

Cleveland State University
Levin College of Urban Affairs
Department of Urban Studies
Instructor: Winifred Weizer

Office hours: By appointment (UR 213)

Urban Data Analysis UST 404 Section 51
Fall, 2009 W 6 to 9:50 pm UR 108
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Course Description: This course is a four credit course 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.

Course Objective: This course focuses on knowledge and skill development in the statistical area. The course is designed to meet the following learning objectives:

Knowledge

- Understand mathematical models, graphs, tables and schematics and how to interpret and draw inferences from them.
- Recognize and interpret mathematical information when presented symbolically, visually, numerically or verbally.
- Understanding of alternatives that can be used in mathematical or statistical analysis and how to achieve optimal results.
- Recognize the limits of mathematical and statistical models and be able to explain how those limits affect everyday decision making.
- Understanding of how mathematical and statistical information can assist in analysis, syntheses and evaluation of complex urban problems.

Skills

- Use of arithmetic, algebraic, geometric, and statistical models to solve problems.
- Understanding how to calculate formulae.
- Use of technology to solve mathematical and statistical problems as well as to prepare graphs and charts.
- Development of the means used to estimate and check answers to mathematical problems.
- Representation of mathematical information in a symbolic, visual, or verbal manner that has clarity of result.

Course Requirements: Students are expected to attend all class periods, submit homework assignments when due, complete all learning enhancers, the midterm and final. The student will also analyze a research project. Student success is enhanced by keeping up to date with *required* readings. Class attendance is also critical to the student being successful. In order to encourage the student to look through the material before class the attendance will be taken throughout the semester by means of a brief quiz on the reading material. Students are also strongly encouraged to print out copies of the instructor's PowerPoint presentations. These are accessible in .pdf format (3 up with lines for taking notes). The student can access them from home or school via the internet by Blackboard.

The Blackboard section will be titled "[NAL 504 Fundamentals of Applied Reason - Fall 2009 - Sect: 51](#)" Copies of the syllabus and the "project will also be accessible there. A discussion board will also be there for you to ask questions between classes.

Grading Policy: Grades are based on the results of homework, learning enhancers, group assignments, project, midterm, final and class participation. Homework questions are noted on the syllabus with due dates. ***The instructor will not accept homework after final submission dates which are noted in the syllabus.*** 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	10%
Project	10%
4 learning enhancers	20%
Midterm	15%
Final	25%

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

Grading scale: 95- 100 A 94-90 A- 89-87 B+ 86-83 B 82-80 B- 79-75 C+
74-70 C 60- 69 D

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.*

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

Week 1: August 26 Course introduction, Data, Displaying and Describing Categorical Data

Read: Chapter 1 through 4

Homework: *Chapter 2 - Page 15 - 18 Do 2, 8, 18
August 28 Last day to add by 8:00 pm*

Week 2: September 2 Finish chapter 3, Displaying and Summarizing Quantitative Data

Read: Chapter 5

Homework: *Chapter 3 - Pages 37 to 45 Do 2, 4, 8, 14, 22
September 4 Last Day to drop by 8:00 pm*

Week 3: September 9: Finish Chapter 4, Class Project 1, Understanding and Comparing Distributions, LE #1 Review

Read: Chapter 6

Homework: Chapter 4 - Page 71 to 78 Do 4, 12, 18, 22, 40 Chapter 5 - Pages 99 – 110 Do 4, 6, 12, 22, 24

Week 4: September 16 Standard Deviation as a Ruler and Normal Model , Group Project 2, Learning Enhancer One – covers Chapter 1 through 4,

Read: Chapter 7 and 8

LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 2 TO 4

Homework: Chapter 6 - Pages 134 - 139 Do 4, 6, 18, 30, 34

Modeling

Week 5: September 23 Scatterplots, Association and Correlation Linear Regression

Read: Chapter 9

Homework: Chapter 7- Pages 174 – 181 DO 2, 6, 12, 18 Chapter 8 - Pages 204 - 212 Do 2, 4, 6, 9, 14, 21

Week 6: September 30 Regression Wisdom, Group Project 3, Learning Enhancer #2 Review

LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 5 TO 6

Read: Chapter 14 and 15

Homework: Chapter 9 Page 231 - 237 Do 6,18

Beginning of Probability

Week 7: October 7 From Randomness to Probability, Probability Rules!, Learning Enhancer #2 (Covers Chapters 5 to 9)

Read: Chapter 17

Homework: Chapter 14 - Page 361 – 365 Do 4, 6, 14 Chapter 15 - Page 385 - 389 Do 2, 6, 20

Week 8: October 14 Probability Models, Class Project 4, Midterm Review,

Homework: Chapter 17 – Page 423 – 427 Do 6, 10

Week 9: October 21 Midterm, (covers Chapters 1 -9)

LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 7 to 9

Read: Chapter 18 and 19

From Data to Inferential Statistics

Week 10: October 28 Sampling Distribution Models, Confidence Intervals for Proportions, LE # 3 Review

Read: Chapter 20 to 21

October 30: Last day to Withdraw by 8:00 pm

Homework: Chapter 18 - Page 456 - 459 Do 2, 4, 8, 16, Chapter 19 - Page 476 - 480 Do 2, 4, 8, 10, 12, 16

Week 11: November 4 Learning Enhancer #3 (Covers Chapter 14 – 17) Testing Hypothesis About Proportions, More About Tests

Read: Chapter 23

Homework: Chapter 20 - Page 498 - 501 Do 2, 4, 6, 12, 20 Chapter 21 - Page 522 – 525 Do 2, 4, 8, 12

LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 14 THROUGH 18

Week 12: November 11 No Class Veteran's Day Holiday

Week 13: November 18 Inferences About Means, Class Project 5, Review for Learning enhancer 4

Read: Chapter 26

Homework: Chapter 23 - Page 574 - 579 Do 2, 6, 10, 18

Week 14: November 25 Comparing Counts, learning Enhancer 4

Homework: Chapter 26 - as assigned

Week 15: December 2 Final Thoughts, Final Review

LAST DAY TO SUBMIT HOMEWORK FOR CHAPTERS 19 on

December 9: Final Examination

University Policies

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

Physically challenged/Special Needs

Educational access is the provision of classroom accommodations, auxiliary aids and services to ensure equal educational opportunities for all students regardless of their disability. Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Disability Services at (216)687-2015. The Office is located in MC 147. Accommodations need to be requested in advance and will not be granted retroactively. Further information regarding the office can be accessed on the web at <http://www.csuohio.edu/offices/disability/>

Writing Assistance All submitted work is to be written according to academic standards with appropriate citations. The student should contact the instructor **before** submitting work if unsure about how to paraphrase material or how to cite correctly, The Writing

Center at Cleveland State is available to assist the student with writing issues. Information on the writing center is found at <http://www.csuohio.edu/writingcenter/index.html>.

Questions regarding the university calendar (holidays and finals week schedule) can be resolved by using the following link to the registrar's office.

<http://www.csuohio.edu/enrollmentservices/registrar/calendar/>