CLASSROOM AND SCHEDULE: Tuesday and Thursday, 12:30-1:50 PM
Room 403 Lee Drain Building

INSTRUCTOR: Dr. Linda Zientek
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        Office Hours: Tues/Thurs, 7:30 – 8:00, 9:30 – 11:30; Appointments by special arrangement

CATALOG DESCRIPTION: This course provides an introduction to probability, descriptive statistics, and inferential statistics, including regression, confidence intervals, and the construction and interpretation of tables, graphs, and charts. Calculator techniques related to the above topics will be incorporated into the course. This course may be applied only toward middle school certification. Prerequisite: MTH 2385 - 3 semester hours.

COURSE OBJECTIVES: Upon completion of this course, students will be able to:
- Organize and display data in a variety of formats (e.g., tables, frequency distributions, stem-and-leaf plots, box-and-whisker plots, histograms, pie charts)
- Apply concepts of center, spread, shape, and skewness to a data distribution
- Support arguments, make predictions, and draw conclusions using summary statistics and graphs to analyze and interpret one-variable statistics
- Demonstrate an understanding of measures of central tendency (e.g., mean, median, mode) and dispersion (e.g., range, interquartile range, variance, and standard deviation)
- Analyze connections among concepts of center and spread, data clusters and gaps, data outliers, and measures of central tendency and dispersion
- Calculate and interpret percentiles and quartiles
- Explore concepts of probability through data collection, experiments, and simulations
- Use the concepts and principles of probability to describe the outcomes of simple and compound events
- Generate, simulate, and use probability models to represent a situation
- Determine probabilities by constructing sample spaces to model situations
- Apply knowledge of counting techniques such as permutations and combinations to quantify situations and solve problems
- Solve a variety of probability problems using combinations, permutations, and geometric probability (i.e., probability as the ratio of two areas)
- Use the binomial, geometric, and normal distributions to solve problems
- Apply knowledge of designing, conducting, analyzing, and interpreting statistical experiments to investigate real-world problems
- Demonstrate an understanding of random samples, sample statistics, and the relationship between sample size and confidence intervals
- Apply knowledge of the use of probability to make observations and draw conclusions from single variable data and to describe the level of confidence in the conclusion
- Make inferences about a population using binomial, normal, and geometric distributions
- Demonstrate an understanding of the use of techniques such as scatterplots, regression lines, correlation coefficients, and residual analysis to explore bivariate data and to make and evaluate predictions

SUPPLIES: To be ready for action during each class, you will need to have:
- Required Textbook: *Sullivan, M. (2017).* **Fundamentals of Statistics** *(Fifth Edition). Pearson Publishing.*
- a graphing calculator (TI-83 or TI-84 model, if possible)

ATTENDANCE: Regular and punctual attendance is expected of every student. As a prospective teacher, you must demonstrate your reliability and conscientious attitude by your faithful attendance. Attendance will be taken every class. Tardies will count against your attendance record (3 tardies = 1 absence). Unless approved by the instructor, leaving class early will count as an absence. If absent or tardy, you are still responsible for all material covered in class, and you will need to check with a classmate about what was discussed. Serious health or family problems that are well documented will be handled individually. However, if you are unable to attend class regularly, you should drop the course. In addition to attending class faithfully, students are expected to put forth their best effort in this class. This includes, but is not limited to, actively participating in class discussions and activities. By way of contrast, *unprofessional behaviors will not be tolerated.* Unprofessional behaviors include such as sleeping, texting, laying your head on the desk, reading the newspaper, or studying for other classes.

TESTS AND ASSIGNMENTS:
Tests will include problems that are based on the mathematical concepts taught during class. If no more than two absences have been acquired at the time of the final AND the final is higher than a previous exam grade, the final can replace the lowest test grade. If an exam was missed (i.e., exam grade is a zero) then the final can only be used to replace the zero (see make-up policy below). All students are required to take the final, and the final can not be replaced by a previous exam grade. Homework will be assigned daily. Late homework and projects will normally not be accepted. Quizzes and projects will be administered throughout the semester. The quizzes will be unannounced and will cover the material presented on the previous class day. **The lowest quiz grade will be dropped**.

Make-up Policy: Unless approved by the instructor prior to the date of a test, there will be no make-up for a missed test. A missed final examination can be made up only by approval of the Dean of the College of Arts and Sciences or a higher administrative official. If an exam is missed, the final can replace the missed exam grade.

GRADING: Grades for this course will be based on the following:
Exam I   23%
Exam II 23%
Exam III 23%
Daily   11%
Final   20%

A = 90 or higher, B = 80 – 89, C = 70 – 79, D = 60-69, F = below 60

ACADEMIC DISHONESTY: All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

CLASSROOM RULES OF CONDUCT: Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers and magazines, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom, *including reading and sending text messages*, shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

Use of Telephones and Text Messengers in Academic Classrooms and Facilities:
CELL PHONE & TEXT MESSAGERS USE: SHSU Academic Policy Statement 100728
Telephones and similar devices have become increasingly a part of everyday life. In the academic classroom, however, during class these devices can be a serious distraction and during tests they can be a serious problem. The technology is constantly changing and evolving. So, the present policy does not specify particular devices or device types. Rather, the policy applies to any device that performs the function of a telephone or text messenger. Failure to comply with the instructor's policy could result in expulsion from the classroom or with multiple offenses, failure of the course.

Students are to turn off all cell phones and electronic devices or put these in a silent mode while in the classroom. Do NOT take these devices out during the class. In the case of an emergency situation for a student, the student should inform the instructor prior to class and should sit near the door to minimize classroom disruptions in the event the student needs to leave to answer the phone. Under **no circumstances are cell phones or any electronic devices to be used or seen during times of examination**. Students may tape record lectures provided they do not disturb other students in the process.

VISITORS IN THE CLASSROOM: Unannounced visitors to class must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in the classroom. This policy is not intended to discourage the occasional visiting of classes by responsible persons. Obviously, however, the visiting of a particular class should be occasional and not regular, and it should in no way constitute interference with registered members of the class or the educational process.

STUDENTS WITH DISABILITIES POLICY: It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. *Any student with a disability that affects his/her academic performance should contact the Office of Services for Students with Disabilities in the SHSU Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786) to request accommodations.* They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see:

http://www.shsu.edu/dotAsset/7ff819c3-39f3-491d-b688-db5a330ced92.pdf

STUDENT ABSENCES ON RELIGIOUS HOLY DAYS: University policy states that a student who is absent from class for the observance of a religious holy day must be allowed to take the examination or complete an assignment scheduled for that day within a reasonable time after the absence. Students will be excused to travel for observance of a religious holy day. A student who wishes to be excused for a religious holy day must present the instructor with a written statement describing the holy day(s) and the travel involved. The instructor will then provide the student with a written description of the deadline for the completion of missed exams or assignments.