

## SYLLABUS

### ECON103/SOC190: Introduction to Probability and Statistical Methods Spring 2007

**Lecturer:** Professor Joe Swingle  
**Office:** PNE 332, x3841  
**Office hours:** Tues, Fri 2:45-4:45  
**Class Schedule:**

Lectures:	Tu, F	1:30-2:40	PNE 239 (Tue); PNE 127 (Fri)
Lab 1:	W	2:15-3:25	PNE 129
Lab 2:	W	11:10-12:20	PNW 121

The aim of this course is to introduce students to statistical methods and their applications in social science and public policy. Knowledge of basic probability theory is necessary to accomplish this goal and its instruction is an integral part of this course. The course will be divided into four main sections. Initially we will cover descriptive statistics, including summary measures and the graphical display of data. The second section covers the probability theory that forms the basis of statistical inference. The third section covers sampling, estimation, and inference. The final section will provide a brief introduction to regression analysis.

#### Required text:

Anderson, David R., Dennis J. Sweeney, and Thomas A. Williams. 2006. *Essentials of Statistics for Business and Economics* (4th edition). Thomson-Southwestern.

On the course schedule, this text is referred to as ASW. Students studying probability and statistics often find it beneficial to skim the appropriate chapters before coming to class and then to read the chapters more carefully after being introduced to the material in lecture.

#### Course Requirements and Weights for Final Grade:

Students will be expected to complete a series of problem sets and three exams. The final grade will be based on the following weights:

7 problem sets	15%
2 midterms	25% each
Final exam	35%

Problem sets are an integral part of the course. The only way to learn statistics is with practice. Some of you may find it useful to work on problem sets together and to study in small teams (2-3 per team is ideal). That is perfectly acceptable but each student must turn in her own problem set. Since written solutions will be distributed on the due date, **NO LATE PROBLEM SETS WILL BE ACCEPTED**. Computer difficulties should be expected and factored in the time allotted to complete the exercises. The two midterm exams will be closed book and taken in class on March 2<sup>nd</sup> and April 20<sup>th</sup>. **ANY CONFLICTS WITH THESE EXAM DATES** may be resolved by taking the exam earlier than scheduled, not later than scheduled.

Attendance is expected for all lectures and lab meetings. Labs are a vital component of this course and will be used to reinforce lecture material, to provide “hands on” experience with problem solving, and to introduce Excel as a useful tool for learning statistics and perhaps even landing a job some day.

**ECON 103 / SOC 190 Spring 2007**

	Mon	Tue	Wed	Thu	Fri	
1	<b>JAN 29</b>	30 Introduction	31	<b>FEB 1</b>	2 Data and graphs	ASW 1-2
2	5	6 Data and graphs	7 LAB: Graphing	8	9 Descriptive stats	ASW 3
3	12	13 Descriptive stats <i>Pset 1 due 1:30p</i>	14 LAB: Freq Distributions	15	16 Basic probability	ASW 4
4	19 PRESIDENT'S DAY	20 Basic probability <i>Pset 2 due 1:30p</i>	21 LAB: Excel functions	22	23 Basic probability: Bayes	
5	26 <i>Pset 3 due 1:30p</i>	27 Review session	28 NO LAB	<b>MAR 1</b>	2 EXAM 1	
6	5	6 Go over Exam 1	7 LAB: Random sampling	8	9 Random variables	ASW 5
7	12	13 Discrete prob distribs	14 LAB: Prob distribs	15	16 Props of expectations	
8	19	20	21	22	23	
Spring Break						
9	26	27 Continuous prob distribs	28 LAB: Proof by Excel	29	30 Normal prob distribs <i>Pset 4 due 1:30p</i>	ASW 6
10	<b>APR 2</b>	3 Sampling distribs	4 LAB: Sampling distribs	5	6 Confidence intervals	ASW 7-8
11	9	10 CI's and Hyp Testing	11	12	13 Hyp testing: 1 group <i>Pset 5 due 1:30p</i>	ASW 9
12	16 MARATHON DAY	17 NO CLASS	18 LAB: Review session	19	20 EXAM 2	
13	23	24 Hyp testing: 2 groups	25 LAB: Pivot Tables	26	27 Crosstabulation	ASW 10
14	30	<b>MAY 1</b> Crosstabulation	2 RUHLMAN	3	4 Simple regression <i>Pset 6 due 1:30p</i>	ASW 11; 12.1-12.2
15	7	8 Simple regression	9 LAB: Review session <i>Pset 7 due 7:00p</i>	10 Reading period	11 Reading period	
16	14 Reading period	15 EXAMS	16 EXAMS	17 EXAMS	18 EXAMS	
17	21 EXAMS	22	23	24 Senior grades due 12 noon (Others: June 4 by 4:30)	25	
18	28	29	30	31	<b>JUN 1</b> Commencement	