POINT 1902 LOMA
NAZARENE UNIVERSITY

Scholl of STEM: Department of Mathematical, Information and Computer Science

MTH 3063: Calculus Based Statistics with R

3.0 Units

Spring 2026

MWF 8:30 am – 9:25 am

Rohr Science 395

Final Exam: Monday, May 4, 7:30 to 10:00 am

Instructor Title and Name: Dr. Catherine Crockett
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Office Location and Office Hours: Rohr Science 222 (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.

Course Description

A first course in descriptive and inferential statistics for general students who have taken calculus. Topics include experimental design, sampling, and sampling distributions, estimation and hypothesis

testing. This course also provides a basic introduction to statistical analysis om the statistical software package R. Not applicable toward a major in Mathematics.

Program and Course Learning Outcomes

1. Students will be able to compute measures of central tendency for data.

2. Students will be able to compute measures of dispersion for data.

3. Students will be able to use statistical methods to make inferences from data.

4. Students will be able to apply their technical knowledge to solve problems.

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. *The Practice of Statistics in the Life Sciences*, 4 th Edition by Baldi and Moore.

2. A cheap calculator other than your phone, tablet, or computer (with at least a square root key).

3. A calculator (TI-30XIIS) will be provided for you to use on exams. You may not use your own calculator on exams.

4. Laptop or access to a computer with Java enabled in the web browser.

5. R and RStudio (see Lab 1 for download and installation instructions).

Assessment and Grading

Grading distribution:

- Weekly Participation 5%
- Written Homework: 15%
- Labs: 10%
- Exams (2 at 17.5% each): 35%
- Lab Final Exam: 5%
- Final Exam: 30%

Grades will be based on the following:

- **Weekly Participation**: Attendance at each class is required. In these class meetings, we will have lectures, works on activities, problems, and labs. Some classwork will be collected and graded, and some will be collected and given credit for attempting the work.
- **Written Homework**: Homework problems will be assigned regularly and posted on Canvas. A homework assignment is late if it is not submitted at the beginning of class on the due date. Please check regularly to ensure that you are keeping up with the homework. Late homework will not be accepted with the following exception: up to a maximum of one homework assignment will be accepted up to 3 days late provided that **consent is received from the professor before it is due**. Your lowest written homework score will be dropped.
- **Labs**: The labs are due at the scheduled dates and times and are submitted ONLY in Word or PDF format in Canvas. Late lab assignments will not be accepted with the following exception: up to a maximum of one lab assignment will be accepted up to 3 days late provided that **consent is received from the professor before it is due**. Your lowest lab assignment score will be dropped.
- **Examinations and Final Examination**: Exams and the Final Exam will include problems and questions from the 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.
- **Late work will not be accepted**. Homework and lab 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.). This is why your lowest assignments will be dropped, as described above. Beyond the single use of the 3-day extensions described above, 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 in order to pass the class. That is, a minimum 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 percentage required to obtain a given grade are:

Sample 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 (labs are due on Saturday) - 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

Wk	Sun	Monday	Tues	Wednesday	Thurs	Friday	Sat
1	1/11	1/12 Introduction Ch 1: Picturing Distributions with Graphs	1/13	1/14 Ch 2: Describing Distributions with Numbers ***Lab 1: Loading Data***	1/15	1/16 Ch 2: Describing Distributions with Numbers	1/17
2	1/18	1/19 MLK No classes	1/20	1/21 Ch 3: Scatterplots & Correlation	1/22	1/23 Ch 3: Scatterplots & Correlation ***Lab 1: Open Lab***	1/24 **Lab 1 due**
3	1/25	1/26 Ch 4: Regression	1/27	1/28 Ch 4: Regression ***Lab 2: Summarizing Data***	1/29	1/30 Ch 5: Two-Way Tables	1/31
4	2/1	2/2 Ch 6: Samples & Observational Studies	2/3	2/4 Ch 7: Designing Experiments	2/5	2/6 Ch 7: Designing Experiments ***Lab 2: Open Lab***	2/7 **Lab 2 due**
5	2/8	2/9 Ch 9: Essential Probability Rules	2/10	2/11 Ch 10: Independence & Conditional Probability ***Lab 3: Another Approach to Graphics***	2/12	2/13 Ch 10: Independence & Conditional Probability	2/14
6	2/15	2/16 Ch 11: The Normal Distribution	2/17	2/18 Ch 11: The Normal Distribution	2/19	2/20 Ch 13: Sampling Distributions **Lab 3: Open Lab**	2/21 **Lab 3 due**
7	2/22	2/23 Ch 13: Sampling Distributions	2/24	2/25 Ch 14: Introduction to Inference ***Lab 4: Is this data Normal?***	2/26	2/27 Ch 14: Introduction to Inference	2/28
8	3/1	3/2 Ch 15: Inference in Practice	3/3	3/4 **Review for Exam 1**	3/5	3/6 **EXAM 1**	3/7
Spring Break 3/9 to 3/14							
9	3/15	3/16 Ch 15: Inference in Practice	3/17	3/18 Ch 17: Inference about a Population mean	3/19	3/20 Ch 17: Inference about a Population mean **Lab 4: Open Lab**	3/21 **Lab 4 due**
10	3/22	3/23 Ch 17: Inference about a Population mean	3/24	3/25 Ch 18: Comparing Two Means ***Lab 5: Hypothesis Test &CI for Means***	3/26	3/27 Ch 18: Comparing Two Means	3/28
11	3/29	3/30 Ch 24: One-Way-Analysis of Variance (ANOVA)	3/31	4/1 Ch 24: One-Way-Analysis of Variance (ANOVA)	4/2	4/3 Easter No class	4/4
12	4/5	4/6 Easter No class	4/7	4/8 Ch 25: Review of Inference for Means	4/9	4/10 **Review for Exam 2** **Lab 5: Open Lab**	4/11 **Lab 5 due**

13	4/12	4/13 **EXAM 2**	4/14	4/15 Ch 19: Inference about Population Proportion ***Lab 6: Hypothesis Tests & CI for proportions***	4/16	4/17 Ch 19: Inference about Population Proportion	4/18
14	4/19	4/20 Ch 20: Comparing Two proportions	4/21	4/22 Ch 20: Comparing Two proportions	4/23	4/24 ***Lab 7: The Central Limit Theorem*** **Lab 6: Open Lab**	4/25 **Lab 6 due**
15	4/26	4/27 Ch 22: Chi-Square Test	4/28	4/29 **LAB FINAL EXAM**	4/30	5/1 **Review for Final Exam** **Lab 7: Open lab**	5/2 **Lab 7 due**
Finals	5/3	5/4 **FINAL EXAM** **7:30 -10:00 am**	5/5	5/6	5/7	5/8	5/9