



Syllabus for Introduction to Statistics—Spring 2012

Instructors:

[Ryan Botts](#)

RS 228
849-2968

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RS 220
849-2604

Class meetings:

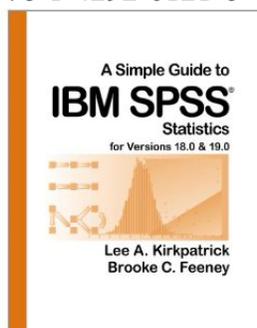
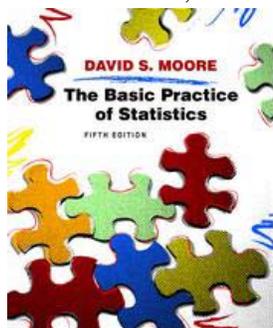
Sec. 1 RLC108
MWF 1:30-2:35

Sec 2 RS 236
TR 10-11:40

Sec 3 RLC108
TR 3-4:40

Text:

The Basic Practice of Statistics, 4th Edition, David S. Moore,
W. H. Freeman, 2010. ISBN-13 978-1-4292-0121-6



Lab Manual for SPSS:

A Simple Guide to SPSS for Versions 18.0 and 19.0,
Lee A. Kirkpatrick and Brook C. Feeney.

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Course Description

MTH 203 (3 Hours) Introduction to Statistics

A first course in statistics for the general student. Description of sample data, probability theory, theoretical frequency distributions, sampling, estimation, and hypothesis testing. Not applicable toward a major in mathematics.

Prerequisite: Mathematics 099 (or equivalent).

Learning Outcomes

- Students will be able to apply their technical knowledge to solve problems.
- Students will be able to compute measures of central tendency for data.
- Students will be able to compute measures of dispersion for data.
- Students will be able to use statistical methods to test hypotheses.

Required Materials

- Calculator: A cheap calculator (with at least a square root key).

Course Philosophy

Mathematics is learned primarily by **doing** Mathematics—not simply listening to it; that is, the effective learning of mathematics is an active process, involving participation. Thus, the course aims to maximize student involvement, hence student achievement.

Individual concepts in mathematics are **learned** (mastered as opposed to memorized) by thinking and working through numerous examples and exercises which involve these concepts; by this process mathematical concepts become familiar, and less abstract.

The instructor is responsible for overall planning, for directing instructional activities, and for evaluation of student achievement.

You are ultimately responsible for your own achievement. For example, you are responsible for meeting all scheduled activities of the course, such as class meetings, problem assignments, exams, and the final examination; you are also responsible for regular work outside of class in preparation for class lectures and discussions.

Grading Policies

Grading Distribution	Points
Two Examinations at 150 points each	300
Quizzes (Basic Skills and best 5 of 7)	100
Laboratory Test	150
Final Exam	250
Homework (text exercises)	150
Laboratory (reports)	50

Grading 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)

Grade components.

The grade components are homework (text exercises), tests (class and laboratory), and the final examination.

- **Late work.** A written assignment or computer assignment is late if it is not received at the beginning of class on the due date. Late work need not be accepted. Work accepted late may be assessed a penalty. Make-up tests will only be given by arrangement with the instructor for reasons of documented emergency.
- **Accuracy of solutions.** Written assignments and examination 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.** Collected assignments 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
- **Electronic Assignments.** Assignments sent in as attachments 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 formatting must enhance the organization
 - complete solutions must be written for problems (not just answers); answers must be clearly indicated
 - use complete sentences to answer questions
- **Examinations and the Final Examination.** Examinations and the Final Examination 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 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. This instructor does not intend to accept excuses such as poor communication with parents, benefactors, surf team sponsors and/or travel agents.

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 when absences are necessitated by certain university-sponsored activities and are approved in writing by the Provost. Whenever the number of accumulated absences in a class, for any cause, exceeds ten percent of the total number of class meetings, the faculty member has the option of filing a written report to the Vice Provost for Academic Administration which may result in de-enrollment, pending any resolution of the excessive absences between the faculty member and 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 (no grade). There are no refunds for courses where a de-enrollment was processed." (see catalog for full text)

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 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.

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. For more details on PLNU's policy go to:

<http://www.pointloma.edu/experience/academics/catalogs/undergraduate-catalog/point-loma-education/academic-policies>

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.

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.

The Final Exam is a Comprehensive Examination.

