Cleveland State University
Levin College of Urban Affairs
Department of Urban Studies
Instructor: Winifred Weizer
Office hours: (216) By appointment

Urban Data Analysis (UST 404 Section 1)
Spring Semester, 2017  MWF 12:15 to 1:20 PM
UR106
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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.
- Understand 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.
- Understand how mathematical and statistical information can assist in analysis, syntheses and evaluation of complex urban problems.

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

General Education Statement: This course fulfills a Quantitative Literacy General Education requirement

Course Requirements: Course Requirements: Students are expected to attend all class periods, submit homework assignments when due, complete all learning enhancers and the midterm and final. The student will also analyze a research article. Student success is enhanced by keeping up to date with required readings. The book for this class is used with the course. Learning statistics without a book is difficult at best. You are required to turn in 2 questions regarding the material in for each of chapters 2
through 6. Without a text, this is not possible. A copy of the text will be on reserve in the library. You can use it in the library for 2 hours at a time. Class attendance is also critical to the student being successful. Students are also strongly encouraged to make use of the .pdfs found on Blackboard that walk you through calculations of the formulae. When PowerPoint is used in class, there will be a corresponding .pdf file for your use. 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 going to Blackboard LEARN. The login web address is https://bblearn.csuohio.edu/MACAuth/login.jsp

The most common problem that students have with Blackboard is the result of not allowing “pop-ups” from the Blackboard site. You will need to do this to view any of the documents on the site.

Course Method: This class is designed to provide the student with a number of tools that can be used for self-assessment.

The reading questions are designed to assist students to read the chapters in their book and to clarify areas that are confusing or unclear to them. These are questions (2) for chapter 2 through 6 that you are required to submit to the instructor to help clarify questions that you might have about the material.

The homework is a means to provide additional practice in some of the calculations and interpretations and to assist the student in determining what out of the lectures they might not have understood.

The group assignments provide the student the means to work as a group in solving questions that build on the homework and also reflect what will appear on the learning enhancers, midterm and final.

All tests are taken using 2 pages of student prepared notes. The learning enhancers allow the student to determine if their notes are adequate to assist them in solving the problems before they take their midterm and final. These also assist the instructor in determining what material might need to be reviewed to clarify areas of confusion before the student takes their midterm or final.

At the end of each class the student will provide the instructor with a 2 sentence answer to each of the following questions. What did you understand the best from the lecture? What did you find the most confusing in the lecture? This final exercise can take no longer than 2 minutes for each question. No names are to be put on your response sheets. These differ from chapter questions in the following manner; 1. You are answering my questions and 2. These only pertain to the lecture of that day, not the whole chapter. These do NOT take the place of chapter questions.
Grading Policy: Grades are based on the results of homework, learning enhancers, group assignments, project, midterm, final and class participation. The grade will consist of the following:

- Attendance: 10%
- Reading questions: 5%
- Group Assignments: 10%
- Homework: 10%
- Article review: 10%
- 4 learning enhancers: 20% (5% each)
- Midterm: 15%
- Final: 20%

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

Grading scale: 94-100 A 93-90 A- 89-87 B+ 86-83 B 82-80 B- 79-77 C+ 76-70 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.

The four learning enhancers and the midterm and final will be given as noted in the syllabus. Homework questions due for each chapter are noted on the last sheet of this syllabus. Homework is assigned for each chapter the class after we complete the chapter in lecture. The instructor will give you the due date once the chapter lecture is complete.

A special note on homework. You ignore homework at your peril. If you choose not to submit your homework, you will lose a total of 10 points off of your final grade. Students have found that the homework points can mean the difference between a passing grade in the class versus one that they prefer not to have. Homework due dates are assigned after we complete the chapter in lecture. Once the Chapter is done, I will announce the due date. I will accept late homework for a chapter up to the date of the learning enhancer that covers that chapter through Chapter. Final dates for the remaining chapters will be announced in class. NO homework will be accepted at the final! (Absolutely, positively, don’t even think about it!) Homework is graded. PLEASE! Be neat. You will not receive credit for answers that we cannot read or that are ambiguous.

COURTESY COUNTS! The use of cell phones for texting or laptops for web surfing and game playing during class lectures is disturbing to those around you and is not conducive to learning the material. The following requirements will be in effect for this class to minimize those distractions to other students.

1. Cell phones and pagers are to be turned off or set to vibrate during the class session. Texting should be reserved for non-class times. If you have a need
to speak with someone or to text them, please leave the classroom. **Cell phones and pagers are not to be on your desk during class time.**

2. **Laptops are acceptable for note taking ONLY!** Anyone using a laptop must sit in the last row of the classroom. If you use a laptop for notes, you must send me a copy of your class notes after each class. Please email them to w.weizer@csuohio.edu

If the above requirements are not followed, cell phones, pagers and laptops will not be allowed in the classroom.

I have placed videos that cover the material at the following site. Please use these to review material that you find confusing or that you need additional guidance on. These do NOT take the place of class, they are meant to be a supplement to the course material. Please Note: The book was changed in Fall, 2016. Some of the videos may carry references to different chapter numbers. Please ignore this. The actual content is appropriate and valid for use.

