I. Course objective:
This course provides a survey of probability and statistical inference and is designed to provide the requisite theoretical and intuitive background for 440.606 Econometrics. This course is taught at a level that assumes comfort with the course content in 440.304 Mathematical Methods for Economists, including differentiation, integration, and optimization.

II. Required readings:
Anderson, Sweeney, and Williams' Statistics for Business and Economics 11th edition (any edition will be fine though)

I highly recommend purchasing Ross' A First Course in Probability (7th edition). There are additional examples and practice problems that can help you prepare for the quizzes and final exam. Also, these texts will serve as a valuable reference source for you in your future economics courses. If you do not wish to purchase either textbook, both are placed on reserve at the library.

III. Course requirements
You will be given two one-hour quizzes over the course of the semester. These quizzes will be noncumulative. The final exam will be given on the final day of class and will cover the entirety of the course. You will have one week to complete the final.

The exams are open notes. However, students should not get any help on the exam from anyone else in the class or from anyone outside the class.

Problem sets are due one week after they are assigned. Students may work in groups, and the group may submit a single answer file for which each member of the group will receive credit.

Grades will be determined as follows:
10% Participation
10% Problem sets
30% Quizzes (two at 15% each)
25% Statistics Paper
25% Final exam

Details about the statistics paper will be discussed in class.

Late assignments will not accepted for any reason.

IV. Policy on sharing assignments
Because students in this program take many of the same courses and the assignments from one semester to the next may be very similar, any sharing of assignments from previous semesters, using any previously completed work, or sharing of previously used test questions will be considered cheating. Both
the person who shared his or her work and the person who used the previously completed work will be pursued with ethics charges.

V. Ethics statement
The strength of Johns Hopkins University depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition.

Report any violations you witness to the instructor. You may consult the associate dean of students and/or the chairman of the Ethics Board beforehand. See the guide on Academic Ethics for Undergraduates" and the Ethics Board web site for more information.

VI. Tentative outline

May 14 - Unit 1: Descriptive Statistics (Sweeney, et al. Ch 1-3)
May 21 - Unit 2: Introduction to Probability Theory (Sweeney, et al. Ch 4)
May 29 - Unit 3: Random Variables (Sweeney, et al. Ch 5)
June 4 - Unit 4: Univariate Probability Distributions (Sweeney, et al. Ch 5-6)
June 11 – Quiz #1

June 18 - Unit 5: Sampling Distributions and the Central Limit Theorem (Sweeney, et al. Ch 7)
June 25 - Unit 6: Confidence Intervals and Hypothesis Testing (Sweeney, et al. Ch 8-9)
July 2 - Unit 7: Bivariate Probability Distributions (Sweeney, et al. Ch 10)
July 9 - Unit 8: Hypothesis Testing with Two Population Means (Sweeney, et al. Ch 10, 11)
July 16 – Quiz #2

July 30 - Unit 9: Conditional Distributions, Analysis of Variance (Sweeney, et al. Ch 13)
Aug 6 - Unit 10: Topics in Estimation (Sweeney, et al. Ch 14)

Aug 17 – Statistics Paper Due
Aug 24 – Final Exam due