EDCI 699 Statistics: Content, Process, Application
PSY 612 Psychological and Educational Statistics

COURSE SYLLABUS: SPRING 2015

Instructor: Dr. Katy Denson, Ph.D.
Office Hours: Because I won't have office hours, I will try to get to class about 30 minutes early and plan to stay a little after class if you have questions.

Email Address: Kathleen.Denson@tamuc.edu

COURSE INFORMATION

Materials – Textbook:

Discovering Statistics Using SPSS (4th edition) by Andy Field, Sage Publications,
ISBN # 978-1-4462-4918-5

Course Description: This course is intended to provide graduate students with an introduction to statistics and is approved by the Graduate School as a Level II research tool. The emphasis in this course will be upon understanding statistical concepts and applying and interpreting tests of statistical inference. Content will include but not be limited to: data and data files, data screening, scaling, visual representations of data, descriptive statistics, correlation and simple regression, sampling distributions, and the assumptions associated with and the application of selected inferential statistical procedures (including t-tests, Chi-square, and one-way ANOVA). Computer software (SPSS) will be employed to assist in the analysis of data for this course. Students should have access to a computer, SPSS software, and the Internet. This access is available at the Metroplex Center and on the Commerce campus in certain computer labs.

Student Learning Outcomes:

- How interesting and fun statistics can be
- How and why statistics has developed as a tool of the scientific process
- How data are collected and how observations are quantified during the scientific and research process
- How observations are represented and stored in a data file
- The uses and limitations of statistical software
- The scaling and coding of data
- Frequency distributions; how data can be represented visually, and the strengths and weaknesses of these representations
- Methods of appropriately describing the central tendencies of various distributions
- Variability and how to quantify variability
- The reasoning and assumptions underlying the inferential statistical process
- Probability, as it refers to inferential statistics
- Correlation and simple linear regression
- The appropriate application and interpretation of various inferential statistical procedures, including the t-test, the Chi-square test, inferential tests applied to correlation, and basic ANOVA
- How to write a simple description of methodology and results from analyses

COURSE REQUIREMENTS

Grading: The course grade will be determined by the following combination of criteria:

- Written Assignment: A written assignment will be assigned for each class session. It may consist of problems from the text or running and interpreting some form of data. Completing or attempting the homework is very important to success in this class because it gives you an opportunity for practice and application. It is expected that mistakes will occur in practice; therefore, incorrect (not incomplete or partially complete) answers on homework problems will not result in a significant penalty. For that reason, do not assume that high homework grades represent readiness for success on exams. Deductions will be made for poorly organized and labeled assignments or incomplete responses. Homework will count 45% of the course grade. The lowest homework grade will be dropped from the calculation of the final grade.
- Self-Assessments: Self-Assessments are assigned each week and are due at midnight on the Wednesday before class. Each Self-Assessment is a set of multiple choice or True/False questions that will help you determine if you are ready for the next week's class. You can take Self-Assessments as many times as three times. You will know if you missed a question, but you will not be given the correct answer. If you missed something, you know that you need to go back and review that concept. The last grade you get is the grade that goes in the gradebook. Self-Assessments will count 15% of the course grade.
- Participation: Because this will be a "flipped" class, it is essential that you are prepared each week to participate in class discussions. Preparation will include watching lecture presentations on your own time; then coming to class with questions. Discussions will occur during each session and will cover homework, readings, and previous discussions. You should be prepared to ask and answer questions regarding discussion material that will be posted on eCollege for that week. It will be helpful if you have completed the discussion questions before coming to class. Participation will count 10% of the course grade.
- Mid-term Exam: Will be cumulative to that point, open book and notes, and will count for 15% of the course grade.
- Final Exam: Will be cumulative, open book and notes, and will count for 15% of the course grade.

TECHNOLOGY REQUIREMENTS

Software: SPSS Statistical software (version 17.0 or higher are recommended). You can purchase and download a copy from http://www.onthehub.com/spss/. You can also get a copy from http://studentdiscounts.com (can be installed on two computers). Be sure that you choose the **Statistics Standard Grad Pack**. You can get a 6 month or 12 month license. The software is also on the computers in the student lab at the Metroplex and various labs on the Commerce campus.

Datasets: If you have your own data from a pilot study or work or some other project, you may use that data for your homework assignments. There may be times that your data is unsuitable for the topic. If you do not have your own data or your data is unsuitable, datasets will be provided. If you have your own data, you will need to discuss it with me for suitability.

ACCESS AND NAVIGATION

Class Notes: Because this a web-enhanced course, lectures and class notes for each session will be available on eCollege. Feel free to print anything you want to bring to class. The materials will be in Doc Sharing under the appropriate week. SPSS presentations and datasets for the homework will also be there.

COMMUNICATION AND SUPPORT

Please feel free to contact me any time you have questions. I make a rule for myself, and I would like for you to follow it also, that if I spend an hour on something, and really give it my all, but I still can't get it, it's time to ask for help. Don't be afraid to ask for help! Don't just sit there getting frustrated!

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:

Absences: If you are absent, make sure you have a buddy that will share class notes and discussion topics with you. If you can, let me know you are going to be absent. You will be expected to submit Self-Assessments and homework on eCollege on schedule.

University Specific Procedures:

ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamu-commerce.edu
Student Disability Resources & Services

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook).*

A&M-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

COURSE OUTLINE / CALENDAR

Week	Session	Topics	Readings	Self-Assessment and Homework Due
1	January 22	Introduction to SPSS	Field, Chapter 3	January 28
2	January 29	Chapter 1	Field, Chapter 1	February 4
3	February 5	Finish Chapter 1 Chapter 2	Field, Chapters 1 and 2	February 11
4	February 12	Chapter 2	Field, Chapters 1, 2 and 3	February 18
5	February 19	Chapter 2	Field, Chapter 2	February 25
6	February 26	Chapter 2 Presenting Data	Field, Chapter 2	March 4
7	March 5	Correlation	Field, Chapter 6	March 25
8	March 12	Mid-term Exam		
	March 19	**Spring Break**		
9	March 26	Regression	Field, Chapter 7	April 1
10	April 2	t-test for Independent Means	Field, Chapter 9	April 8
11	April 9	t-test for Dependent Means	Field, Chapter 9	April 15
12	April 16	ANOVA	Field, Chapter 10	April 22
13	April 23	Post Hoc Tests	Field, Chapter 10	April 29
14	April 30	Chi-square	Field, Chapter 18	May 6
15	May 7	Review for final exam		
16	May 14	**Final Exam**		