POINT LOMA NAZARENE UNIVERSITY

Syllabus for Introduction to Statistics—Spring 2013

Instructors:
Tom Blamey
RS 210
849-2219

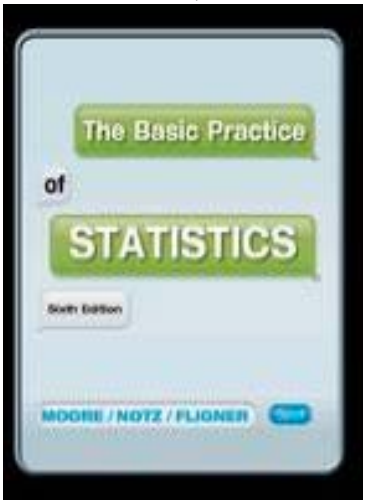
Greg Crow
RS 220
849-2604

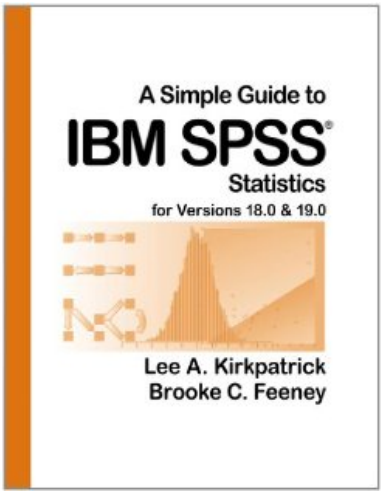
Class meetings:
Section 1 RLC 108
MWF 1:30-2:35

Section 2 RLC 108
MWF 8:30-9:35

Section 3 RLC 108
TR 3-4:40

Text:
The Basic Practice of Statistics, 6th Edition, David S. Moore, W. H. Freeman, 2010. ISBN-13 978-1-4641-0254-7





Lab Manual for SPSS:
A Simple Guide to SPSS for Versions 18.0 and 19.0,
Lee A. Kirkpatrick and Brook C. Feeney,
Wadsworth Publishing, 2011, ISBN-13: 978-1111352684

Table of Contents:

Course Description
MTH 203 (3 Units) 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 and the capability to store a result in memory).

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.

There is an option that with the written consent of the instructor, a student may be graded using tests only. This option will remove reports and exercises from the distribution below and prorate the rest of the tests to 1000 points.

Grading Policies

Grading Distribution	**Points**
Two Examinations at 200 points each	400
Laboratory Test	150
Final Exam	250
Homework (text exercises)	150
Laboratory (reports)	50
Total	1000

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 Policy
After you miss the equivalent of 10% of the classes and labs, you will be warned of impending de-enrollment. If you miss the equivalent of 20% of the classes, you may be de-enrolled or given a course grade of "F" for the semester. Tardiness may result in being marked absent.

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:

> 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 the 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.

Classroom Attire
All students are expected to dress in ways that make the classroom a place where all students are comfortable and can work efficiently. Distracting attire is not permitted in the classroom. For example, attire associated with the "rush" activities of fraternities and sororities simply causes too many distractions in the classroom. If you choose to "rush" one of the fraternities or sororities, please make sure the "rush" officials know that "rush" attire will not be allowed in this classroom.

Academic Accommodations
While all students are expected to meet the minimum 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 during the first two weeks of the semester with the Disability Resource Center (DRC), located in the Bond Academic Center. Once the student files the 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, and the Americans with Disabilities Act of 1990 (ADA), 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 <u>first two weeks</u> 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 2013 MTH203 1:30 MWF, Section 1 8:30 MWF, Section 2

