School of STEM: Department of Mathematical, Information and Computer Sciences

MTH3083—Mathematical Probability and Statistics

3 Units

Spring 2026

MWF 7:25 – 8:20am

Rohr Science 395

Final Exam: Friday, 5/8, 7:30 – 10:00am

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Office Location and Office Hours: Rohr Science 228, times posted on 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.

Course Description

A first course in probability and statistics for students with sophisticated mathematics exposure. Topics include axioms of probability, random variables, discrete and continuous distributions, mathematical expectation, and limit theorems. Introduction into descriptive and inferential statistics, including the

topics of sampling distributions, point estimation and hypothesis testing. Topics are supported by the use of statistical software.

Program and Course Learning Outcomes

1. Students will be able to apply their mathematical knowledge to solve problems.
2. Students will be able to use technology to solve problems.
3. Students will be able to collaborate effectively in teams.
4. Students will be able to 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

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.

1. Modern Mathematical Statistics with Applications, 3rd edition by Devore, Berk & Carlton
2. A cheap calculator other than your phone, tablet, or computer (with at least a square root key)
3. Laptop or access to a computer.
4. R & RStudio

Assessment and Grading

Grading distribution:

- Two Exams (at 17.5% each): 35%
- Final Exam: 30%
- Labs: 10%
- Homework: 20%
- Attendance and Participation: 5%

Grades will be based on the following:

- **Homework:** Homework problems will be assigned regularly and posted on Canvas. Please check regularly to ensure that you are keeping up with the homework. Late homework will not be accepted. Your lowest two written homework scores will be dropped.
- **Labs:** The labs are to be submitted only in Word or PDF format in Canvas. Late lab assignments will not be accepted. Your lowest lab assignment score will be dropped.
- **Exams and the Final Exam:** 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 exam shall be missed without a well-documented emergency beyond your control. A score of

zero will be assigned for an exam that is missed without a well-documented emergency beyond your control.

- **Late work will not be accepted.** Homework assignments that are submitted late will be recorded with a score of zero. During the course, you may find that you are unable to submit homework on time due to a personal situation (for example, a personal or family illness, accident, business trip, etc.). For this reason, your lowest two homework scores and your lowest lab score will be dropped. There are no exceptions to this policy, so please use your dropped assignments wisely.

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 to pass the class. That is, a score of 60% must be achieve on one of the Exams, or else the final grade will be an F regardless of all other point totals.

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)	

Final Examination Policy

Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the Traditional Undergraduate Records: Final Exam 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.

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.

Artificial Intelligence (AI) Policy

You are allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro 1.5, GrammarlyGo, 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.

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

Spring 2026 **MTH 3083 Calendar**

	Week	Monday	Wednesday	Friday
January	1	12 Section 1.1, 1.2, 1.3, 1.4	14 Section 2.1, 2.2, 2.3, 2.4	16 Catch up and Lab 1
	2	19 Martin Luther King Jr. Day	21 Section 2.5, 3.1, 3.2	23 Section 3.3
	3	26 Section 3.4, 3.5	28 Section 3.6, 3.7	30 Catch up and Lab 2
February	4	2 Section 3.8, 4.1	4 Section 4.2	6 Section 4.3, 4.4
	5	9 Section 4.6, 4.7	11 Section 4.8	13 Review for Exam 1
	6	16 Exam 1	18 Section 5.1, 5.2, 5.3	20 Catch up and Lab 3
	7	23 Section 5.4, 5.5	25 Section 5.6, 6.1	27 Catch up and Lab 4
March	8	2 Section 6.2, 6.3	4 Section 6.4	6 Section 7.1
	9	9 Spring Break	11	13
	10	16 Section 7.2	18 Section 7.3, 7.4	20 Catch up and Lab 5
	11	23 Section 8.1, 8.2	25 Section 8.3	27 Section 8.4, 8.5
	12	30 Section 9.1	1 Section 9.2	3 Easter Break
April	13	6	8 Section 9.3, 9.4	10 Catch up and Lab 6
	14	13 Review for Exam 2	15 Exam 2	17 Section 9.5, 9.6
	15	20 Section 10.1	22 Section 10.2, 10.3	24 Catch up and Lab 7
	16	27 Section 10.4	29 Review for Final Exam	1 Review for Final Exam
May	17	4	6	8 Final Exam 7:30am-10:00am