

Psy 612 Introductory Statistics Thursdays, Fall, 2013

Instructor: Katy Denson, Ph.D.

Contacts:

Home Email: katydenson@centurylink.net
University Email: Kathleen.Denson@tamuc.edu
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.

Text: *Discovering Statistics Using IBM SPSS Statistics* by Andy Field, Fourth Edition. Sage Publications (2013).

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. If you think that you might be taking the next statistics course soon, you might want to get the **Premium Grad Pack**.

Class Notes: Because this a web-enhanced course, class notes and many other things for each session will be available on eCollege. Feel free to print the notes to bring to class. That way you won't have to write as much. The notes will be in Doc Sharing under the appropriate week. Presentations and datasets for the homework will also be there.

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.

Course Objectives: Develop and demonstrate an understanding of:

- 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 structure of 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
- Identifying weaknesses in methodology and results of research proposals

Datasets: Datasets will be provided for each homework assignment. The appropriate datasets will be available each week in Doc Sharing.

Guided Practice Exercises:

There will be exercises included each week that are for your practice in understanding how to use SPSS and interpret the output you receive. A task will be given and questions will be asked about the SPSS output. You can use accompanying course materials to answer the questions. The answers will be given and explained. These exercises are NOT for a grade, but to help you increase your understanding.

Self-Assessments:

There will be self-checking assessments each week that are there to help you assess your understanding of the material presented in the lectures, textbook and other course materials. These are in the form of multiple choice or true/false questions. You will be told if the answer you gave is incorrect and you will be given the correct answer. You can take the self-assessments as many times as you like. Questions may not be the same each time. These self-assessments are NOT for a grade, but to help you increase your understanding of the material and see where you may need to put in a little more work.

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

- Homework: Will be assigned each session in class. 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 50% of the course grade. The lowest homework grade will be dropped from the calculation of the final grade.
- Participation: A discussion will occur each session at the beginning of the class and will cover homework, readings, and previous discussions. You should be prepared to 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 20% of the course grade.
- Final Exam: Will be cumulative, open book and notes, and will count for 20% of the course grade.

Absences: If you are absent, make sure you have a buddy that will share class notes and collect handouts for you. If you can, let me know you are going to be absent. It is possible you could e-mail your homework, depending on the assignment. You will be expected to turn in homework upon your return, and you will be expected to take the quiz for the week you missed.

Additional Notes:

- 1) This syllabus and course description is provided as a general guideline to assist in your planning. Various circumstances may result in changes to the syllabus or course schedule, and such changes are at the instructor's discretion. A reasonable attempt will be made to communicate such changes to students in advance; however, it is the student's responsibility to keep up with such changes. If you miss a class, be sure to check with classmates or the instructor to determine whether any changes were made while you were away.
- 2) 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
Gege Library 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu
Student Disability Resources & Services

- 3) 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).
- 4) Please keep track of the grades you receive throughout the semester. Please keep your scores for your records so that you will be able to monitor your progress. You will receive your grades for the assignments at the next class. You will have the opportunity to learn your homework and quiz grades in class, after turning in each.
- 5) NEVER fax anything to me without first making arrangements to do so with the instructor. NEVER mail (U.S. Mail or overnight/express services) anything to me without first making arrangements to do so. Turning in assignments and projects ON TIME and IN PERSON is the responsibility of the student. If alternative arrangements are made with me, then ALWAYS make a copy of the assignment so that you will have a backup if the assignment is not received.
- 6) Please limit e-mail to course related correspondence (no chain letters or joke lists, please). If you e-mail me and do not receive an e-mail response within 48 hours, most likely, your e-mail was not received. I will respond to all e-mails within a reasonable period of time. If you e-mail me and don't hear from me, please call me.

Calendar

Session	Topics	Readings
August 26	Chapter 1 Introduction to SPSS	Field, Chapters 1 and 3
September 5	Chapter 1	Field, Chapters 1
September 12	Finish Chapter 1 Chapter 2	Field, Chapters 1 and 2
September 19	Chapter 2	Field, Chapter 2
September 26	Chapter 2 Presenting Data	Field, Chapter 2
October 3	Correlation	Field, Chapter 6
October 10	Regression	Field, Chapter 7
October 17	Mid-term Exam	
October 24	t-test for Independent Means	Field, Chapter 9
October 31	t-test for Dependent Means	Field, Chapter 9
November 7	ANOVA	Field, Chapter 10
November 14	Post Hoc Tests	Field, Chapter 10
November 21	Chi-square	Field, Chapter 18
November 28	THANKSGIVING – No Class	
December 5	Review for final exam	
December 12	Final Exam	

General SPSS Instructions

Chapter 3 in your textbook is all about the SPSS environment. Here are a few other things that will make your life simpler.

Getting Rid of the Syntax

Here is a REALLY IMPORTANT change that is not in your book. Get to the Options screen, and click on the Viewer tab. On the left hand side, under the list of icons, you will see a checkbox in front of the words: Display commands in the log. **Uncheck this**. This adds countless pages to output, so get rid of it.

Changing the Font

From this screen you can also change your font for your titles and output, etc. It's not necessary, but if there is a certain font you want, go for it.

Adding a Page Break

SPSS will print the output pretty much however it wants to do it. You can add page breaks wherever you need them to make your output look better. Here's how to do it: When you are looking at your output, there are two windows, the navigation window on the left (skinny column) and the output on the right (larger portion). In the navigation window, click (but **don't** double-click) on the place where you want the page break to go. At a title is a good place because SPSS is notorious for putting the title on one page and the table on the next. When you click, that section is now highlighted. Go to Insert at the top of the screen. A menu comes down. Click on **Page Break**. You see that if you don't like where the page break is, you can clear the page break in the same way. Now click on Output at the top of the navigation window. The whole output should now be highlighted. Then go to File, and select Print Preview. This will let you see if your page breaks are in the right place and if you need any others.

Shrinking a Table

As you are looking at your output in Print Preview, you may see that your table is split onto two pages. This is very irritating, but there is a cure! You can shrink a table a long table to fit on one page or you can shrink a wide table to fit on one page. But be careful!! If you have a really long table, SPSS will shrink it for you, but the print will be microscopic and you will not be able to read it. Here's how to do it:

From the Viewer screen, where you are looking at your output, double-click on the table to enter the editing mode. There should now be a little double-hatch line around it. Right click and choose Table Properties. Then select the Printing tab. Check **Rescale Wide Table to Fit Page** or **Rescale Long Table to Fit Page**. Then click on OK. You can go to Print Preview again to check your work.