pm

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. 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

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).

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.

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.

Side Note: Turn off any cell phone, pager or things that make noise while you are in class. Also, do not text or work on other classes while in class -to do so is disrespectful to your classmates and me. You may be asked to leave the class for such behavior, resulting in an absence.

General Advice:
You learn mathematics by doing it yourself. You should expect to spend approximately two hours outside of class for every one hour in class working on homework and going over concepts. 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.

Please note this schedule is tentative. Any changes will be announced.

week	Mon.	Tuesday	Wed.	Thursday	Fri.
1	**1/9**	**1/10** Tuesday is Monday?	**1/11**	**1/12** Introduction Chapter 0	**1/13**
2	**1/16** *MLK Day No Class*	**1/17** 1.1: Applications of Equations 1.2: Linear Inequalities	**1/18**	**1/19** 1.3: Applications of Inequalities 1.4: Absolute Value	**1/20**
3	**1/21**	**1/22** 1.5: Summation Notation 1.6: Sequences	**1/23**	**1/24** 2.1 : Functions 2.2: Special Functions	**1/25**
4	**1/30**	**1/31** 2.3: Combinations of Functions 2.4: Inverse Functions	**2/1**	**2/2** 2.5: Graphs in Rectangular Coordinate 2.6: Symmetry	**2/3**
5	**2/6**	**2/7** 2.7: Translations and Reflections 2.8: Functions of Several Variable	**2/8**	**2/9** 3.1: Lines 3.2: Applications and Linear Functions	**2/10**
6	**2/13**	**2/14** 3.3: Quadratic Functions 3.4: Systems of linear Functions	**2/15**	**2/16** 3.5: Nonlinear Systems 3.6: Applications of Systems of Equations	**2/17**
7	**2/20**	**2/21** Review	**2/22**	**2/23** **Exam #1**	**2/24**
8	**2/27**	**2/28** 4.1: Exponential Functions 5.1: Compound Interest (part one)	**3/1**	**3/2** 4.2: Logarithmic Functions 4.3: Properties of Logarithms	**3/3**

	3/6	**3/7** SPRING BREAK	**3/8**	**3/9** SPRING BREAK	**3/10**
9	**3/13**	**3/14** 4.4: Logarithmic and Exponential Equations 5.1: Compound Interest (part two) 5.2: Present Value	**3/15**	**3/16** 5.2: Present Value 5.3: Interest Compounded Continuously	**3/17**
10	**3/20**	**3/21** 5.4: Annuities 5.5: Amortization of Loans	**3/22**	**3/23** 6.1: Matrices 6.2: Matrix Addition and Scalar multiplication	**3/24** *Last Day To Drop*
11	**3/27**	**3/28** 6.3: Matrix multiplication 6.4: Solving Systems by reducing matrices	**3/29**	**3/30** 6.4: Solving Systems by reducing matrices 6.5: Solving Systems by reducing matrices (continued)	**3/31**
12	**4/3**	**4/4** 6.6: Inverses Review	**4/5**	**4/6** **Exam #2**	**4/7**
13	**4/10**	**4/11** 6.7: Leontief's Input-Output Analysis	**4/12**	**4/13** EASTER RECESS NO CLASS	**4/14**
14	**4/17**	**4/18** 7.1: Linear Inequalities in two Variables 7.2: Linear Programming	**4/19**	**4/20** 7.4: The Simplex Method	**4/21**
15	**4/24**	**4/25** 7.7: Minimization 7.8: The Dual	**4/26**	**4/27** Review	**4/28**
Finals week	**5/1**	**5/2**	**5/3**	**5/4** Final Exam 10:30am-1pm	**5/6**