Spring Semester 2020
67-201 Applied Statistics
Section 004 11:30-12:30 MWF Swart 203

Instructor:	Jeannette Boudry Swart 221 424-7349 boudry@uwosh.edu
Office Hours:	10:20-11:20 MWF
Prerequisite	PBIS 187, 188 or 189 or Mathematics 104, 108 or 204 with a grade of C or better.
Course Description:	An introduction to applied statistics using a statistical computing package such as MINITAB. Topics include: Descriptive statistics, elementary probability, discrete and continuous distributions, interval and point estimation, hypothesis testing, regression and correlation.
Help:	You should get help as soon as you find yourself not understanding something in class. Please come in and see me during my office hours. The Center for Academic Resources (CAR) provides free tutoring for students in most undergraduate classes on campus. Check the Tutoring List page on CAR's website (https://uwosh.edu/car/) for a list of tutors.
Textbook	*Introduction to the Practice of Statistics* eighth edition by Moore, McCabe, Craig and in addition, *Math 201 Supplementary Class Materials* by Boudry which will be available at the bookstore.
Calculator:	A graphing calculator TI-83 or TI-84 is required. Please bring your calculator to class every day.
Attendance:	You are expected to attend and participate in each class. Attendance will be taken.
Written Work:	Written work will be worth 40% of your grade. Written work will include quizzes, problem assignments, and group projects. We will also be using a statistical software package Minitab. There will be no make-up quizzes and late work will not be accepted except under extenuating circumstances. If you have a problem let me know about it.

Tests: Tests will count as 60% of your grade. There will be 3 exams. The exams will be given in the Testing Center. You will have two hours for each exam. They will each be worth 100 points. There will be no make-up tests given except under special circumstances and <u>prior notice</u>.

Test Schedule
Test 1 Mon., Tues.   Mar. 2, 3   Chapters 1, 2
Test 2 Mon., Tues.   Apr. 13, 14   Chapters 3, 4, 5
Test 3 Wed., Thurs. May 13, 14   Chapters 6, 7, 8

Grading: The following scale will be used to calculate your grade.

<u>Scale:</u>
93-100   A
90- 92   A-
87- 89   B+
83- 86   B
80- 82   B-
77- 79   C+
70- 76   C
67- 69   D+
63- 66%   D
60- 62   D-
Below 60   F

Learning Objectives: This course is an introduction to applied statistics, which is the science of gathering and analyzing data. Topics covered include descriptive statistics, both graphical and numerical, simple regression and correlation, elementary probability, sampling distributions, and the fundamentals of statistical inference, including confidence intervals and hypothesis testing. A student who has successfully learned this material will be prepared to interpret data from whatever field they are studying.

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

• Describe and understand graphical displays of data.
• Describe and understand numerical summaries of data.
• Calculate with technology areas under the normal curve.
• Understand and calculate with technology correlations and regression equations.
• Understand and describe different sampling schemes, and understand the principles of experimentation to establish cause and effect.

- Describe and calculate probabilities using the basic rules.
- Understand and create elaborate probability calculations using trees and Venn diagrams.
- Develop and explain the reasoning behind sampling distributions, including the Central Limit Theorem.
- Understand and calculate the formulas for confidence intervals.
- Understand and calculate the formulas for hypothesis tests. Compare and contrast the various t-tests, one- and two-sample, matched pairs, and z-tests for proportions.

Academic Honesty Policy: Cheating on an exam, plagiarizing or any other form of academic dishonesty will be dealt with in accordance with the current UWO Student Discipline Code. The instructor reserves the right to assign a grade of "F" for the course should circumstances warrant.

The last day to drop without Late Drop Form is Wednesday March 18

There will be no class during the week of Spring Break March 22-29

Please put your cell phones away. No cell phone use in the classroom will be allowed. This includes before class starts.

Homework Assignments

Section	Problems
1.1	1.1-1.11, 1.13
1.2	1.16-1.23, 1.25-1.29, 1.31, 1.33, 1.35-1.41 odds
1.3	1.47-1.66, 1.71-1.77 odds, 1.78-1.82, 1.88, 1.89, 1.91-1.93, 1.97-1.99
1.4	1.101-1.108, 1.109-1.115, 1.117, 1.119-1.125, 1.129-1.133, 1.135-1.145 odds, 1.146, 1.148, 1.149, 1.153ab
2.1	2.1-2.7, 2.9
2.2	2.10-2.19, 2.22, 2.24-2.26, 2.28, 2.31-2.33, 2.35
2.3	2.38-2.44, 2.46, 2.48-2.50, 2.58-2.60
2.4	2.62-2.70, 2.71, 2.78, 2.81-2.83, 2.84ac, 2.85
2.5	2.92-2.96, 2.102-2.107, 2.109, 2.110, 2.113, 2.114
2.6	2.115-2.121, 2.123, 2.124, 2.126-2.131
2.7	2.135-2.145 odds
3.1	3.1-3.5, 3.7-3.17
3.2	3.18-3.23, 3.25, 3.27-3.29, 3.31-3.34, 3.36, 3.37, 3.39. 3.43-3.46
3.3	3.48-3.51, 3.53, 3.54, 3.56-3.60, 3.62, 3.63, 3.67, 3.69, 3.70, 3.71-3.77 odds, 3.78
3.4	3.79-3.82, 3.88, 3.90-3.92
3.5	3.96, 3.97, 3.99-3.101, 3.103, 3.108, 3.109, 3.111, 3.112, 3.115, 3.116
4.1	4.1-4.4, 4.6, 4.7
4.2	4.10-4.25, 4.27-4.31, 4.33-4.39 odds, 4.42-4.45
4.3	4.46-4.55, 4.57-4.61 odds, 4.62, 4.63, 4.65, 4.66
4.4	4.67, 4.69-4.85, 4.87, 4.89-4.94
4.5	4.95-4.117, 4.121, 4.126-4.131

Section	Problems
5.1	5.1-5.5, 5.8-5.17, 5.19-5.29 odds, 5.30, 5.31
5.2	5.32-5.50, 5.51, 5.53, 5.57-5.71 odds
6.1	6.1-6.19, 6.21, 6.23, 6.27-6.29, 6.33-6.37 odds
6.2	6.38-6.55, 6.57-6.63 odds, 6.67, 6.71-6.75 odds, 6.83-6.85
6.3	6.90-6.101, 6.107
6.4	6.121
7.1	7.1-7.6, 7.8-7.11, 7.17-7.21, 7.22ade, 7.23ade, 7.24ac, 7.25, 7.26, 7.29-7.33 odds, 7.36, 7.37, 7.39, 7.43, 7.45
8.1	8.1-8.22, 8.23-8.31 odds, 8.32, 8.33-8.37, 8.39-8.43
7.2	7.56-7.59, 7.63-7.67, 7.71-7.79 odds
8.2	8.45-8.56, 8.59-8.67, 8.69, 8.71