

Fall 2015- Math 382

T & Th 10:00 to 10:50 in RS 13

Instructor: Dr. Catherine Crockett

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Office hours: M&W 1-3:00, T& Th 8:30-9:30, F 1-2 or by appointment

Text: *Modern Mathematical Statistics with Applications*, Jay L. Devore and Kenneth N. Berk

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

Important Dates: **Mid Term Exam: Thursday, October 22**

Final Exam: Tuesday, December 15 10:30- 1:00 (in class- portion)

Course Description:

A first course in descriptive and inferential statistics for students with sophisticated mathematics exposure. Topics include applied work in experimental design, sampling distributions, point estimation and hypothesis testing supported by the use of statistical software. In addition, the theoretical basis for these techniques is explored.

Prerequisite: Mathematics 274

Learning Outcomes:

Students will be able to apply their mathematical knowledge to solve problems.

Students will be able to use technology to solve problems.

Students will collaborate effectively in teams.

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.

Grading: Grades for the course will be based on the following (percentage of the course grade):

Homework (20%),

Labs (10%)

Mid Term (30%)

Final exam (40%)

Grading Scale: Approximate minimal 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.

Labs (10%): Labs will be assigned during the week and it will be collected the following week. A lab is late if it is not received by the due date. No late labs will be accepted.

Midterm Exam(30% each): There is one midterm exam. If you do not take the midterm you will receive a zero for it. A late midterm may be taken only by prior arrangement with me or a well documented emergency beyond your control. The examination schedule is included in the daily schedule. I do not intend to accept excuses such as poor communication with parents, benefactors, sport team sponsors and/or travel agents.

Final Exam (40%) : 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. Your final will come in two parts. The first part will be a few problems which you are required to work independently (they will be due the day of the in-class portion of the final). The in-class portion of the final will be Tuesday, December 15.

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

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).

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.

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.

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	Monday	Tuesday	Wednesday	Thursday	Friday
1 8/31-9/4	8/31 No class	9/1 No class (Monday schedule)	9/2	9/3 Introduction Sections 1.1 and 1.2	9/4
2 9/7-9/11	9/7 No Class	9/8 Section 1.3 Measures of Location	9/9	9/10 Section 1.4 Measures of Variability	9/11
3 9/14 - 9/18	9/14	9/15 Section 2.1 Sample Spaces and Events	9/16	9/17 Section 3.1 Random Variables	9/18
4 9/21- 9/25	9/21	9/22 Section 4.3 The Normal Distribution	9/23	9/24 Section 6.1 Statistics and Their Distributions	9/25
5 9/28- 10/2	9/28	9/29 Section 6.2 The Distribution of the Sample Mean	9/30	10/1 Section 7.1 General Concepts	10/2
6 10/5 -	10/5	10/6 Section 7.2	10/7	10/8 Section 8.1	10/9

10/9		Methods of Point Estimation		Basic Properties of Confidence Intervals	
7 10/12-10/16	10/12	10/13 Section 8.2 Large-Sample Confidence Intervals for a Population Mean and Proportion	10/14	10/15 Section 8.3 Intervals Based on a Normal Population Distribution	10/16
8 10/19-10/23	10/19	10/20 Review	10/21	10/22 Exam	10/23 No class
9 10/26-10/30	10/26	10/27 Section 9.1 Hypothesis and Test Procedures	10/28	10/29 Section 9.2 Tests About a Population Mean	10/30
10 11/2-11/6	11/2	11/3 Section 9.3 Tests concerning a population proportion	11/4	11/5 Section 9.4 and 9.5 P-values Some comments on selecting a Test Procedure	11/6
11 11/9-11/13	11/9	11/10 Section 10.1 Z tests and confidence intervals for a difference between two population means	11/11	11/12 Section 10.2 The two-sample t test and confidence intervals	11/13
12 11/16-11/20	11/16	11/17 Section 10.3 Analysis of paired data	11/18	11/19 Section 10.4 Inferences about two population proportions	11/20
13 11/23-11/27	11/23	11/24 Sections 11.1 and 11.2 Single-factor ANOVA, Multiple comparisons in ANOVA	11/25 No class Thanksgiving Break	11/26 No class Thanksgiving Break	11/27 No class Thanksgiving Break
14 11/30-12/4	11/30	12/1 Sections 12.5 and 12.1 Correlation The simple linear and logistic regressions models	12/2	12/3 Section 12.2 and 12.3 Estimating model parameters Inferences about regression coefficient	12/4
15 12/7-12/11	12/7	12/8 Extra stuff	12/9	12/10 Review Take-Home final distributed	12/11 Last day of class
Finals week 12/14-12/18	12/14	12/15 Final Exam Take-home part due and in-class part taken. 10:30-1:00	12/16	12/17	12/18