

Cleveland State University
Levin College of Urban Affairs
Department of Urban Studies
Instructor: Winifred Weizer
Office hours: (UR216) By appointment

Urban Data Analysis (UST 404 Section 501)
Fall Semester, 2017 Web class

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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: 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 chapters 3, 4, 5, 7, & 8 that we cover in the class. 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. Attention to assignment deadlines is also critical to the student being successful. Web classes can provide the student with a challenge since you are responsible to keeping up to date with the class without having to go to an assigned room and meet with the instructor on a set basis.

Students are also strongly encouraged to make use of the .pdfs found on Blackboard that walk you through calculations of the formulae. 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>

Students are also encouraged to utilize the on-line videos that have been developed for the class. These videos focus on the material that you will encounter when taking the learning enhancers and the midterm and final. They walk you through how to do the calculations that you will be doing for the class. They are set up to be no longer than 5 to 15 minutes in length and allow the student to play them as many times as necessary. The videos can be found at

<http://mediasite.ulib.csuohio.edu/Mediasite/Catalog/Full/e4548d9316414567b3ba717f2643c87621>

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 (encourage... strongly encourage) students to read the chapters in their book and to clarify areas that are confusing or unclear to them before we cover the material in class. These questions will allow you clarify questions that arise as you read through the material before class. *The homework* is a means to assist the student in determining what out of the lectures they might not have understood, as well as to provide additional practice in some of the calculations and interpretations. Homework assignments are found on Blackboard in the folder marked “Homework”. *The practice assignments* provide the student the means to practice solving questions that build on the homework and also reflect what will appear on the learning enhancers, midterm and final. These assignments are done on your own and submitted for credit. Although I do not grade them (detailed answers are posted) full credit will only be awarded as long as you attempt to answer all of the questions asked. *Review sheets* will be posted for all learning enhancers, the midterm and the final. I strongly recommend that you use the review sheets to develop notes to use when taking your on-line tests. *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. The learning enhancers are tests that cover a small amount of the material that you will see on the midterm or the final. These allow the student to apply what they have learned in the class and to see what areas they may not have developed proficiency in. They also assist the instructor in determining what material might need to be reviewed to clarify areas of confusion before the midterm or the final is taken. Each enhancer only counts for 5% of your grade (5 points out of the 100). This means you can do poorly on the enhancer and not undermine your grade in the class. You will also have a **midterm and a final** for this course. These will cover the same

material that you have answered on the enhancers. This will allow you to correct any confusion you might have as to calculation etc. before taking them. The **article review** allows the student to see how a research project is designed and how quantitative statistical tests are used to answer research questions.

I fully understand that statistics can be confusing to students and sometimes questions arise that students are hesitant to ask. The question that is not asked is usually the one you really need an answer for. Because of this, I require you to submit 2 **reading questions** for Chapters 3, 4, 5, 7 and 8. **READ the chapter.** Use these questions to allow for me to explain more fully the material that you might be having difficulty understanding. If you understand the material completely, submit that to me as well in lieu of the questions. However, if you say you understand the material, then be sure that you do and can answer questions about it.

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;

Reading questions	5%
Practice Assignments	10%
Homework	10%
Article review	10%
4 learning enhancer s	20% (5% each)
Midterm	20%
Final	25%

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. Due dates for homework are as shown in the syllabus..

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 14. 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.**

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 the book, they are meant to be a supplement to the course material. <http://mediasite.ulib.csuohio.edu/Mediasite/Catalog/Full/e4548d9316414567b3ba717f2643c87621>

Please Note: I am in the process of revising and updating some of the videos since we have changed the book as of Spring 2017. The videos cover the noted subject although the chapters I might reference in the video segment will be different than the current book. I will notify the class when the updating is done.

