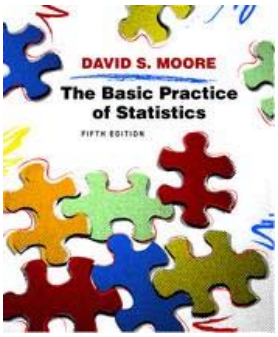
Syllabus for Introduction to Statistics—Fall 2011

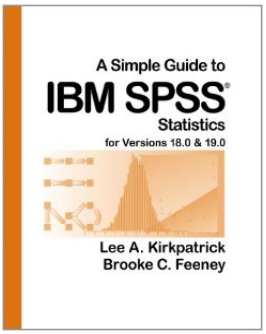
Instructors:
Ryan Botts
RS 228
849-2968

Greg Crow
RS 220
849-2604

Class meetings:
MTWR 9:55-12:05
RS 202

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,

Table of Contents:

Course Description
MTH 203 (3) 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
Total	1000

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 above distribution and prorate the rest of the tests to 1000 points.

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.

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)

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.

Cheating Policy
Any student who is caught cheating on an exam will receive a zero on that exam and may receive a course grade of "F" for the semester.

The Final Exam is a Comprehensive Examination.

Last modified on 25-Aug-2011
Send comments and suggestions to ***E-mail:*** *gcrow@pointloma.edu*

Fall 2011 MTH203 Sec. 1 1:30-2:35 MWF Academic Calendar

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

Fall 2011 MTH203 Sec. 2 3:00-4:40 MW Academic Calendar

	S	M	T	W	R	F	S
Aug	28	30 (Tuesday) Introduction Chapter 2 Describing Distributions with Numbers		31 **Quiz 1 (Ch 3)** Chapter 3 The Normal Distributions	1		3
September	4	5 **Labor Day**	6	7 Chapter 3 The Normal Distributions	8	9	10
	11	12 Gold Team Meets in the Computer Lab	13	14 Green Team Meets in the Computer Lab	15	16	17
	18	19 **Quiz 2 (Ch 4 & 5)** Chapter 4 Scatterplots and Correlation Chapter 5 Regression **Department/School Chapels**	20	21 Chapter 5 Regression, Cautions About Correlation and Regression Chapter 8 Producing Data: Sampling	22	23	24
	25	26 **Basic Skills Quiz** Chapter 9 Producing Data: Experiments **Spiritual**	27	28 Chapter 10 (Skip pages 268-289) Introducing Probability **Renewal**	29	30 **Week**	1
October	2	3 Gold Team Meets in the Computer Lab	4	5 Green Team Meets in the Computer Lab	6	7	8
	9	10 **Quiz 3 (Ch 11)** Chapter 11 Sampling Distributions **Review & Catch-up**	11	12 **Exam 1**	13	14	15
	16	17 **Quiz 4 (Ch 14 & 15)** Chapter 14 Confidence Intervals: The Basics Chapter 15 (Skip pages 406-409) Tests of Significance: The Basics	18	19 Chapter 15 (Skip pages 406-409) Tests of Significance: The Basics Chapter 17 Inference about a Population Mean	20	21 Fall Break	22
	23	24 Gold Team Meets in the Computer Lab	25	26 Green Team Meets in the Computer Lab	27	28	29
	30	31 **Quiz 5 (Ch 17 & 18)** Chapter 17 Inference about a Population Mean	1	2 Chapter 18 Two Sample Problems	3	4	5
November	6	7 **Quiz 6 (Ch 24)** Chapter 24 One-Way Analysis of Variance: Comparing Several Means	8	9 Chapter 24 One-Way Analysis of Variance: Comparing Several Means **Review**	10	11	12
	13	14 Gold Team Meets in the Computer Lab	15	16 Green Team Meets in the Computer Lab	17	18	19
	20	21 **Exam 2**	22	23 Thanksgiving Recess	**24**	25	26
	27	28 **Quiz 7 (Ch 19 & 20)** Chapter 19 Inference about a Population Proportion Chapter 20 Comparing Two Proportions	29	30 Chapter 22 Two Categorical Variables Chi-Square Test **Review**	1	2	3
December	4	5 Gold Team Meets in the Computer Lab	6	7 Green Team Meets in the Computer Lab	8	9	10
	11	12	13	14 **Final Exam** **3:30-5:30**	15	16	17

Fall 2011 MTH203 Sec. 3 10:00-11:40 TR Academic Calendar

	S	M	T	W	R	F	S
Aug.	28		30 No Class	31	1 Introduction Chapter 2 Describing Distributions with Numbers		3
September	4	5 **Labor Day**	6 **Quiz 1 (Ch 3)** Chapter 3 The Normal Distributions	7	8 Chapter 3 The Normal Distributions	9	10
	11	12	13 Gold Team Meets in the Computer Lab	14	15 Green Team Meets in the Computer Lab	16	17
	18	19	20 **Quiz 2 (Ch 4 & 5)** Chapter 4 Scatterplots and Correlation Chapter 5 Regression	21	22 Chapter 5 Regression Cautions About Correlation and Regression Chapter 8 Producing Data: Sampling	23	24
	25	26	27 **Basic Skills Quiz** Chapter 9 Producing Data: Experiments **Spiritual**	28	29 Chapter 10 (Skip pages 268-289) Introducing Probability **Renewal**	30 **Week**	1
October	2	3	4 Gold Team Meets in the Computer Lab	5	6 Green Team Meets in the Computer Lab	7	8
	9	10	11 **Quiz 3 (Ch 11)** Chapter 11 Sampling Distributions **Review & Catch-up**	12	13 **Exam 1**	14	15
	16	17	18 **Quiz 4 (Ch 14 & 15)** Chapter 14 Confidence Intervals: The Basics Chapter 15 (Skip pages 406-409) Tests of Significance: The Basics	19	20 Chapter 15 (Skip pages 406-409) Tests of Significance: The Basics Chapter 17 Inference about a Population Mean	21 Fall Break	22
	23	24	25 Gold Team Meets in the Computer Lab	26	27 Green Team Meets in the Computer Lab	28	29
	30	31	1 **Quiz 5 (Ch 17 & 18)** Chapter 17 Inference about a Population Mean	2	3 Chapter 18 Two Sample Problems	4	5
November	6	7	8 **Quiz 6 (Ch 24)** Chapter 24 One-Way Analysis of Variance: Comparing Several Means	9	10 Chapter 24 One-Way Analysis of Variance: Comparing Several Means **Review**	11	12
	13	14	15 Gold Team Meets in the Computer Lab	16	17 Green Team Meets in the Computer Lab	18	19
	20	21	22 **Exam 2**	23	**24** **Thanksgiving Day**	25	26
	27	28	29 **Quiz 7 (Ch 19&20)** Chapter 19 Inference about a Population Proportion Chapter 20 Comparing Two Proportions	30	1 Chapter 22 Two Categorical Variables Chi-Square Test **Review**	2	3
December	4	5	6 Gold Team Meets in the Computer Lab	7	8 Green Team Meets in the Computer Lab	9	10
	11	12	13 **Final Exam 10:30-12:30**	14	15	16	17