

Cleveland State University  
Levin College of Urban Affairs  
Department of Urban Studies  
Instructor: Winifred Weizer  
Office hours: (UR217) By appointment

**Urban Data Analysis (UST 404 Section 50)**  
**Fall Semester, 2007 Wednesday 6-10 pm**

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**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. Since the class meets once a week, attendance is critical to the student being successful. Instructor PowerPoints are 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, group assignments, project, tests and class participation. Homework questions are noted on the syllabus with due dates. Late homework will not be accepted except with prior approval of the instructor. The three 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             | 10% |
| Project              | 10% |
| 3 learning enhancers | 15% |
| Midterm              | 20% |
| Final                | 25% |

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

**Text:** De Veaux, Richard D., Velleman, Paul F., Bock, David E. 2008 Stats Data and Models New York, NY: Pearson Addison-Wesley

## **Class Schedule and Readings**

### ***Descriptive Statistics***

**August 29: Course introduction, Data, Displaying and Describing Categorical Data**

**Read:** Chapter 1 through 6

**Homework: (Due 9-5):** Chapter 2 - Page 15 - 18 Do 4, 6, 8 Chapter 3 - Pages 37 to 45 Do 5, 12,14, 22

**September 5: Displaying Quantitative Data, Understanding and Comparing Distributions, Standard Deviation as a Ruler and Normal Model**

**Read:** Chapter 7

**Homework: (Due 9-12):** Chapter 4 - Page 71 to 78 Do 6, 8, 14(use calculator) 16, 18 (use calculator!) Chapter 5 - Pages 99 - 110 Do 4, 6, 10, 22 Chapter 6 - Pages 134 – 139 Do 2, 6,10b, 30

### ***Modeling***

**September 12: (Finish Descriptive statistics if necessary) Scatterplots, Association and Correlation, , LE #1 Review**

**Read:** Chapter 8 to 10

**Homework: (Due 9-19):** Chapter 7- Pages 132 - 139 DO 2,4,8,12,14

**September 19: *Learning Enhancer One* – covers Chapter 1 through 6, Linear Regression, Regression Wisdom, Re-expressing Data: Get it Straight!**

**Read:** Chapter 11 and 12

**LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 2 TO 5**

**Homework: (Due 9-26):**, Chapter 8 - Pages 204 - 212 Do 2, 4, 6, 8 Chapter 9 Page 231 - 237 Do 2, 6, 10, 22

### **Gathering Data**

**September 26: (Finish of Modeling if necessary) Understanding Randomness Sample Surveys,**

**Read:** Chapter 13 and 14

**Homework: (Due 10-3):** Chapter 11 -Page 283 -285 Do 2, 4, 6, 12 Chapter 12 - Page 308 – 311 Do 2, 6, 12, 18

### **Beginning of Probability**

**October 3: Experiments and Observational Studies, From Randomness to Probability, LE#2 Review**

**LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 6 TO 9**

**Read:** Chapter 15

**Homework: (Due 10-10):** Chapter 13 - Page 338 – 343 Do 2, 4, 8 Chapter 14 - Page 361 - 365 Do 2, 4, 8, 12

**October 10: Learning Enhancer #2 (Covers Chapters 6 to 9) Probability Rules!**

**Read:** Chapter 16 and 17

**Homework: (Due 10–17):** Chapter 15 - *Page 385-389* Do 2, 6, 8, 10

**October 17: Random Variables, Probability Models, Midterm Review,**

**Homework: (Due 10-24):** Chapter 17 – *Page 423 427* Do 2, 8

**October 24: Midterm, (covers Chapters 1 -12) Project presentations**

**LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 10 TO 15**

**Read:** Chapter 18 and 19

### **From Data to Inferential Statistics**

**October 31: Sampling Distribution Models, Confidence Intervals for Proportions**

**Read:** Chapter 20 to 22

**Homework: (Due 11-7):** Chapter 18 - *Page 456 - 459* Do 2, 4, 8, Chapter 19 - *Page 476 - 480* Do 2, 4, 8, 10, 12, 18

**November 7: Presentations, Testing Hypothesis About Proportions, More About Tests, Comparing Two Proportions,**

**Read:** Chapter 23 and 24

**Homework: (Due 11-14):** Chapter 20 - *Page 498 - 501* Do 2, 4, 8, 12 Chapter 21 *Page 522 – 525* Do 2, 4, 8, 12, 14 Chapter 22 *Page 539 – 543* Do 2, 6, 8

**LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 16 THROUGH 20**

**November 14: Learning Enhancer #3 (Covers Chapter 13 - 18) Inferences About Means, Comparing Means,**

***Presentation Paper DUE***

**Read:** Chapter 25

**Homework: (Due 11-21):** Chapter 23 - *Page 574 - 579* Do 2, 4, 6, 10

**November 21: Presentations, Finish Comparing Means, Paired Samples and Blocks,**

**Read:** Chapter 26 and 27

**Homework: (Due 11-28):** Chapter 24 - *Page 602 - 609* Do 2 and 4 Chapter 25 - *Page 623 – 630* Do 2, 4, 80

**November 28: Presentations, Comparing Counts, Inferences for Regression,**

**Read:** Chapter 28 and 30

**Homework: (Due 12-5):** Chapter 26 - *Page 655 - 660* Do 2, 4, 6, 8, 12 Chapter 27 - *Page 700 – 710* Do 2, 4, 10

**December 5: Presentations, Analysis of Variance, Multiple Regression**

**LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 21 THROUGH 27**

**December 12: 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.