**Economics 3640 – Probability and Statistical Inference for Economists**
Section - 002, Fall 2011, BUC 106, M, W, 3:00 PM - 4:20 PM
Instructor: Dr. Haimanti Bhattacharya
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Office Hours: By Appointment

*Objective*
It is an introductory course designed to introduce students to the theoretical foundations useful in statistical inference as well as the basic methods for handling data using a spreadsheet. Prerequisite for this class are College Algebra, (MATH 1090 preferred), ECON 2010 and 2020. At the end of the semester you should be able to

- Examine a dataset and summarize its features graphically and numerically using EXCEL
- Understand the foundations of probability theory and properties of various distributions
- Make inferences based on point and interval estimation and testing hypotheses

Evaluation will be based on

- Assignments (class and home) 50%
- Mid-term exam 25%
- Final exam 25%

Course grade criterion: $A \geq 95\%$, $95\% > A- \geq 90\%$, $90\% > B+ \geq 87\%$, $87\% > B \geq 83\%$, $83\% > B- \geq 80\%$, $80\% > C+ \geq 77\%$, $77\% > C \geq 73\%$, $73\% > C- \geq 70\%$, $70\% > D \geq 50\%$, $50\% > E$

Late assignments lose points. The exams must be taken at the scheduled time. When a student has a legitimate reason (documented emergency) for missing the midterm, the weight of the midterm will be added to the final. Absolutely no make-up exams are given. Incompletes are not generally given for non-medical reasons.

*Suggested Textbook*
David S. Moore, George P. McCabe, William M. Duckworth, Layth Alwan. *The Practice of Business Statistics*. 2nd Edition. Publisher: W H Freeman

*Topics*
1. Examining distributions using graphs and summary statistics
2. Examining relationships using scatterplots and correlations
3. Probability theory and sampling distributions
4. Point and interval estimation
5. Hypothesis testing

Please refer to University of Utah Guidelines for legal issues.

Course Plan

| Date | Day | Class | Topic | Chp |
|---|---|---|---|---|
| 22-Aug | Mon | 1 | Displaying distributions with graphs | 1 |
| 24-Aug | Wed | 2 | Displaying distributions with graphs | 1 |
| 29-Aug | Mon | 3 | Describing distributions with numbers | 1 |
| 31-Aug | Wed | 4 | Describing distributions with numbers | 1 |
| 5-Sep | Mon | | Labor Day | |
| 7-Sep | Wed | 5 | Examining relationships | 2 |
| 12-Sep | Mon | 6 | Examining relationships | 2 |
| 14-Sep | Wed | 7 | Producing data | 3 |
| 19-Sep | Mon | 8 | Probability & Sampling Distribution | 4 |
| 21-Sep | Wed | 9 | Probability & Sampling Distribution | 4 |
| 26-Sep | Mon | 10 | Probability & Sampling Distribution | 4 |
| 28-Sep | Wed | 11 | Probability & Sampling Distribution | 4 |
| 3-Oct | Mon | 12 | Review | |
| 5-Oct | Wed | 13 | **Midterm Exam** | |
| 10-Oct | Mon | | Fall Break | |
| 12-Oct | Wed | | Fall Break | |
| 17-Oct | Mon | 14 | Probability Theory | 5 |
| 19-Oct | Wed | 15 | Probability Theory | 5 |
| 24-Oct | Mon | 16 | Probability Theory | 5 |
| 26-Oct | Wed | 17 | Probability Theory | 5 |
| 31-Oct | Mon | 18 | Introduction to inference | 6 |
| 2-Nov | Wed | 19 | Introduction to inference | 6 |
| 7-Nov | Mon | 20 | Introduction to inference | 6 |
| 9-Nov | Wed | 21 | Introduction to inference | 6 |
| 14-Nov | Mon | 22 | Inference for distributions | 7 |
| 16-Nov | Wed | 23 | Inference for distributions | 7 |
| 21-Nov | Mon | 24 | Inference for distributions | 7 |
| 23-Nov | Wed | 25 | Inference for distributions | 7 |
| 28-Nov | Mon | 26 | Inference for proportions | 8 |
| 30-Nov | Wed | 27 | Inference for proportions | 8 |
| 5-Dec | Mon | 28 | Inference for proportions | 8 |
| 7-Dec | Wed | 29 | Review | |
| 12-Dec | Mon | | **Final Exam** (3:30 pm – 5:30 pm) | |