**Tutor:** Thomas Sacharski is the tutor for this class. He is doing all of our 404/504 sections. He will be sending out an email with dates and times of the tutoring. As long as one student signs up the tutoring session will occur. If you intend to come, be sure to let him know since if no one signs up the session is cancelled. If you have signed up and cannot make the session, email Tom. If it is the day of the session, please call 216-702-8300 and leave a message that you will be unable to attend.


**Class Schedule and Readings**

**Week 1: January 16 to January 20:** Course introduction, Introduction to Statistics

*Read:* Chapter 1 and Chapter 2 (Disregard the material on midpoint and fx, we will cover some of that in Chapter 3).

- **January 16:** Martin Luther King Day, NO Class
- **January 20:** Last day to join course waitlist
- **January 20:** Last day to drop with full refund
- Read Prologue, Chapter 1 and 2

**Week 2: January 23 to January 27:** Finish Introduction to Statistics, Group Project 1, Summarizing and Organizing Data

*January 22:* Last day to add (CampusNet Registration)

*January 25:* Chapter 2 Reading Questions are due

*January 27:* Last day to drop - (Course withdrawal period begins on the 28th)

**Week 3: January 30 to February 3:** Finish Summarizing and Organizing Data, Group Project 2, Review for Learning Enhancer 1
Read Chapter 3, Pages 57-66, Page 70 Outliers to page 85.

Week 4: February 6 to February 10: Descriptive Statistics, Learning Enhancer 1 – covers Chapter 1 and 2 (Last day for Homework for Chapter 1 and 2), Read Chapter 4
February 6: Chapter 3 Reading questions are due
February 8: Learning Enhancer 1: Covers chapters 1 to 2

Week 5: February 13 to February 17: Finish Descriptive Statistics, Group Project 3, Review for Learning Enhancer 2, Start Standard z scores
Read Chapter 5 Pages 125 to 133, 147 to 159
February 15: Chapter 4 Reading questions are due

Week 6: February 20 to February 24: Learning Enhancer 2 – covers Chapters 3, (Last day for Homework for chapter 3), Finish Standard Z scores, Group Project 4, Basic Principles of Probability
February 20th President’s Day NO CLASSES
February 22: Learning Enhancer 2 Covers chapter 3
February 24: Chapter 5 Reading questions are due

Week 7: February 27 to March 3: Finish Basic Principles of Probability, Group Project 5, Review for Midterm Covers Chapters 1 to 3.
Read Chapter 6, Pages 169 – 175, Chapter 7

Week 8: March 6 to March 10: Midterm (Covers Chapters 1 – 3), Standard Error, Central Limit Theorem, Start Hypothesis Testing, Review for Learning Enhancer 3 (covers Chapters 4-5)
March 6: Midterm (Covers Chapters 1 – 3)

March 12 through March 19 Spring Break – No class

Week 9: March 20 to March 24: Learning Enhancer 3 (Last day for Chapter 4 and 5 homework), Finish Hypothesis Test of a mean standard deviation known, Group Project 5
Read: Chapter 8
March 22: Learning Enhancer 3 (Covers Chapter 4 and 5)

Week 10: March 27 to March 31: One Sample t Test When α is unknown, (Hypothesis tests and Confidence intervals)
Read Chapter 11
March 29: Last day to withdraw

Week 11: April 3 to April 7: Group project 6, Correlation, Start Simple Regression
Read Chapter 12
Week 12: April 10 to April 14: Finish Simple Regression, Group Project 7, Start One Way Analysis of Variance
   Read Chapter 13

Week 13: April 17 to April 21: Finish One Way Analysis of Variance, Group Project 8, Review for Learning Enhancer 4 (Covers Chapter 7, 8, and 11)
   Read Chapter 14

Week 14: April 24 to April 28: Chi Square Tests for Goodness of Fit and Independence Learning Enhancer 4 (Last day to submit homework for Chapters 7, 8 and 11)
   April 26: Learning Enhancer 4

Week 15: May 1 to May 5 Final Thoughts

Monday, May 8th—12:30-2:30 p.m.: Final

Change in schedule/requirements: This syllabus is a guide to the semester schedule and its requirements. The instructor reserves the right to change this syllabus and any of its contents at any time during the course by notifying students verbally, by written addendum or by announcements through Blackboard.

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.

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/index.html

University Policies
Students should refer to the Undergraduate Bulletin for procedures regarding add/drop and withdrawals and any other policies that may apply.

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.

Test taking/academic challenges: The University counseling center provides Academic counseling for students. Workshops are run throughout the semester to assist you in
maximizing your note taking skills, test taking skill, assisting with test anxiety reduction, and managing time. The links below will take you to the Fall schedule which should be posted during the first week of classes.

http://www.csuohio.edu/counselingcenter/academic-skills-development-workshops-0

Workshops on improving academic success are also offered through the Tutoring Center as well as tutoring for some specific course content. Information on the Tutoring Center can be found at

http://www.csuohio.edu/academic/advising/tutoring/

Homework - Assignments are posted on Blackboard.