

## HIED 617 - Introductory Statistics - Spring 2013 (Version 1)

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### CONTACT

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**(214) 736-4122**

**When sending an e-mail message, please start the subject line with HIED 617.**

Please limit all communication to course-related issues (i.e., no chain letters, jokes, or other unrelated messages).

If you leave a voice message, include your full name, the course, and callback number.

For course-related messages, I send a response to the entire class if doing so benefits all students. For individual questions or concerns, your messages will always be confidential.

I will respond within a reasonable time. If you receive no reply within *two school days*, please re-send the message as I may not have received it.

### REQUIRED MATERIALS

Textbook. *Discovering Statistics Using SPSS* by Andy Field. Sage Publications (2009). Third Edition. ISBN-10: **1847879071** | ISBN-13: **978-1847879073**

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); you may want to share the cost with a fellow student to minimize your cost. Be sure to select the **Statistics Standard Grad Pack**. You can get a 6- or 12-month license.

SPSS is also on the computers in the student lab at the Metroplex and various labs on the Commerce campus.

### CLASS NOTES AND PRESENTATIONS

Class notes for each session will be available on eCollege; you can print and use them as you listen to the lecture so you can focus on listening rather than taking notes. Class notes will be in Doc Sharing under the appropriate week. Presentations and datasets for the homework will also be there.

### COURSE DESCRIPTION

This course is intended to provide graduate students with an introduction to statistics; it is approved by the Graduate School as a Level II research tool (3 semester hours). The emphasis will be on 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
- Collecting data and quantifying observations in the scientific, research process
- Representing and storing observations in a data file; structuring a data file
- The uses and limitations of statistical software
- The scaling and coding of data
- Frequency distributions; representing data visually; the strengths and weaknesses visual representations
- Methods of appropriately describing the central tendencies of various distributions
- Variability and quantifying variability
- The reasoning and assumptions underlying inferential statistics
- Probability in inferential statistics
- Correlation and simple linear regression
- The appropriate application and interpretation of various inferential statistical procedures, including t-tests, Chi-square tests, inferential tests applied to correlation, and basic ANOVA
- Writing a simple description of methodology and results from analyses
- Identifying weaknesses in methodology and results of research proposals

## GRADING

Test and assignments must be submitted by the due date. Barring reasonable extenuating circumstances, late work will not be accepted nor will tests be reopened. Failure to complete work will result in a score of zero on the test or assignment. Please contact the instructor in advance or immediately if a concern or extenuating circumstance arises that may impact your ability to complete the work.

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

- **Homework (35% of course grade):** Will be assigned each session in class. It will consist of running and interpreting some form of data analysis. 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 quizzes or exams. Deductions will be made for poorly organized and labeled assignments or incomplete responses. Homework will count 35% of the course grade.
- **Quizzes (25% of course grade):** Will occur each session and will cover homework, readings, and previous discussions. You will most likely be asked to interpret and answer some questions regarding an SPSS printout. If you are interpreting a printout, you can use your books. Quizzes will count 25% of the course grade.
- **Midterm Comprehensive Examination (20% of course grade):** Covers all materials taught to that point in the course. It will include theoretical component and a practical component (data analyses using SPSS and interpretation of results).

- **Final Comprehensive Examination (20% of course grade):** Covers all materials taught in the course. It will include theoretical component and a practical component (data analyses using SPSS and interpretation of results).

**Final Course Grade:** The following final grading scale will be utilized to determine the final grade based on the weighted average of your course work: A = 90-100; B = 80-89; C = 70-79; F = 0-69

## ACCESS AND NAVIGATION

**eCollege Technical Concerns.** Contact the eCollege HelpDesk, available 24 hours a day, seven days a week at [helpdesk@online.tamuc.org](mailto:helpdesk@online.tamuc.org). You may also reach the HelpDesk by calling (toll-free) 1-866-656-5511 or through the Online Chat by clicking on the "Live Support" tab within your eCollege course.

**Other Questions or Concerns.** Contact the appropriate TAMU-C department relating to your question or concern. If you are unable to reach the appropriate department with questions regarding your course enrollment, billing, advising, or financial aid, call 903-886-5511 Monday-Friday between 8:00 a.m. and 5:00 p.m.

## WITHDRAWING/DROPPING FROM THE COURSE

Students are responsible for following University procedures to drop a class. If you stop attending the class for any reason, you must initiate the process of dropping, or you will receive a grade. THE LAST DAY TO DROP A CLASS is April 30, at 5 p.m. Plan to take care of this several days in advance to allow time for all the required procedures.

