



Course Syllabus

HIED 617-01W: Statistical Procedures for Education and Research

Instructor: Dr. Alan Francis

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COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings, Software

Textbook(s) Required:

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). SAGE Publications. ISBN: 978-1-4462-4918-5 (paperback)

Software Required:

SPSS Statistical Software (version 17.0 or higher is recommended). You can purchase and download a copy from <http://www.onthehub.com/spss/>. You can also purchase a copy from <http://studentdiscounts.com> (can be installed on two computers). Be sure to select the Statistics Standard Grad Pack. You can obtain a 6- or 12-month license.

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

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.

Student Learning Outcomes

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

COURSE REQUIREMENTS

This is a fully online course. Assignments will be delivered via the eCollege learning media platform. Knowledge of the substantive material covered in the course is of central importance. Grading will include consideration of content as well as grammar, spelling, style, and organization.

Late submissions of any of the requirements in this course are not accepted after the due date. However, I do understand that sometimes there are circumstances outside one's control that may impact timely submission of assignments, such as jury duty, hospitalization, or death of a family member. In these instances, a student is expected to notify the instructor before the assignment deadline.

Grading

Instructional/Methods/Activities Assessments:

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

- Assignments (35% of course grade). Tasks will be assigned each week. Typically, 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 typically do 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. Refer to “Course Calendar” at end of Syllabus for due dates.

- Quizzes (25% of course grade). A quiz is assigned each week and covers readings, homework, and additional materials covered in the week. Your knowledge of statistics is cumulative; therefore, quizzes may require you to draw on previously learned materials. You will often be asked to interpret and answer some questions using an SPSS printout. Quizzes are timed, and you must complete them by the due date. Refer to “Course Calendar” at end of Syllabus for due dates.
- Comprehensive Midterm Examination (20% of course grade). The midterm examination covers all materials taught up to that point in the course, including theoretical and practical components; you may also be asked to analyze data and interpret results. The exam is timed, and you must complete it by the due date. Refer to “Course Calendar” at end of Syllabus for due date.
- Comprehensive Final Examination (20% of course grade). The final examination covers all course materials taught in the semester. It is similar to the midterm examination, though more extensive. The exam is timed, and you must complete it by the due date. Refer to “Course Calendar” at end of Syllabus for due date.

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

TECHNOLOGY REQUIREMENTS

The information contained in this section has been provided to assist you in preparing to use technology in your online course.

The following technology is required to be successful in this course.

- Internet connection – high speed recommended (not dial-up)
- Word Processor (Microsoft Office Word – 2007 or 2010)
- Access to University Library site
- Access to an email

Our campus is optimized to work in a Microsoft Windows environment. This means our courses work best if you are using a Windows operating system (XP or newer) and a recent version of Microsoft Internet Explorer (7.0, 8.0, or 9.0).

Courses will also work with Macintosh OS X along with a recent version of Safari 2.0 or better. Along with Internet Explorer and Safari, eCollege also supports the Firefox browser (3.0) on both Windows and Mac operating systems.

It is strongly recommended that you perform a “Browser Test” prior to the start of your course. To launch a browser test, login to eCollege, click on the “myCourses” tab, and then select the “Browser Test” link under Support Services.

ACCESS AND NAVIGATION

Access and Log in Information

This course will be utilizing eCollege to enhance the learning experience, eCollege is the Learning Management System used by Texas A&M University-Commerce. To get started with the course, go to: <https://leo.tamuc.edu/Login.aspx> or <http://www.online.tamuc.org>. You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000 or helpdesk@tamuc.edu.

Student Support

Texas A&M University-Commerce provides students technical support in the use of eCollege. The student help desk may be reached by the following means 24 hours a day, seven days a week. If you experience issues while taking your exams or at any other point, feel free to contact the support desk.

- Chat Support: Click on “Live Support” on the tool bar within your course to chat with an eCollege Representative.
- Email: helpdesk@online.tamuc.org to initiate a support request with eCollege Technical Support Representative.
- Help: Click on the 'Help' button on the toolbar for information regarding working with eCollege (i.e. How to submit to Dropbox, How to post to discussions etc.).

