UNIVERSITY OF PENNSYLVANIA
SCHOOL OF ARTS AND SCIENCES
DEPARTMENT OF ECONOMICS

Econ 103 - 002 - Statistics for Economists
Spring 2005

Suleyman Ozmucur
Office: McNeil 343, Tel: 8-6765
E-mail: ozmucur@ssc.upenn.edu
Web-page: http://www.econ.upenn.edu/~ozmucur
Office Hours: Tuesday, 1:00-3:00, Wednesday 1:00-3:00

Objectives and Prerequisites

The course focuses on elementary probability and inferential statistical techniques. The course begins with a survey of basic descriptive statistics and data sources and then covers elementary probability theory, sampling, estimation, hypothesis testing, correlation, and regression. The course focuses on practical issues involved in the substantive interpretation of economic data using the techniques of statistical inference. For this reason, empirical case studies that apply the techniques to real-life data are stressed and discussed throughout the course, and students are required to perform several statistical analyses of their own.

Prerequisites: Economics 1 and 2, Mathematics 104 and either 114 or 115. Economics 103 cannot be taken by any student who has already completed statistics at least at the level of Stat 101 (including the sequence Stat 111/112). Students who have one semester of statistics must take the second course in statistics or Economics 220 (or Economics 103, if Stat 111 was taken) to satisfy the statistics requirement of the major. Students are strongly advised to take the second course in statistics, rather than Economics 220. (Students with a one semester AP Statistics credit for Stat 101 or higher can drop the credit in order to take Economics 103 via a release form available from the department.)

Lecture and Office Hours

Lecture Hours:
Tuesday: 10:30 - 12:00, DRLB A6
Thursday: 10:30 - 12:00, DRLB A6

Office Hours (McNeil 343):
Tuesday, 1:00-3:00
Wednesday, 1:00 - 3:00
Textbooks and Other References

**Required:**

**Recommended:**

**Sources on the web:**

**Exams**
There will be a mid-term exam and a final exam. All examinations are closed book. A calculator is required for all exams.

Midterm Exam (February 22nd, Tuesday)
Final Exam (to be scheduled by the Registrar; preliminary Monday, May 2, 11:00-1:00)
(Tentative schedule by the Registrar [http://www.upenn.edu/registrar/timetable/tfinals.html](http://www.upenn.edu/registrar/timetable/tfinals.html))
See final exam rules: [http://www.econ.upenn.edu/Undergraduate/FinalExamRules.htm](http://www.econ.upenn.edu/Undergraduate/FinalExamRules.htm)

**Homework Problems** (Newbold, Carlson and Thorne)
2.5, 2.6, 2.19, 2.20, 2.21, 2.23, 2.31,
3.1, 3.6, 3.7
4.1, 4.2, 4.4, 4.5, 4.10, 4.11, 4.37, 4.38, 4.53, 4.54
5.1, 5.5, 5.6, 5.8, 5.9, 5.20, 5.21, 5.22, 5.23, 5.47, 5.48
6.1, 6.2, 6.9, 6.10, 6.11, 6.12, 6.13, 6.39, 6.40, 6.41
7.1, 7.2, 7.4, 7.5, 7.6, 7.7, 7.21, 7.23, 7.25, 7.38, 7.39, 7.41
8.1, 8.3, 8.4, 8.8, 8.9, 8.11, 8.12, 8.13, 8.21, 8.22, 8.23, 8.30, 8.31, 8.36, 8.37, 8.45, 8.46, 8.50, 8.51
10.1, 10.2, 10.3, 10.4, 10.8, 10.9, 10.12, 10.13, 10.14, 10.15, 10.19, 10.20, 10.21, 10.23, 10.28, 10.29, 10.30, 10.31, 10.33, 10.34
17.3,17.5,17.7,17.11,17.13,17.15,17.21,17.23,17.25,17.27,17.35,17.37,17.39,17.41

**Grading**
The final grade for the course will be based on attendance, homework assignments, a mid-term exam, and a final exam:
Homework assignments (10%)
Midterm Exam (February 22nd, Tuesday) (40%)
Final Exam (to be scheduled by the Registrar; preliminary Monday, May 2, 11:00-1:00) (50%)

Course Outline

1. Descriptive Statistics and Data Analysis
   Newbold, Carlson and Thorne, Chps. 1, 2, 3
   Berk & Carey, Chps. 1-4

2. Probability
   Newbold, Carlson and Thorne, Chp. 4

3. Probability Distributions
   Newbold, Carlson and Thorne, Chp. 5
   Berk & Carey, pp. 169-179

4. Normal Distribution
   Newbold, Carlson and Thorne, Chp. 6
   Berk & Carey, pp. 179-190

5. Sampling Distributions
   Newbold, Carlson and Thorne, Chp. 7
   Berk & Carey, pp. 192-201

6. Point and Interval Estimation
   Newbold, Carlson and Thorne, Chp. 8.1 - 8.4, 8.8
   Berk & Carey, pp. 209-216

7. Hypothesis Testing
   Newbold, Carlson and Thorne, Chp. 9
   Berk & Carey, pp. 217-227

8. Simple Regression
   Newbold, Carlson and Thorne, Chp. 10
   Berk & Carey, Chp. 8, 9

9. Multiple Regression
   Newbold, Carlson and Thorne, Chp. 11
   Berk & Carey, Chp. 8, 9

10. Time Series Analysis and Forecasting
    Newbold, Carlson and Thorne, Chp. 17
    Berk & Carey, Chp. 11