GENERAL COURSE SYLLABUS - MATH1342 - STATISTICAL METHODS

Department: Mathematics and Engineering

Discipline: Mathematics

Course Number: Math 1342

Course Title: Statistical Methods

Credit: 3   **Lecture: 3**   **Lab:** 0

Prerequisites: Math0320 or equivalent

Available Formats: Conventional

Campus: Levelland Campus and Reese Campus

Textbook: Elementary Statistics, by Allan Bluman

Supplies: Scientific calculator

Course Description: This course is a study of the methods of analyzing data, statistical concepts and models, estimation, tests of significance, introduction to analysis of variance, linear regression, and correlation.

Course Purpose/Rational/Goal: To provide a transferable course in the elements of statistical methods.

Equal Opportunity: South Plains College strives to accommodate the individual needs of all students in order to enhance their opportunities for success in the context of a comprehensive community college setting. It is the policy of South Plains College to offer all educational and employment opportunities without regard to race, color, national origin, religion, gender, disability, or age.

<u>Disabilities: Levelland Campus</u> –

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. For more information, call or visit the Disability Services Office in the Student Health & Wellness Office, 806-716-2577.

<u>Disabilities: Reese Center and the Byron Martin Advanced Technology Center (ATC)</u> –
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. For more information, call or visit the Disability Services Office at, Reese Center Building 8, 806-716-4675

Course Requirements: To maximize the potential to complete the course, a student should attend all class meetings, take notes, participate in class, complete all homework assignments, and demonstrate mastery (at least 70%) on all exams including the final examination.

Course Evaluation: Please see the instructor's course information sheet for specific items used in evaluating student performance.

Attendance: Required, if you want to pass the class. Excessive absences (based on instructor) may result in an administrative withdrawal.

Instructor: Benoit (Ben) Ahanda
Office: Math 101-Levelland
Telephone: (806)716-2797
Email: bahanda@southplainscollege.edu

Office Hours	M W (Reese)	T R (Levelland)	F (Levelland)
	1:00pm-2:00pm M (room-214-1st floor) 8:15pm-9:00pm M W (RC266) - Or by appointment	12:55pm-2:25pm T R 4:15pm-5:00pm T R - Or by appointment	8:15am-11:15pm - Or by appointment

TEXTS AND MATERIALS: Elementary Statistics by Bluman (OPTIONAL)
Scientific calculator, (REQUIRED)
** I recommend that you use a calculator with a graphing feature or TI-30XIIS, but any scientific calculator will do.

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 frequency distributions
2. represent raw data using polygons, ogives, histograms, and pie charts
3. 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
4. calculate coefficients of variation and skewness and interpret in writing the significance of the calculations
5. calculate classical and empirical probabilities
6. apply binomial, Poisson, and normal distribution properties to calculate probabilities and interpret in writing the significance of the calculations
7. calculate mean, variance, and standard deviations of probability distributions and interpret in writing the significance of test results
8. evaluate a hypothesis testing situation to determine the appropriate test to be used
9. use parametric and non-parametric tests for hypothesis testing and interpret in writing the significance of test results
10. calculate simple and multiple linear regression equations and use equations to make predictions
11. calculate coefficients of correlation, determination, and non-determination and interpret in writing the significance of the calculations
12. use a computer statistics program and/or a statistical calculator to help with computations

GRADING: There will be 4 major examinations. In-class assignments will be given without notice and will count as a homework grade (with participation). Late homework will be accepted, but you can only receive a maximum of 50% for any late work. If you have to miss a class, contact the instructor as soon as possible. Homework that is turned in by other classmates will result in a 0. Make-up exams will be given only for special reasons, and arrangements must be made with the instructor prior to the scheduled exam. In addition, make-up exams are significantly harder than the original exams.

A: 90-100	3 Midterm Exams:	20% each
B: 80-89		
C: 70-79	Homework's:	20%
D: 60-69		
F: 0-59	Final Exam	20%

FREEDOM: In the United States, you experience many freedoms. Two of these freedoms include: the freedom to succeed and the freedom to fail. Which one will you choose?

Student Learning Outcomes/Competencies &Tentative Calendar

Section1.1   Descriptive and inferential Statistics -1/17 or 1/18
Section1.2 &1.4 Types of Data and Design of Experiments – 1/19 or 1/23
Section 2.1&2.2 Data Presentation (Graphs/Charts)– 1/24 or 1/25
Section 2.1&2.2 &3.1 Data Presentation (Graphs/Charts) & Measures of Central Tendency – 1/26 or 1/30
Section 3.2 Measures of Variation –1/31 or 2/1
Section3.4 Exploratory Data Analysis –2/2 or 2/6
Section10.1 Correlation –2/7 or 2/8
Section10.2 Regression and Applications of Regression –2/9 or 2/13
Review for Exam1– 2/14 or 2/15

EXAM 1 – 2/16 or 2/20

Section4.1. Probability Concepts – 2/16 or 2/22
Section4.2. Addition and Complement Rules – 2/21 or 2/27
Section4.3. Multiplication and Conditional Rules – 2/23 or 3/1
Section 5.1, 5.2&5.3 Discrete Probability Distributions – 2/28 or 3/6
Section 5.1, 5.2&5.3 Discrete Probability Distributions – 3/2 or 3/8
Section6.1. Standard Normal Distribution– 3/7 or 3/20
Section6.2 Applications of Normal Distribution – 3/9 or 3/22
Review for Exam2; Section6.3. The Central Limit Theorem – 3/21 or 3/27

EXAM 2 – 3/23 or 3/29

Section7.1-7.3. Point Estimates and Confidence Intervals for Means Distribution and for Proportion– 3/28 or 4/3
Section7.1-7.3. Point Estimates and Confidence Intervals for Means Distribution and for Proportion –3/30 or 4/5
Section7.1-7.3 & 8.1 Finding a Necessary Sample Size under Given Conditions; Steps for Hypothesis Testing – 4/4 or 4/10
Section8.2&8.3 Test for a Mean –4/6 or 4/12
Section8.2-8.3&8.4 Test for a Mean; Proportion Test – 4/11 or 4/19
Section8.2-8.3&8.4 Test for a Mean; Proportion Test – 4/13 or 4/22
Review for Exam3 – 4/18 or 4/24

EXAM 3 – 4/20 or 4/26

Section9.1&9.2. Two-mean test for independent samples; Review **Final Exam** –4/25 or 5/1
Section9.1&9.2. Review **Final Exam**– 4/27 or 5/3
Review **Final Exam**– 5/2 and 5/4 (TR class)

 Technology

A. Calculator applications – All sections – All semester

FINAL EXAM –5/8 thru 5/11

Comprehensive Final
–   **Monday, May 8th -**5:30pm-7:30pm (for MW's class)
–   **Thursday, May 11th -**8:00am-10:00am (for TR's class)