## PARTICIPATING AND KEEPING UP WITH THE COURSE

Online courses offer flexibility because you can work on the materials when convenient; **however**, this is **not a self-paced course**. You must keep up with studying and completing weekly assignments by their due dates throughout the semester. It is recommended that you should plan a minimum of 6 to 8 hours weekly working on this course consistently. After 2-3 weeks, you will be able to gauge whether you need more or less time.

You should have a working e-mail address associated with your eCollege account. Please check your mail for messages daily. Announcements may also be posted to eCollege. It is the student's responsibility to stay abreast of course activities and changes.

## ADDITIONAL NOTES

1. This syllabus and course description are provided as general guidelines to help you plan. Circumstances may lead to changes to the syllabus or course schedule at the instructor's discretion. Any changes will be communicated to the class; however, it is the student's responsibility to keep up with any changes. If you miss a class in face-to-face course, be sure to check with classmates or the instructor to determine whether any changes were made while you were away. If you're taking this course online, check your e-mail and the course for messages as frequently (daily if possible).

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, Gee Library 132**  
**Phone (903) 886-5150 or (903) 886-5835**  
**Fax (903) 468-8148**

[StudentDisabilityServices@tamuc-commerce.edu](mailto:StudentDisabilityServices@tamuc-commerce.edu)

<http://web.tamuc.edu/studentLife/campusServices/studentDisabilityResourcesAndServices/>

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). Follow all guidelines of academic honesty. If you cheat or fail to complete assignments on your own in any way, you will receive a failing course grade and be subjected to further disciplinary action at the discretion of the institution. If in doubt whether any action is in violation of academic honesty guidelines, consult the instructor.
4. Back up all your work and graded assignments during the semester in case you are asked to resubmit or redo an assignment. Keep track of your grades and save all records. If there are any discrepancies, you may be asked to show a backup copy.
5. **Never** fax or mail (U.S. Mail or otherwise) anything to me without first making arrangements. Turning in assignments and projects **on time** and **as assigned** (online or in person) is the responsibility of the student. If we make alternative arrangements, **always** make a copy of the assignment so that you will have a backup in case the assignment is not received.

## COURSE CALENDAR

Session	Topics	Readings <sup>a</sup>	Due Dates <sup>b</sup>
Week 1	Chapter 1 Introduction to SPSS	Chapters 1 and 3	January 20
Week 2	Finish Chapter 1 Chapter 2	Chapters 1 and 2	January 27
Week 3	Chapter 2	Chapters 1, 2 and 3	February 3
Week 4	Chapter 2 Using the Normal Curve	Chapter 2	February 10
Week 5	Chapter 2 Presenting Data	Chapter 2	February 17
Week 6	Correlation	Chapter 6	February 24
<b>Week 7</b>	<b>Mid-term Exam</b>	<b>All materials covered up to this date.</b>	<b>March 3</b>
Week 8	<b>Spring Break.</b> It is unlikely that I will be checking my messages during Spring Break. Please plan accordingly.		
Week 9	Regression	Chapter 7	March 17
Week 10	t-test for Independent Means	Chapter 9	March 24
Week 11	t-test for Dependent Means	Chapter 9	March 31
Week 12	Analysis of Variance (ANOVA)	Chapter 10	April 7
Week 13	Post Hoc Tests	Chapter 10	April 14
Week 14	Chi-square analysis	Chapter 18	April 21
Week 15	Review for final exam		April 28
<b>Last day to drop the course officially: April 30.</b>			
Week 16	<b>Final Exam</b>	<b>All materials covered in the semester.</b>	<b>May 6</b>

<sup>a</sup> "Chapter" refer to chapters in the textbook.

<sup>b</sup> Assignments are due on eCollege at 11:59 p.m. on the due date, unless otherwise noted.

## General SPSS Instructions

Your SPSS book, *SPSS Survival Manual*, will give you lots of good information about SPSS and how to run each type of analysis that we do. Let me point out a few things that will make your life simpler.

Beginning on page 28 of your SPSS book, there is a section called **Changing the SPSS 'Options'**. Read through the list of changes you can make. If there is anything there you feel you need to change, go ahead. You can always change it back if you don't like it.

### Getting Rid of the Syntax (Optional)

When you run analyses on SPSS, part of the output will include the syntax that generated the results. Sometimes I want that information there so I will know days later how I generated a particular analysis; however, it also takes up space. If you want to turn that feature off, get to the Options screen, and click 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.**

### 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, single-click 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 **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.