

RESEARCH DESIGN AND STATISTICAL ANALYSIS PSY 2321
COURSE OUTLINE FALL 2009¹

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TEXT (required): Jackson, S.L. (2009) *Research Methods and Statistics (3e)*. Belmont, CA: Wadsworth, Cengage Learning.

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 everyday, 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 EVALUATION: 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 20 question online quiz via Blackboard for each chapter 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 30 minute time limit on each quiz and you will be penalized 1 point for each minute over 30. 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 a week 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 (Dec 7th at 10:30 am for section 020 and Dec 9th at 8 am for section 010) Graduating seniors must take the 5th exam. 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 (450): A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = below 60%.

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 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 Dec 2nd at 3:15 pm in room A213.

ATTENDANCE: Students are expected to attend each class. Attendance may influence final course grades. Students with perfect or near perfect attendance with a borderline grade may be assigned the higher grade. 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. Please ask questions in class, there are no "dumb" questions in statistics (OK, there is one dumb question).

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*.²

EXTRA CREDIT: Opportunities for earning extra points may be available during the semester. No more than 15 extra points may be accumulated. Opportunities include summaries of research articles in learning and cognition and/or 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. *No extra credit will be accepted after Monday, November 30.*

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

UNIT 2 - Chapters 4 & 5

Descriptive research methods

Descriptive statistics

EXAM 2

UNIT 3 - Chapters 6 & 7

Correlation (relationship between variables) and regression (predicting one variable from another)

Testing hypotheses: sampling, null hypothesis, significance level, errors

EXAM 3 - OPEN BOOK/NOTES

UNIT 4 - Chapters 8 & 9

Experimental Designs

Inferential Statistics I

EXAM 4 - OPEN BOOK/NOTES

UNIT 5 - Chapter 10, 13 in 2e or pp. 191-192 and 245-247 in 3e (There is no quiz for chapter 13)

Inferential Statistics II

EXAM 5 - OPEN BOOK/NOTES (Monday or Wednesday 12/7 or 12/9)

BLACKBOARD: All exams will routinely be announced on blackboard as well as in class. Students are expected to check the blackboard site routinely. There is no excuse for missing information regarding the class as the semester progresses.

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, 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.

¹The instructor reserves the right to modify this course outline and schedule at his discretion.

²Adapted from <http://caraf.blogs.com/caraf/2008/08/the-syllabus-it-is-a-changin.html>