Math 1342-016 Syllabus
Dual Credit Statistical Analysis
Spring 2019

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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: The purpose of the course is to provide a fundamental background in statistics that can be used as a basis for studies in many fields. This course will meet the mathematics requirement for the core curriculum and for any major that requires an elementary statistics course.

Reference Textbook: *Elementary Statistics,* Bluman. McGraw-Hill.

Grading: Grades for each six weeks will be computed as follows:

Tests/Projects……………………………	70%
Homework/Quizzes …………………	30%

Semester grades are computed as follows:

Average of the three six weeks……..	80%
Semester Exam/Project………………	20%

Grading Scale: A 90-100
B 80-89
C 70-79
D 60-69
F 59 or below
***Note: Students must justify answers or show work on all problems to receive full credit.

Semester Exams and Exemptions: Because this is a college course, you are required to take the semester exam.

Homework and Quizzes: Homework will be assigned each class period. If you have questions, you should come in either before school, after school or during tutorials.   At the beginning of each class period, you will take a short 5-10 minute quiz over a few selected homework questions. You may use your completed homework for the quiz. Just know that the quiz is timed. Success on the quiz will depend on the quality of your homework.

Tests: We will try to have two chapter tests every six weeks. However, due to time constraints, there may be a couple of six weeks where there is only one chapter test. You will have the opportunity to take an optional six weeks test at the end of each six weeks. The optional six weeks test will replace your lowest chapter test grade (if it is higher). The optional six weeks test will be given at 6:00 in the morning on one of the final days of the six weeks.

Attendance Policy: Four absences per semester are allowed but not recommended. Upon your fifth absence (except in cases of documented extreme circumstances as determined by the professor), you will be withdrawn from the course with a grade of X or F. You may also be withdrawn if, in the instructor's opinion, minimum course objectives cannot be met due to absences. If you are withdrawn because of absences, you are financially responsible for paying the course tuition and fees.

Tests Missed Because of an Absence: Because this is a college level class, there are no provisions for making up exams. Only under extreme circumstances (death in the family, serious illness etc) will make-up exams be given, and these circumstances must be documented. If you are going to miss an exam, the instructor should be notified in advance via email or in person. If you miss an exam for something other than a documented extreme circumstance, you will receive a zero for the exam. This zero can only be replaced with the optional exam given at the end of the six weeks.

Daily Work and Quizzes Missed Because of an Absence: If you have an unplanned absence (emergency, sickness etc), it is your responsibility to contact the instructor via email as soon as possible and to complete your make-up work/quiz by the next class period. If you have a planned absence (doctor's appointment, school extracurricular activity etc), it is your responsibility to get your make-up work before you leave. If you fail to do the above, you will receive a zero for the assignment/quiz.
Late work: This is a college class so late work is not accepted. If you do not turn in an assignment, you will receive a zero.

Notebook: Each student will turn in a two-pocket, three-ring notebook at the end of each six weeks. This notebook will include all assignments from the six weeks as well as all notes from the year. It will also include a table of contents and a copy of the syllabus. The notebook will count as two homework grades.

Notes: All class notes and bell work should be dated and kept in a three-subject spiral. This spiral should only contain your math notes and will be turned in with your notebook at the end of each six weeks.

Bell Work: A short assignment will be on the board each day when students arrive in class. The student is expected to begin working as soon as the tardy bell rings. We will spend approximately the first five minutes of class on the bell work. The student will write the assignment in his/her notes along with the date. This work will be checked when notebooks are turned in at the end of the six weeks.

Calculators: There will be times throughout the year when students will need a graphing calculator to complete an assignment. We have a limited number that are available for check out for the year. Your parent/guardian must sign a check out form before you will be allowed to check out the calculator. If you elect to check out a calculator for the year, you assume all responsibility for that calculator if it is damaged, lost or stolen while in your possession.

Grade Reports: You will receive a weekly grade report.

Tutorials: Mandatory tutorials for students in danger of failing will be conducted at 7:30 each morning. The 7:30 bell is the tardy bell if you are required to be in tutorials. If you are placed on the weekly tutorial list (whether it be because of your average, an incomplete or a TRT), you will be expected to complete that entire week's worth of tutorials.

Extra Tutoring: I will be in my room by at least 6:45 every morning (earlier if you need me to be) if you desire more help. I will also be around after school most days if that is a better time for you.

Materials: Students are expected to bring the following to class each day:
- Covered textbook
- Spiral notebook
- Notebook
- Pencil and pen
- Calculator
- Straight-edge notebook paper

Tardiness: A student is tardy if he/she is not in the classroom with all required materials when the tardy bell rings.

Academic Honesty: You are expected to uphold the ideas of academic honesty. All work that is graded must be your own. This policy applies to all work attempted in the course. If this policy is violated, the student will receive a zero for the assignment and will be dropped with an F. For more details on what is considered cheating, see the South Plains College catalog.

Class Rules:
- Be courteous and respectful at all times.
- Be on time and ready to learn.
- Keep your hands and feet to yourself.
- Use only pencil for all assignments.
- Wait to be dismissed before leaving class. The bell does not dismiss you!!
- No food or drinks in class other than bottled water.
- Students are not permitted to use electronic devices, other than a calculator, in class.
- Adhere to the requirements of the Student Code of Conduct.

Student Learning Outcomes/Competencies:
Upon successful completion of this course, students will:
1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.
5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.
8. Perform hypothesis testing using statistical methods.

Core Objectives:
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

Math 1342 Calendar

Week 1: Intro to Statistics and Data Collection, Populations and Samples, Organizing Data

Week 2: Data Presentation (Graphs/Charts), Exam 1

Week 3: Measures of Central Tendency, Measures of Variation

Week 4: Measures of Position, Exam 2

Week 5: Introduction to Counting and Probability, Empirical and Theoretical Probabilities, Probability Rules (addition, complements)

Week 6: Probability Rules (multiplication and conditional), Combinatorics and Probability, Exam 3

Week 7: Probability Distributions, Expected Value, Binomial Distributions

Week 8: Normal Distributions, Applications of Normal Distributions

Week 9: Exam 4, Central Limit Theorem

Week 10: Describe and Compute Confidence Intervals

Week 11: Hypothesis Testing (Z Test, P-Value Method, T-Test and Z-Test for a Proportion)

Week 12: Hypothesis Testing Between Two Means, Exam 5, Scatterplots

Week 13: Linear Regression and Correlations, Standard Error of the Estimate

Week 14: Exam 6, Semester Exam Review

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.

Diversity Statement: 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 (per the SPC faculty handbook).

Disability Statement: Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Special 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 Special Services Coordinator. For more information, call or visit the Special Services Office in the Student Services Building, 894-9611 ext. 2529, 2530