Spring 2012

Sec. 1 MWF 1:30-2:35

	S	M	T	W	T	F	S	
January	1	2	3	4	5	6	7	
	8	9 (Tuesday) Introduction Chapter 1 Picturing Distributions as Graphs	10	11 Chapter 2 Describing Distributions with Numbers Chapter 3 The Normal Distributions	12	13 Chapter 3 The Normal Distributions	14	
	15	16 Martin Luther King Jr. Day	17	18 Gold Team Meets in the Computer Lab	19	20 Green Team Meets in the Computer Lab	21	
	22	23 Quiz 1 (Ch 3) Chapter 4 Scatterplots and Correlation	24	25 Chapter 5 Regression Cautions About Correlation and Regression	26	27 Quiz 2 (Ch 4 & 5) Chapter 8 Producing Data: Sampling Department/School Chapell	28	
	29	30 Chapter 9 Producing Data: Experiment Spiritual	31	1 Gold Team Meets in the Computer Lab Renewal	2	3 Green Team Meets in the Computer Lab Week	4	
February	5	6 Chapter 9 Producing Data: Experiments	7	8 Basic Skills Quiz Chapter 10 (Skip pages 268-289) Introducing Probability	9	10 Chapter 11 Sampling Distributions	11	
	12	13 Quiz 3 (Ch 11) Chapter 11 Sampling Distributions	14	15 Gold Team Meets in the Computer Lab	16	17 Green Team Meets in the Computer Lab	18	
	19	20 Chapter 14 Confidence Intervals: The Basics Review & Catch-up	21	Exam 1		23	24 Chapter 15 (Skip pages 406-409) Tests of Significance: The Basics	25
	26	27 Quiz 4 (Ch 14 & 15) Chapter 15 Tests of Significance: The Basics	28	29 Gold Team Meets in the Computer Lab	1	2 Green Team Meets in the Computer Lab	3	
March	4	5 Spring	6	7 Break	8	9 Week	10	
	11	12 Chapter 17 Inference about a Population Mean	13	14 Chapter 17 Inference about a Population Mean	15	16 Quiz 5 (Ch 17 & 18) Chapter 18 Two Sample Problems	17	
	18	19 Chapter 18 Two Sample Problems Advising Day Chapel	20	21 Gold Team Meets in the Computer Lab	22	23 Green Team Meets in the Computer Lab	24	
	25	26 Chapter 24 One-Way Analysis of Variance: Comparing Several Means	27	28 Quiz 6 (Ch 24) Chapter 24 One-Way Analysis of Variance: Comparing Several Means	29	30 Chapter 19 Inference about a Population Proportion	31	
April	1	2 Chapter 19 Inference about a Population Proportion Review	3	Exam 2		5	6 Easter Recess	7
	8	9 Easter Easter Recess	10	11 Chapter 20 Comparing Two Proportions	12	13 Quiz 7 (Ch 19 & 20) Chapter 20 Comparing Two Proportions	14	
	15	16 Gold Team Meets in the Computer Lab	17	18 Chapter 22 Two Categorical Variables Chi-Square Test	19	20 Green Team Meets in the Computer Lab	21	
	22	23 Chapter 22 Two Categorical Variables Chi-Square Test	24	25 Gold Team Lab Final	26	27 Green Team Lab Final	28	
	29	30 Final Exam 1:00–3:00	1	2	3	4	5	

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
January	1 New Year's Day	2	3	4	5	6	7
	8	9	10 Classes Begin Revised Schedule (Monday Schedule)	11	12 Introduction Ch 2 Describing Distributions with Numbers	13	14
	15	16 MLK Jr. Day	17 Ch. 3 The Normal Distribution	18	19 Quiz 1 (Ch 3) Ch. 3 Continued	20	21
	22	23	24 Green Team Lab 1	25	26 Gold Team Lab 1	27	28
	29	30 Spiritual	31 Ch.4 Scatterplots and Correlation Ch. 5 Regression	1 Renewal	2 Quiz 2 (Ch 4 & 5) Ch. 5 Regression Ch. 8 Producing Data	3 Week	4
February	5	6	7 Ch. 9 Experiments	8	9 Basic Skills Quiz Ch. 10 Introducing Probability (skip pgs. 268-289)	10	11
	12	13	14 Green Team Lab 2	15	16 Gold Team Lab 2	17	18
	19	20	21 Quiz 3 (Ch 11) Ch. 11 Sampling Distributions Review	22	23 Exam 1	24	25
	26	27	28 Ch. 14 Confidence Intervals Ch. 15 Tests of Significance (skip pgs. 406-409)	29	1 Quiz 4 (Ch 14 & 15) Ch. 15 Continued Ch. 17 Inference about a population mean	2	3
March	4	5 Spring	6	7 Break	8	9 Week	10
	11	12	13 Green Team Lab 3	14	15 Gold Team Lab 3	16	17
	18	19	20 Ch. 17 Inference about a population mean	21	22 Quiz 5 (Ch 17 & 18) Ch. 18 Two sample problems	23	24
	25	26	27 Ch. 24 ANOVA	28	29 Quiz 6 (Ch 24) CH. 24 ANOVA	30	31
April	1	2	3 Exam 2	4	5 Easter Recess	6	7
	8 Easter	9 Easter Recess	10 Green Team Lab 4	11	12 Gold Team Lab 4	13	14
	15	16	17 Ch. 19 Inference about a population proportion Ch. 20 Comparing two proportion	18	19 Quiz 7 (Ch 19 & 20) Ch. 22 Two Categorical Variables Chi-squared test	20	21
	22	23	24 Green Team Lab Final	25	26 Gold Team Lab Final	27	28
	29	30	1 Sec. 2 Final Exam 10:30–12:30 Sec. 3 Final Exam 3:30–5:30	2	3	4	5