

Spring 2014- Math 392

MWF 1:30-2:35 RS14

Instructor: Dr. Catherine Crockett
Office: RS 226
email: catherinecrockett@pointloma.edu
Office phone: 619-849-2723
Office Hours: MW TH F 11-12, T 10:45-11:45, TTH 3-4 and M 2:40-4:00 or by appointment

These are the hours I am definitely available. However, you are welcomed to come by my office any time and if I am free, I will help you. If you want to reserve a time, email me to make an appointment.

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

Course Description:

A first course in probability for students with sophisticated mathematics exposure. Topics include axioms of probability, random variables, discrete and continuous distributions, mathematical expectation and limit theorems.

Prerequisite: Mathematics 382.

Course Learning Objective:

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.

Required Materials:

Calculate: A scientific calculator is recommended.

Grading:

Your grade for the course is based on:

Essays	100 points
Homework	200 points
Mid-Quad Exam	300 points
Final exam	400 points
Total	1000 points

Grade scale: Grades are based on the number of points accumulated throughout the course. Approximate minimal percentages required to obtain a given grade are:

Grading Scale in percentages				
	A	B	C	D
+		(87.5, 90)	(77.5, 80)	(67.5, 70)
	[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]

Homework: You will be assigned individual homework most days. You may work on the homework in groups, but each person is responsible for turning in their own write up of the solution to the problems.

Examinations: There will one Mid-Quad Exam. There will be a Final Exam. The Final Exam will consist of a take-home portion and in-class portion. Neither examination shall be missed without an official excuse. A deduction of $2^{(n-1)} \cdot 10\%$ will be deducted for each hour "n" that the final exam is late (n=1 if the exam is turned in one hour after it is due).

Other factors that affect grades are

Questions on written assignments, quizzes, and exams: Written assignments and test/exam questions and problems must be formulated carefully in terms of words and symbols used in the course. Credit is determined by the degree to which answers and solutions respond to the specific question or problem stated. Maximize your credit by learning the language and symbols of the course.

Written Assignments. Assignments collected must be prepared in a style suitable for grading. The following guidelines are used to determine credit:

- the organization must be easy to follow
- the work must be legible
- complete solutions must be written for problems (not just answers); answers must be clearly marked
- use complete sentences to answer questions

Exams and Final Examination. 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.

Attendance: Students are expected to arrive at each class meeting on-time. If you are absent or late you run the risk of making your homework late. Attendance is expected at each class section. In the event of an absence you are responsible for the material covered in class and the assignments given that day. See the Point Loma Nazarene University Catalog for a statement of the university's policy with respect to attendance.

Remember that missing more than one and a half week's worth of classes can result in a failing grade. After you miss the equivalent of 2 class periods, you will be warned of impending de-enrollment. If you miss the equivalent of 3 class periods, you may be de-enrolled or given a course grade of "F" for the semester.

Academic Honesty: The Point Loma Nazarene University community holds the highest standards of honesty and integrity in all aspects of university life. Academic honesty and integrity are strong values

among faculty and students alike. Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. Such acts include plagiarism, copying of class assignments, and copying or other fraudulent behavior on examinations.

Academic Accommodations:

While all students are expected to meet the minimum academic standards for completion of this course as established by the instructor, students with disabilities 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 will contact the student's instructors and provide 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 disabilities and guarantees all qualified students equal access to and benefits of PLNU programs and activities.

Students with learning disabilities who may need accommodations should discuss options with the instructor during the first two weeks of class.

Tentative calendar:

Week	Monday	Wednesday	Friday
8	3/3	3/5 First Day of class 2.1: Sample spaces & Events 2.2: Axioms, Interpretations & Properties of probability	3/7 2.2: Axioms, Interpretations & Properties of probability 2.3: Counting Techniques
Spring Break	3/10	3/12	3/14
9	3/17 2.4: Conditional Probabilities	3/19 2.5: Independence	3/21 3.1: Random Variables 3.2: Probability Distributions for Discrete Random Variables
10	3/24 3.3: Expected Values of Discrete Random Variables	3/26 3.4: Moments and moment generating functions	3/28 3.5: The Binomial Probability Distribution
11	3/31 3.6: Hypergeometric & Negative Binomial Distributions	4/2 3.7: The Poisson Probability Distribution	4/4 4.1: Probability Functions and Cumulative Distribution Functions
12	4/7 Exam	4/9 4.2: Expected Values and Moment Generating Functions	4/11 4.3: The Normal Distribution
13	4/14 4.4: The Gamma Distribution & Its Relatives	4/16 4.5: Other Continuous Distributions 4.6: Probability Plots	4/18 No Class Easter Break
14	4/21 No Class Easter Break	4/23 5.1: Jointly Distributed Random Variables	4/25 5.2: Expected Values, Covariance & Correlation
15	4/28 5.3: Conditional Distributions	4/30 Proof of CLT	5/2 Review
Finals	5/5 (You will received the out of class part of final exam)	5/7	5/8 Final Exam 1:30-4:00 (in class part)