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Scholarly Expectations

All works submitted for credit must be original and created uniquely for the class. It is considered inappropriate and unethical, particularly at the graduate level, to make duplicate submissions of a single work for credit in multiple classes, unless specifically requested by the instructor. Work submitted at the graduate level is expected to demonstrate higher-order thinking skills and be of significantly higher quality than work produced at the undergraduate level.

Academic Honesty

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including (but not limited to) receiving a failing grade on the assignment, the possibility of failure in the course and dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. In all instances, incidents of academic dishonesty will be reported to the

Department Head. Please be aware that academic dishonesty includes (but is not limited to) cheating, plagiarism, and collusion.

Cheating is defined as:

- Copying another's test or assignment
- Communication with another during an exam or assignment (i.e. written, oral or otherwise)
- Giving or seeking aid from another when not permitted by the instructor
- Possessing or using unauthorized materials during the test
- Buying, using, stealing, transporting, or soliciting a test, draft of a test, or answer key

Plagiarism is defined as:

- Using someone else's work in your assignment without appropriate acknowledgement
- Making slight variations in the language and then failing to give credit to the source

Collusion is defined as:

- Collaborating with another, without authorization, when preparing an assignment

If you have any questions regarding academic dishonesty, ask. Otherwise, I will assume that you have full knowledge of the academic dishonesty policy and agree to the conditions as set forth in this syllabus.

Attendance Policy

Students are expected to “attend class” and actively participate. The professor will monitor student participation/activity.

Late Work

I do not accept late work and do not believe in allowing students to turn in work after the due date. However, I do understand that sometimes there are circumstances outside one’s control that may impact timely submission of assignments, such as jury duty, hospitalization, or death of a family member. In these instances, a student is expected to notify the instructor before the assignment deadline.

Drop Course Policy

Students should take responsibility for dropping themselves from the course according to University policy should it become necessary.

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- Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Go to the following email address: StudentDisabilityServices@tamuc.edu

Go to the following link: [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 CALENDAR

Every effort will be made to adhere to the course schedule as noted below. However, unforeseen circumstances may require changes to the schedule. In that case, changes will be announced via University email and in announcements. The professor reserves the right to change the schedule if necessary and depending on the progress of the class. I highly recommend that you follow the schedule outlined below **VERY CAREFULLY** so that you will complete and turn in your assignments on time.

Week	Topics	Readings	Assignment and Quiz Due Date
Week 1 Aug. 31-Sept. 8	– Chapter 1 – Introduction to SPSS	Chapters 1 and 3	Sept. 8
Week 2 Sept. 8-14	– Finish Chapter 1 – Chapter 2	Chapters 1 and 2	Sept. 14
Week 3 Sept. 15-21	– Chapter 2	Chapters 1, 2 and 3	Sept. 21

Week 4 Sept. 22-28	– Chapter 2 – Using the Normal Curve	Chapter 2	Sept. 28
Week 5 Sept. 29-Oct. 5	– Chapter 2 – Presenting Data	Chapter 2	Oct. 5
Week 6 Oct. 6-12	– Correlation	Chapter 7	Oct. 12
Week 7	Midterm Exam—All materials covered up to this date.		Oct. 16-17
Week 8 Oct. 20-26	– Regression – Practice simple regression	Chapter 8	Oct. 26
Week 9 Oct. 27-Nov 2	– t-test for Independent Means	Chapter 9	Nov. 2
Week 10 Nov. 3-9	– t-test for Dependent Means	Chapter 9	Nov. 9
Week 11 Nov. 10-16	– Analysis of Variance (ANOVA)	Chapter 11	Nov. 16
Week 12 Nov. 17-23	– Analysis of Variance: Post-Hoc Tests	Chapter 11	Nov. 23
Week 13 Nov. 24-30	– Chi-square analysis	Chapter 18	Nov. 30
Week 14 Dec. 1-7	Review week for final exam—Review all materials covered in the course, with some emphasis on post-midterm content.		Dec. 7
Week 15	Final Exam—All materials covered in the semester with some emphasis on post-midterm content.		Dec. 11-12