MATH 1342 - STATISTICAL METHODS

Purpose - To provide a transferable course in the basic elements of statistical methods.

Prerequisite: Math 0320 (Intermediate Algebra) or higher or 2 units of high school algebra and a TSI score of 350 or higher

Textbook & Supplies - Elementary Statistics: A Brief Version, 7th edition, by Allan G. Bluman; scientific calculator (TI 83 or TI84 is recommended)

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Attendance - Regular attendance is essential for successful completion of the course. There is **no distinction between excused and unexcused absences**, so there is no need to bring any type of note documenting your absence. If a student has 2 consecutive weeks of absences, or any 5 absences, you will be dropped from the course with a grade of X. **If a student has no more than 2 absences and is satisfied with his/her course average at the end of the semester, then he/she is not required to take the final exam.**

Assignment Policy - Homework will be assigned each class meeting and will be reviewed at the next class meeting. Completion of homework assignments is necessary in order to be adequately prepared for quizzes and exams.

Exams and Quizzes - There will be four major exams, several regularly scheduled in-class quizzes, and a cumulative final exam. **No make-ups will be given on exams or quizzes**. If a major exam is missed, you will receive a grade of 0 for the missed exam. If the final exam is higher than the lowest major exam, the lowest major exam grade will be dropped and the final exam will be counted twice. If the final exam grade is the lowest grade, it will NOT be dropped. NOTE: There are no "extra credit" points given in this class. Your grade is based ONLY on your exams and quizzes. Please do not ask me to give you any extra credit or "bump" your grade.

Grade Determination - Grades will be averaged according to the following formula:

0.83*(Ave. of Exams) + 0.17*(Ave. of Quizzes) = Course Grade

Grading Standards - The standard grading scale (89.5 – 100 = A, 79.5 – 89.4 = B, etc) will be used in this class.

Dropping the Course - The last day to drop is November 16, 2017. If you drop on or before this date, you will receive a grade of W.

Diversity – In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and

about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.
Disabilities - Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Reese Center Building 8, 806-716-4675.

Accessibility: All course platforms are fully accessible. Blackboard accessibility information can be found at http://access.blackboard.com.

Technical Support: Technical support questions concerning Blackboard should be sent to blackboard@southplainscollege.edu, or call 806-716-2180.

Campus Concealed Carry - Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to the SPC policy at:
(http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.php)
Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

Tutoring – Tutoring is available in Building 2 room #212, in the Math building in Levelland, and at the ATC Building at 3907 Ave. Q in Lubbock. Tutoring hours and locations will be posted in the hallways of each building.

Prerequisite Skills – Students must be able to solve basic algebraic equations, be familiar with the rules for order of operations in order to work with formulas containing multiple operations, perform operations with rational expressions, perform operations with exponential and radical expressions, and use a scientific calculator to facilitate calculations. If these skills are deficient, it is recommended that the student enroll in a remedial course in order to gain proficiency in these skills.

Core Objectives – The following core objectives will be met by this course:

1. Communication Skills: effective development, interpretation, and expression of ideas through written, oral, and visual communication.

Develop, interpret, and express ideas through written communication.
Develop, interpret, and express ideas through oral communication.
Develop, interpret, and express ideas through visual communication.

2. Critical Thinking: creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information.

Generate and communicate ideas by combining, changing, and reapplying existing information.
Gather and assess information relevant to a question.
Analyze, evaluate, and synthesize information.

3. Empirical and Quantitative Competency Skills: the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Manipulate and analyze numerical data and arrive at an informed conclusion.
Manipulate and analyze observable facts and arrive at an informed conclusion.

Course Objectives - Upon completion of this course and receiving a passing grade, the student will demonstrate mastery of the following concepts:

1. Represent raw data using various tables and graphs.
2. Calculate measures of central tendency, variation, and position for both grouped and ungrouped data and interpret in writing the significance and meaning of the calculations.
3. Calculate coefficients of variation and skewness and interpret in writing the significance of the calculations.
4. Calculate classical and empirical probabilities.
5. Apply binomial and normal distribution properties to calculate probabilities and interpret in writing the significance of the calculations.
6. Calculate mean, variance, and standard deviations of probability distributions and interpret in writing the significance of the calculations.
7. Evaluate a hypothesis-testing situation to determine the appropriate test to be used.
8. Use parametric and non-parametric tests for hypothesis testing and interpret in writing the significance of test results.
9. Calculate coefficients of correlation, determination, and non-determination and interpret in writing the significance of the calculations.
10. Calculate linear regression equations and standard error and use equations to make predictions.
11. Use a statistical package and/or a statistical calculator to help with computations.
12. Make a formal presentation of an assigned case study dealing with one or more of the above areas of statistics.

Math 1342 – Tentative Class Outline

Week 1	Chap. 1 – Introduction to Statistics; 2.1 – Frequency Distributions (Obj. 1)
Week 2	2.2, 2.3 – Graphs (Obj. 1)
Week 3	3.1 – Measures of Central Tendency; 3.2 – Measures of Variation (Obj. 2, 3, 11)
Week 4	3.3 – Measures of Position; Exam 1 (Obj. 2, 3, 11, 12)
Week 5	3.4 – Exploratory Data Analysis; 10.1 & 2.4 – Correlation Analysis & Scatter Plots (Obj. 2, 9)
Week 6	10.2 – Regression Analysis; 10.3 – Standard Error & Prediction Intervals (Obj. 9, 10)
Week 7	4.1 – Introduction to Probability; Exam 2 (Obj. 4, 12)
Week 8	4.2 – The Addition Rule; 4.3 – The Multiplication Rule (Obj. 4)
Week 9	5.1 – Discrete PDFs; 5.2 – Mean/Variance/Standard Deviation of a Discrete PDF; 5.3 – The Binomial Distribution (Obj. 4, 5, 6)
Week 10	6.1 – The Normal Distribution; 6.2, 6.3 – Applications of the Normal Distribution (Obj. 5, 6)
Week 11	8.1 – Introduction to Hypothesis Testing; Exam 3 (Obj. 7, 12)
Week 12	8.2 – The Z Test; 8.3 – The T Test (Obj. 7, 8)
Week 13	8.4 – The Z Test for Proportions; 9.1 – Z Test for 2 Samples (Obj. 7, 8)
Week 14	9.2 – T Test for 2 Samples (Obj. 7, 8)
Week 15	Exam 4, Final Review (Obj. 7, 8, 11, 12)
Week 16	Final Exam

This outline is subject to change at the instructor's discretion.