ECON 221-02

Statistics I Fall 2005

SYLLABUS

Instructor: Çağatay Kayı.

Course Reference Number: 10115.

Class Hours: Wednesdays 6:15 p.m. to 9:20 p.m. at Basil 216.

Email: ckayi@sjfc.edu, ckyi@troi.cc.rochester.edu

Office Hours: Wednesdays 9:20 p.m. - 10 p.m. after the class meetings (or by appointment only). Please e-mail me to arrange a mutually convenient time. Additional office hours will be announced before the midterms and the final.

Course Objectives: This course aims to introduce the students to basic concepts of statistics. Statistics is a set of tools that extracts information (in the broad sense) from numerical data. It uses descriptive statistics, basic probability theory, estimation and hypothesis testing. The main topics will be the introduction to descriptive and inferential statistics, the treatment of frequency distributions, measures of central tendency, and measures of variability, probability theory, the binomial distribution, the normal distribution, the t-distribution, sampling distributions, estimation, and hypothesis testing are also investigated in the context of real world applications. Recommended pre-requisite: MATH 111C.

Textbook: "Statistics for Business and Economics" by Paul Newbold, William L. Carlson, and Betty Thorne, Prentice Hall, Fifth Edition 2003.

Requirements: Evaluation will be based on weekly assignments (20%), two midterms (20% each) and a final exam (40%). The grades will be adjusted to reflect performance relative to the rest of the class.

There will be 7 assignments. The assignments will be handed out on Wednesdays and will be due a week later at the beginning of the class. Late homeworks will not be accepted. The lowest grade of all your homework grade will be dropped in computing the course grade.

The exams will take place during the class time. There will be NO make-up exams without documented medical evidence that should presented within one week of the exam. Failure to do so will result in a score of zero on the missed exam. The schedule is as follows:

First day of class: September 7th.

1st Midterm Exam: October 5th.

2nd Midterm Exam: November 9th.

Final review session and the last day of class: December 7th.

Final: December 14th.

In compliance with St. John Fisher College policy and applicable laws, appropriate academic accommodations are available to you if you are a student with a disability. All requests for accommodations must be supported by appropriate documentation/diagnosis and determined reasonable by St. John Fisher College. Students with documented disabilities (physical, learning, psychological) who may need academic accommodations are advised to make an appointment with the Coordinator of Services for students with disabilities in the Office of Academic Affairs, Kearney 202. Late notification will delay requested accommodations.

Course Outline:

1. Summarizing Numerical Information: Descriptive Statistics

   - Mean, Variance, Quartiles, Regression

   - Reading: Chapter 2, 3

2. Probability

   - Definitions, Properties

   - Reading: Chapter 4

3. Random Variables and Probability Distributions

- Discrete and Continuous Random Variables

- Reading: Chapter 5, 6

4. Sampling Distributions

- Sampling Distributions of the Sample Mean and Sample Variance

- Reading: Chapter 7

5. Estimators and Confidence Interval

- Estimators and Confidence Intervals for the Mean and Variance

- Reading: Chapter 8

6. Hypothesis Testing

- Tests of the Mean and the Tests of the Variance

- Reading: Chapter 9

7. Linear Regression

- Correlation, Linear Regression, Gauss-Markov Theorem

- Reading: Chapter 10