Course Description: This course is designed to introduce the student to the basic principles, techniques and the logic of data analysis. It also will familiarize the student with statistical reasoning. This course focuses on core statistical concepts and techniques that are used in many fields. The course is designed for urban students who have never had a course in statistics.

Course Objective: The objective of the course is to prepare the student to hopefully become a producer of empirical analyses in the future. At the very least, the course will allow the student to become an informed consumer of statistics.

Course Requirements: Students are expected to attend all class periods, turn in homework assignments when due, complete all learning enhancers and the midterm and final. The student will also do a short project and present the results to the class. Attendance is critical to the student being successful. Instructor PowerPoint is accessible in .pdf format on the n drive when using a Levin College computer. It can also be accessed by typing ftp://urban.csuohio.edu from non-Levin computers as your explorer address. Once to the site, choose “utility” and then “weizer” and then “ust404statistics.” Copies of the syllabus and the project will also be accessible there.

Grading Policy: Grades are based on the results of homework, learning enhancers, project, tests and class participation. Homework questions are noted on the syllabus with due dates. A penalty of 5% per week will be assessed on homework that is turned in late. The four learning enhancers will be given as noted in the syllabus. There will also be two tests given (a midterm and the final). The grade will consist of the following:

- Attendance 10%
- Group Assignments 10%
- Homework 15%
- Project 10%
- 4 learning enhancers 20%
- Midterm 15%
- Final 20%

Exam attendance is required. Makeup exams will only be given with the prior approval of the instructor.

Class Schedule and Readings

**January 15 to 19:** Course introduction, Data,
Read: Chapter 1 through 4
**Homework: (Due 1-24):** Chapter 2 - Page 12 - 13 Do 2, 6, 10

**January 22 to 26:** Displaying and Describing Categorical Data, Displaying Quantitative Data,
Read: Chapter 5 and 6
**Homework: (Due 1-31):** Chapter 3 - Pages 26 to 34 Do 2,6,8,12,16
January 26: Last day to drop (by 8:00 p.m.)

**January 29 to February 2:** Describing Distributions Numerically, Standard Deviation as a Ruler and Normal Model
Read: Chapter 7 and 8
**Homework: (Due 2-7):** Chapter 4 - Page 49 to 55 Do 4,12,22, Chapter 5 - Pages 72 - 81 Do 4,6,10,21,24 Chapter 6 - Pages 99 – 102 Do 2,6,12,20,26

**February 5 to 9:** Scatterplots, Association and Correlation, Linear Regression
Read: Chapter 9, and 10
**LAST WEEK TO SUBMIT HOMEWORK FOR CHAPTERS 2 TO 6**
**Homework: (Due 2-14):** Chapter 7 - Pages 132 - 139 DO 2,4,8,12,14 Chapter 8 - Pages 158 - 164 Do 2,4,6,9,12,22

**February 12 to 16:** Learning Enhancer One – covers Chapter 1 through 6
Regression Wisdom, Re-expressing Data: It’s Easier Than You Think
Read: Chapter 11, and 12
**Homework: (Due 2-21):** Chapter 9 Page 179 - 184 Do 2,6,10

**February 19 to 23:** Understanding Randomness, Sample Surveys,
**LAST WEEK TO SUBMIT HOMEWORK FOR CHAPTERS 6 TO 9**
Read: Chapter 13, 14,
**Homework: (Due 2-28):** Chapter 11 -Page 227 -228 Do 2,4,6,12 Chapter 12 - Page 248 – 250 Do 2,6,12,18,22
February 19: President’s Day, No Class

**February 26 to March 2:** Experiments, From Randomness to Probability
Read: Chapter 15, 16 and 17
**Homework: (Due 3-7) Chapter 13 - Page 267 – 271 Do 2,4,8 Chapter 14 - Page 291 - 293 Do 2,4,8,12,14,16,20
March 5 to March 9: Enhancer #2 (Covers Chapters 6 to 9) Probability Rules!, Random Variables
Read: Chapter 18 and 19
Homework: (Due 3-21): Chapter 15 - Page 310-313 Do 2,6,8,10, 24 Chapter 16 Page 325 – 328 Do 6,16,18 Chapter 17 – Page 342 – 345 Do 2, 4, 8, 14

March 11 to 18 Spring Break

March 19- 23: Midterm, (covers Chapters 1 -9) Sampling Distribution Models, Confidence Intervals for Proportions, Probability Models
Homework: (Due 3-28): Chapter 18 - Page 370 - 373 Do 2,4,8,16,30 Chapter 19 - Page 385-388 Do 2,4,8,10,12,16
LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 10 TO 15
Read: Chapter 20 to 22

March 26 to Mach 30: Testing Hypothesis About Proportions, More About Tests, Comparing Two Proportions
Homework: (Due 4-4): Chapter 20 - Page 405 - 409 Do 2,4,6,8,12,20 Chapter 21 - Page 426 – 429 Do 2,4,8,12,14 Chapter 22 - Page 441 – 443 Do 2,6,10,18
March 30: Last day to drop

April 2 to April 6: Learning Enhancer #3 (Covers Chapter 11-13) (Catch up if necessary)
Read: Chapter 23 to 25
LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 16 THROUGH 20

April 9 to April 13: Inferences About Means, Comparing Means, Paired Samples and Blocks
April 13: Presentation Paper DUE
Read: Chapter 26 and 27
Homework: (Due 4-18): Chapter 23 - Page 472 - 476 Do 2,4,6,10,18,22 Chapter 24 - Page 497 - 502 Do 2,4,6,8(a to c extra credit d and e) 14 Chapter 25 - Page 516 – 521 Do 2,4,6,10,14

April 16 to April 20: Learning Enhancer #4 (Covers Chapter 14 to 16) Comparing Counts, Inferences for Regression
Read: Chapter 28 and 29
Homework: (Due 4-25): Chapter 26 - Page 541 - 545 Do 2,4,6,10,14,16 Chapter 27 - Page 582 – 590 Do 2,4,8,10,20

April 23 to April 27: Analysis of Variance, Multifactor Analysis of Variance,
Read: Chapter 30

April 30 to May 4: Presentations
LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 21 THROUGH 27
May 9th--8:30-10:30 a.m.: Final (Presentations if necessary)

**Note:** Students are strongly encouraged to email the Instructor with questions or problems they may be having. I am on campus most days of the week. I check my email on a daily basis even when I am not on campus. Many questions can be resolved if you email me. I am happy to respond.

**University Policies**
Students should refer to the Undergraduate Bulletin for procedures regarding add/drop and withdrawals.

**Physically challenged/Special Needs**
Students with special needs (physical handicaps, learning disabilities, English as a second language) should identify themselves so that the appropriate arrangements can be made.

**Note:** The instructor reserves the right to adjust and modify the syllabus as needed throughout the semester. Attendance guarantees that the student will be apprised of all changes.