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 2-6 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. 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. 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. 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 tools also assist the instructor in determining what material might need to be reviewed to clarify areas of confusion.

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. The instructor uses this information to determine what might not have been clear in the lecture so it can be clarified at the start of the next class. THESE are NOT the “reading questions”. The reading questions are what you submit to me to clarify questions based on your reading of the chapter and are graded. These end of class questions are submitted anonymously and at the end of class.

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 due for each chapter the class after we complete the chapter in lecture. The instructor will give you the due date once the chapter 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 is due the class after we complete the chapter in lecture. I will accept late homework for a chapter up to the date of the learning enhancer that covers that chapter through Chapter 12. Final dates for the remaining chapters will be announced in class. **NO homework will be accepted at the final!** 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. http://mediasite.ulib.csuohio.edu/Mediasite/Catalog/Full/e4548d9316414567b3ba717f2643c87621


Class Schedule and Readings

**August 25:** Course introduction, Concepts, Variables, and Measurement  
**Read:** Chapter 1 and 2  
*August 28th: Last day to join a course waitlist or drop with a full refund*

**September 1:** Finish Concepts, Variables, and Measurement, Frequency Tables, Project 1, Start Measures of Central Tendency  
**Read:** Chapter 3  
*September 1st: Last day to add (CampusNet Registration)*  
*September 1st – Chapter 2 READING questions are due*  
*September 4th Last day to drop*

**September 8:** Finish Measures of Central Tendency, Group Project 2, start Measures of Dispersion  
**Read Chapter 4**  
*September 7th- Labor Day – no Monday classes*  
*September 8th: Chapter 3 READING questions are due*

**September 15:** Measures of Dispersion, Group Project 3, Learning Enhancer 1 – covers Chapter 1 through 3 (*Last day for Homework for chapter 1 to 3*),  
**Read:** Chapter 5  
*September 15: Learning Enhancer 1*  
*September 15: Chapter 4 READING questions are due*

**September 22:** Probability and the Normal Curve,  
*September 22: Chapter 5 READING questions are due*

**September 29:** Finish Probability and the Normal Curve, Group Project 4, Learning Enhancer 2 review  
**Read: Chapter 6**
October 6: Probability – From Samples to Statistics (Confidence intervals), Learning Enhancer 2 – covers chapter 4 - 5 (Last Day for Homework for Chapter 4 and 5.)
October 6: Learning Enhancer 2
October 6: Chapter 6 READING questions are due

October 13: No Class, Columbus Day holiday

October 20: Continue Probability – From Samples to statistics, Group Project 5, Midterm Review
October 20: Article review paper is due

October 27: From Samples to Statistics (Hypothesis tests), Midterm (Covers Chapters 1 – 5)
October 27: Midterm
Read: Chapter 7
October 30: Last day to withdraw from class

November 3: Group Project 6, Review for Learning Enhancer 3 (Covers Chapter 6), Start Cross-Tabulation Tables and Chi-Square

November 10: Learning Enhancer 3 (Covers Chapter 6 – Last day for Chapter 6 homework), Finish Cross Tabulations and Chi-Square Goodness of Fit test,
November 11: Veteran’s Day, no class – Only affects Wednesday classes

November 17: Group Project 7. Correlation and Regression, Review for Learning Enhancer 4
Read: Chapter 10

November 24: Finish Correlation and Regression, Group Project 8, Learning Enhancer #4 (Covers Chapter 7 and 10)
November 24: Learning Enhancer 4 (Last day to submit homework for Chapters 7 and 10)
November 26 to 29: Thanksgiving Recess,

December 1: Final Thoughts

Tuesday, December 8th—6 – 8:30 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. The second link is to some written resources you can access.

http://www.csuohio.edu/counselingcenter/workshops-1
http://www.csuohio.edu/academic/advising/tutoring/studentresources.html

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/

Online learning assessment tools can be found at

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

Taking these assessments can help you pinpoint what areas you might need to work on to improve your academic performance.
Homework - Assigned Questions (please note answers for odd questions are in the back of your textbook.)

Chapter 1 - Page 32  Do 2, 4, 6, 7, 8, 12, 14, 15, 18

Chapter 2 - Page 64 - 65  Do 2, 3, 4, 6, 8, 10, 12, 16, Use the data under computer exercises in the block titled “How Often Do You Use the Library” to make up a frequency table and answer 18, 20, 22

Chapter 3 - Page 97 - 99  Do 2, 4, 6, 8, 10, 12, 16, 17, 18, 20

Chapter 4 – Pages 132  Do 2, 4, 6, 8, 10, 12, 14, 16, 17, 18, 20, 22, 24

Chapter 5 - Pages 161 – 162  Do 2, 4, 6, 8, 10, 12, 14, 16, 20, 23, 24, 26, 28

Chapter 6- Pages 195 – 196  DO 2, 4, 6, 8, 10, 12, 16, 17, 20

Chapter 7 - Pages 232 – 234  Do 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

Chapter 10 - Pages 331 – 332  Do 2, 4