
**COURSE OBJECTIVES:** This is an introductory course involving research design and the use of statistical methods to summarize and interpret data. Unfortunately, this course also tends to unwittingly terrorize some students. I will do my best to see that this does not happen. If you feel lost at times, you are perfectly normal - many students of statistics feel lost at some point, yet when test time arrives they surprise themselves at their level of understanding. I will try to indicate the relevance of methodology and statistics in everyday life. We are confronted with statistical information every day, from marketing representatives to government officials, to newspaper articles, not to mention scientific research. Thus, the purpose of this course is to enable the student to think and act critically about issues they confront that involve statistical decisions. I will utilize the “blackboard” system extensively in this class so you are encouraged to keep up to date with this system.

**Student Learning Outcomes:** Learning statistics is very much like learning a foreign language - to master it, you must practice it. You must actively utilize the information present in lecture and in the text. You will be required to take a 25 question online quiz (50 points) via Blackboard for each chapter (1-11) we will cover this term (plus chapter 2 which will not be discussed in class). Each quiz may be taken twice with the highest score being the score that counts. Each quiz is randomly generated from a test bank developed for the text so no two quizzes will necessarily be identical. You may work together on the quizzes but keep in mind your quiz will not necessarily be identical to your helper’s quiz. There is a 50 minute time limit on each quiz and you will be penalized 2 points for each minute over 50. The quizzes will be available until a test covering that material is administered. There will be five (5), 50 pt. in-class exams which will be given after completion of each unit noted below and will most likely be announced in class a day or two in advance. The in-class exams will differ somewhat from the quizzes since they will be written by me. The 5th exam will be given at the time scheduled for the final exam (December 9th, 8-10 am). For exams 3, 4, and 5 you may use your notes and/or the text. Keep in mind
that books and notes will be of little use if you have never tried to apply the material (hence the quizzes). Your final grade will be based on a certain percentage of the total possible points (800): A = 90-100%, B = 80-89.9%, C = 70-79.9%, D = 60-69%, F = below 60%

A serendipitous benefit of learning about research methods and statistical analysis is that it will help overcome the normal human mental short-cuts and slip-ups in thinking.

**ACADEMIC INTEGRITY:** Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at [www.angelo.edu/forms/pdf/honorcode5.pdf](http://www.angelo.edu/forms/pdf/honorcode5.pdf). Violations of academic honesty may result in course failure.

**MAKE-UP EXAMS:** One make-up exam will be allowed with a legitimate excuse for missing the original exam. Legitimate excuses include but are not limited to: illness, family emergency, job emergency, or university sponsored event. You must provide this information NO LATER than the day of the exam. Make-up exams will not be in the same format as the in-class exams. Make-up exams will be given on December 9th along with the final exam (8-10 am).

**ATTENDANCE:** Students are expected to attend each class and attendance will be taken each day. (more than 8 absences will result in course failure regardless of your test and quiz scores). It is the student’s responsibility to see that they sign the attendance sheet. Students are responsible for all material/information provided during a missed class period. Learning statistics is of a cumulative nature, later topics will build upon previous topics; do not fall behind. If you ignore early topics you will never master the subsequent ones. Experience has shown that students who consistently attend class perform significantly better than those who do not.

**Technology and the Problem of Divided Attention:**

In recent years the saturation of cell phones, text messaging, and laptops, combined with the broad availability of wireless in classrooms, has produced something called the problem of divided attention. A March 25, 2008 article in the *New York Times* summarized recent studies of productivity in business settings. Researchers found that after responding to email or text messages, it took people more than 15 minutes to re-focus on the “serious mental tasks” they had been performing before the interruption. Other research has shown that when people attempt to perform two tasks at once (e.g., following what’s happening in class while checking text messages), the brain literally cannot do it. The brain has got to give up on one of the tasks in order to effectively accomplish the other. Hidden behind all the hype about multi-tasking, then, is this sad truth: it makes you slower and dumber. For this reason alone you should seek to avoid the problem of divided attention when you are in class. But there’s another reason, too: technology often causes us to lose our senses when it comes to norms of polite behavior and, as a result, perfectly nice people become unbelievably rude and insulting.

For both these reasons, then, turn off your cellphones or set them on silent mode when you come to class; it is rude for our activities to be interrupted by a ringing cellphone. Similarly, text messaging will not be tolerated in class; any student found to be sending or checking text messages during class will be invited (quite publicly) to make a choice either to cease the texting or leave the classroom. Repeated violations of this policy will negatively affect your final grade. You are welcome to bring your laptop to class and use it to take notes, access readings we’re discussing, and the like. You are not welcome to surf the web, check email, or otherwise perform non-class-related activities during class. Here’s my best advice: If you aren’t using it to perform a task specifically related to what we are doing in class at that very moment, put it away.
EXTRA CREDIT: Opportunities for earning extra points may be available during the semester. No more than 15 extra points may be accumulated. Opportunities include participation in student/faculty research. To access available research opportunities and earn extra credit, students must create an account on the web at http://angelostate.sona-systems.com. Each opportunity is valued at 5 points.

TENTATIVE SCHEDULE OF TOPICS*

UNIT 1 - Chapters 1 & 3 (we will not cover chapter 2 in class but there will be a quiz for that chapter)
Ways of knowing about the world
Variables and measurement
EXAM 1 – tentative date 9/20

UNIT 2 - Chapters 4 & 5
Descriptive research methods
Descriptive statistics
EXAM 2 – tentative date 10/04

UNIT 3 - Chapters 6, 7, & 8
Correlation (relationship between variables) and regression (predicting one variable from another)
Testing hypotheses: sampling, null hypothesis, significance level, errors
Inferential statistics
EXAM 3 - OPEN BOOK/NOTES – tentative date 11/01

UNIT 4 - Chapters 9 & 10
Experimental Designs 1 & 2
EXAM 4 - OPEN BOOK/NOTES – tentative date 11/20

UNIT 5 - Chapter 11
Experimental design III
EXAM 5 - OPEN BOOK/NOTES (Monday, December 11th, 10:30 am – 12:30 pm)
* Syllabus is subject to change at the discretion of the instructor*

NOTE: This can be a difficult and frustrating course for some individuals. Should any aspect of lecture or class discussion cause a student personal discomfort, please advise the instructor.

Students with Disabilities: Persons with disabilities which warrant academic accommodations must contact the Student Life Office, Room 112 University Center (325-942-2191), in order to request such accommodations prior to their being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.
To ensure a high quality learning environment I reserve the right to ask a student to leave class if his or her behavior is interfering with the learning process of other students. Examples of behaviors that are disruptive include but are not limited to:

- Tardiness is not accepted, especially for exams. Please do not disrupt the lecture/exam by coming in late.
- Talking during lectures. I will not talk over you and may ask you to leave the class if you persist in talking during a lecture.
- Listening to music or watching videos during a lecture. Even if I don’t notice this behavior it is disruptive to your fellow students.
- If there are perpetual disruptions by students I will create seating assignments that minimize disruptions.