PBIS STATISTICS (Spring 2020)

10:20 – 11:20am MWF Room 1553

Instructor: Lirong Ding **Office**: 2833 **Phone**: 920-391-3409 **E-mail:** dingl@uwosh.edu

Office Hours: 11:30am-12:30pm M; 6:30 -7:30pm T; 12:40-1:40pm W; Or by an appointment

PBIS Course: Problem-based Inquiry Seminar (PBIS) courses focus on critical thinking and active learning. Students will be engaged in problem solving and will come to understand that a "problem" is situation that is unfamiliar and one for which a solution is not immediately evident. Being stuck is a natural state of problem solving and an essential part of improving thinking.

Text: MathXL "Elementary Statistics" 9th Edition, by Neil A. Weiss is required (Textbook is optional).
. and TI-84 plus or TI-83 plus graphing calculator ,Texas Instruments.

Description: Descriptive statistics/elementary probability/basic problems of statistical inference: estimation, confidence intervals, hypothesis testing, regression and correlation.

Course Coverage: The nature of statistics, Organizing date, Descriptive measures, Descriptive methods in regression and correlation, The normal distribution, The sampling distribution of the sample mean, Confidence intervals for one population mean, Hypothesis tests for one population mean, Inferences for two population means, Inferences for population proportions.

Prerequisite: Mathematics 103 with grade of C or better or placement.

Learning Outcomes: Upon successful completion of the course, students are expected to have the ability to:

- Identify and classify variables, identify research questions in a study.
- Construct and interpret bar graphs and dot plots
- Identify confounding variables and identify sampling biases in observational studies.
- Explain and implement a random sampling scheme, and understand random assignment.
- Produce and interpret two-way tables from categorical data.
- Produce and interpret stemplots and histograms from quantitative data.
- Calculate and interpret measures of center and spread.
- Understand basic probability concepts such as sample space, and empirical estimates.
- Explain and calculate probabilities from normal distributions.
- Understand and describe the principle of sampling variability.
- Perform simulation analyses to understand the sampling distribution of the mean.
- Perform and interpret calculations based on the Central Limit Theorem.
- Calculate and interpret a confidence interval for a population proportion.
- Explain the reasoning and perform the calculations for a test of significance for a population proportion.
- Calculate and interpret a confidence interval for a population mean.
- Explain the reasoning and perform the calculations for a test of significance for a population mean.
- Conduct all aspects of a t-test of significance for a population mean.

Homework: Online homework for each section is due in the class following the discussion of the section. The homework will be assigned and graded via **MathXL**.
Worksheet for hand in should not later than a deadline (**no credit for late worksheet).**

How to register for MathXL:

- Go to www.mathxl.com
- Click on Register and follow the on-screen instructions. You will need a student access code (you can buy online or from the bookstore) and the Course ID. After registering, log in to MathXL with your username and password. To enroll in this course, enter the Course ID: **XL3I – 61M2 – 3021 – 6GT2**

Exams: You have to finish exams in given time unless you have a disability document proving that you can use extra time for taking exams. Exams are designed to test your understanding of the subject thus you are permitted to use **one single-sided page** of your own notes (notebook size).
Final exam uses a presentation format of your project. The first draft of your project should be handed in before April 30th.

Exam 1 Feb.21, Friday; Exam 2 Mar.13, Friday; Exam 3 April 24,Friday ;
Final Exam May 15

Make-up Exams: You are expected to attend classes regularly and make-up exams will **NOT** be given unless you have a valid reason for the absence**.** If you have the reason for missing an exam, you need to contact me **before** the exam. **Failure to contact me in advance will result in a score of zero on the exam.** The best way to contact me is via email; in your email please state the class section and class time.

Group Work: You will have assignment and project assigned to work together as a group.

Grade Weight and Scale:

Semester Exams	60% of the final grade	:		93-100 A;	90-92 A-;
GW&CP	10% of the final grade	:	88-89 B+;	83-87 B;	80-82 B-;
HW&WS	10% of the final grade	:	78-79 C+;	70-77 C;	68-69 C-;
Final Exam	20% of the final grade	:	66-67 D+;	58-65 D;	55-57 D-;
		:	54 or lower F.		

Attendance: The course will have class discussion which based on your group work therefore the class participation is important. Your attendance will be counted as part of your course grade.

Class Notes: You are recommended to take the notes. It will help you to do homework and review for exams.

Electronic Devices: Laptop, cell phone, and other electronics are *not* allowed to be used in classes.

Early Alert program: There is an early alert program which informs students of their academic performance in classes early. You may receive an early alert email during 5th week. If you receive it please read it carefully. And make an appointment with me or your counselor to get a plan for you to improve your performance for the course.

Academic Misconduct: "All suspected incidents of academic misconduct shall be handled using the UW System rules (from UWS 14.01)' The definition of 'academic misconduct' can be found at https://www.uwosh.edu/deanofstudents/universitypolicies-procedures/academic-misconduct