Text: Bowen, Chieh-Chen. *Straightforward Statistics*. (2016) Thousand Oaks, CA. SAGE

Class Schedule and Readings

August 28 to September 1: Course introduction (on Tegrity Lectures), Introduction to Statistics, Practice Assignment 1

Read: Chapter 1 and 2

September 1: Last day to join a course waitlist or drop with a full refund

September 3: Last day to add (CampusNet Registration)

September 3: Practice Assignment 1 is due. (Answers will open on Blackboard on the 4th.)

September 3: Chapter 1 homework is due

September 4 to September 8: Summarizing and Organizing Data, Practice Assignment 2, Learning Enhancer 1 review sheet is posted

Read: Chapter 3

September 4- Labor Day – no classes on campus

September 8 Last day to drop

September 9 Course withdrawal period begins – ‘W’ grade assigned

September 10, Practice Assignment 2 is due

September 10: Chapter 2 homework is due

September 11 to September 15: Descriptive Statistics, Learning Enhancer 1 – covers Chapter 1 through 3 (Last day for Homework for chapter 1 to 3)

Read: Chapter 4

September 11: Chapter 3 READING questions are due

September 15-17: Learning Enhancer 1 is open due no later than the 17th

September 16: Chapter 3 homework is due

September 18 to September 22: Standard Z scores, Practice Assignment 3

Read Chapter 5

September 18: Chapter 4 READING questions are due

September 24: Chapter 4 homework is due

September 23: Practice Assignment 3 is due

September 25 to September 29: Principles of Probability, Practice Assignment 4, Review for Learning Enhancer 2

Read Chapter 6

September 30: Chapter 5 READING questions are due

September 30: Practice Assignment 4 is due

October 1: Chapter 5 homework is due

October 2 to October 6: Learning Enhancer 2 – covers Chapters 4 and 5 (Last day for Homework for chapter 4 and 5), Central Limit Theorem

Read: Chapter 7

October 6 - 8: Learning Enhancer 2, Final due date is the 8th

October 9 to October 13: Hypothesis Testing, One Sample t Test When α is unknown, Midterm (covers Chapters 1-5), Practice Assignment 5

October 10: Columbus Day – No class, only Tuesday classes are affected

Read: Chapter 8

OCTOBER 13: Chapter 7 READING questions are due

October 13 to 15: Midterm is open, final due date is the 15th

October 15: Practice Assignment 5 is due

October 15: Chapter 7 homework is due

October 16 to October 20: Sample t Test When population standard deviation is unknown (Both Hypothesis tests and Confidence intervals) Practice Assignment 6

OCTOBER 21: Chapter 8 READING questions are due

October 22: Practice Assignment 6 is due

October 22: Chapter 8 homework is due

October 23 to October 27: Learning Enhancer 3 (covers chapters 6 to 8), Last chance to turn in homework for chapters 7 and 8

October 29: Article review paper is due

October 27 – 29: Learning Enhancer 3 is open, final due date is the 29th

Read: Chapter 11

October 30 to November 3: Correlation, Practice Assignment 7

November 3: Learning Enhancer 3

November 3: Last day to withdraw from classes

November 4: Practice Assignment 7 is due

Read Chapter 12

November 6 to November 10: Regression, Practice Assignment 8

November 10: Veteran's Day, no on campus class

November 12 Chapter 11 homework is due

November 12: Practice Assignment 8 is due

Read Chapter 14

November 13 to November 17: Chi Square Tests for Goodness of Fit and Independence, Practice Assignment 9

November 19: Practice Assignment 9 is due

November 19: Chapter 12 homework is due

November 20 to November 24: Questions week!! Submit questions on chapters 7 through 14 for resolution

November 23 to 26: Thanksgiving Recess,

November 26: Chapter 14 is due

November 27 to December 1: Learning Enhancer #4 (Covers Chapter 11, 12 and 14)

December 1 to 3: Learning Enhancer 4 is open, final due date is

December 3 (Last day to submit homework for Chapters 11, 12 and 14)

December 4 to December 8: Final Thoughts

Final for this class will open on December 8 and will remain open to take to December 12

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.