	S	M	T	W	Th	F	S
January	30	31	1	2	3	4	5
	6	7 **(Tuesday)** Introduction Chapter 1 Picturing Distributions as Graphs	8	9 Chapter 2 Describing Distributions with Numbers Chapter 3 The Normal Distributions	10	11 Chapter 3 The Normal Distributions	12
	13	14 Chapter 4 Scatterplots and Correlation	15	16 Gold Team Meets in the Computer Lab	17	18 Green Team Meets in the Computer Lab	19
	20	21 **Martin Luther King Jr. Day**	22	23 Chapter 5 Regression Cautions About Correlation and Regression	24	25 Chapter 8 Producing Data: Sampling Department/School Chapell	26
	27	28 Chapter 9 Producing Data: Experiment **Spiritual**	29	30 Gold Team Meets in the Computer Lab **Renewal**	31	1 Green Team Meets in the Computer Lab **Week**	2
February	3	4 Chapter 9 Producing Data: Experiments	5	6 Chapter 10 (skip pages 266-277) Introducing Probability	7	8 Chapter 11 Sampling Distributions	9
	10	11 Chapter 11 Sampling Distributions	12	13 Gold Team Meets in the Computer Lab	14	15 Green Team Meets in the Computer Lab	16
	17	18 Chapter 14 Confidence Intervals: The Basics Review & Catch-up	19	20 **Exam 1**	21	22 Chapter 15 Tests of Significance: The Basics	23
	24	25 Chapter 16 (Skip pages 402-405) Inference in Practice	26	27 Gold Team Meets in the Computer Lab	28	1 Green Team Meets in the Computer Lab	2
March	3	4 Spring	5	6 Break	7	8 Week	9
	10	11 Chapter 18 Inference about a Population Mean	12	13 Chapter 18 Inference about a Population Mean	14	15 Chapter 19 Two Sample Problems	16
	17	18 Chapter 19 Two Sample Problems Advising Day Chapel	19	20 Gold Team Meets in the Computer Lab	21	22 Green Team Meets in the Computer Lab	23
	24	25 Chapter 25 One-Way Analysis of Variance: Comparing Several Means (ANOVA)	26	27 Chapter 25 One-Way Analysis of Variance: Comparing Several Means (ANOVA)	28	29 Easter Recess	30
	31 **Easter**	1 Easter Recess	2	3 Gold Team Meets in the Computer Lab	4	5 Green Team Meets in the Computer Lab	6
April	7	8 Chapter 20 Inference about a Population Proportion Review & Catch-up	9	10 **Exam 2**	11	12 Chapter 20 Inference about a Population Proportion	13
	14	15 Chapter 21 Comparing Two Proportions	16	17 Gold Team Lab Final	18	19 Green Team Lab Final	20
	21	22 Chapter 21 Comparing Two Proportions	23	24 Chapter 23 Two Categorical Variables Chi-Square Test	25	26 Chapter 23 Two Categorical Variables Chi-Square Test	27
	28	29	30	1 (1:30-2:35 MWF) **Final Exam** **1:00–3:00 (Section 1)**	2	3 (8:30-9:35 MWF) **Final Exam** **8:00–10:00 (Section 2)**	4

Spring 2013 MTH203 3:00 TTh, Section 3

	S	M	T	W	Th	F	S
January	30	31	1	2	3	4	5
	6	7	8 No Class (Monday Schedule)	9	10 Introduction Ch 2 Describing Distributions with Numbers	11	12
	13	14	15 Green Team Lab 1	16	17 Gold Team Lab 1	18	19
	20	21 **MLK Jr. Day**	22 Ch. 3 The Normal Distribution	23	24 Ch. 3 Continued	25	26
	27	28 **Spiritual**	29 Ch.4 Scatterplots and Correlation Ch. 5 Regression	30 **Renewal**	31 Ch. 5 Regression Ch. 8 Producing Data	1 **Week**	2
February	3	4	5 Green Team Lab 2	6	7 Gold Team Lab 2	8	9
	10	11	12 Ch. 9 Experiments	13	14 Ch. 10 Introducing Probability (skip pages 266-277)	15	16
	17	18	19 Ch. 11 Sampling Distributions Review & Catch-up	20	21 **Exam 1**	22	23
	24	25	26 Ch. 14 Confidence Intervals Ch. 15 Tests of Significance	27	28 Chapter 16 (Skip pages 402-405) Inference in Practice Ch. 18 Inference about a population mean	1	2
March	3	4 Spring	5	6 Break	7	8 Week	9
	10	11	12 Green Team Lab 3	13	14 Gold Team Lab 3	15	16
	17	18	19 Ch. 18 Inference about a population mean	20	21 Ch. 19 Two sample problems	22	23
	24	25	26 Ch. 25 One-Way Analysis of Variance Comparing Several Means (ANOVA)	27	28 Easter Recess	29	30
	31 **Easter**	1 Easter Recess	2 Ch. 25 One-Way Analysis of Variance Review & Catch-up	3	4 **Exam 2**	5	6
April	7	8	9 **Green Team Lab 4**	10	11 Gold Team Lab 4	12	13
	14	15	16 Ch. 20 Inference about a population proportion Ch. 21 Comparing two proportions	17	18 Ch. 23 Two Categorical Variables Chi-squared test	19	20
	21	22	23 Green Team Lab Final	24	25 Gold Team Lab Final	26	27
	28	29	30	1	2 (3:00-4:40) **Final Exam** **3:30–5:30 (Section 3)**	3	4