Texas A&M University Central Texas
PSYK 516 Advanced Quantitative Methods & Experimental Design

Instructor: Troy Courville, Ph.D.
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NOTE: If you send me an e-mail, include PSYK 516 in the subject line.

Office Hours: In-office or on Blackboard; I am also available by appointment

Mode of instruction and course access:
This course is a 100% online course and uses A&M-Central Texas Blackboard Learn system (http://tamuct.blackboard.com). You will use the Blackboard username and password communicated to you separately to logon to this system.

Student-instructor interaction:
Although this is an online course, I expect frequent communication between us. Do not be shy about asking questions. There are several methods to facilitate our interaction:

Office Hours
I am in the office 8-5 Monday – Friday. We can also use the Blackboard Collaborate web conferencing tool to have synchronous sessions, if needed. Call or e-mail with times that work best for you.

E-mail
If you need to contact me via e-mail, please use the following address: troy.courville@tamuct.edu . DO NOT SUBMIT ASSIGMENTS VIA USING THIS E-MAIL ADDRESS. **I will try and respond within 48 hours.**

Phone
Feel free to call anytime between 8-5 Monday-Friday. If I am going to be out of the office, I will communicate that information through Blackboard. Just remember, if you call at 5, you will probably not get a call back until the next day. Also, feel free to set up an appointment to visit me on campus.

Expectations for Students in this Course
Expectations of Student
This class is structured in a format typical of doctoral courses and/or work environments in a research setting. I am here to facilitate your learning through providing challenging readings, assignments, and developing stimulating discussions. This is not a lecture course. Putting in the necessary work not only helps your learning but it also facilitates the learning of your fellow students. Therefore, it is important that you understand and follow the student expectations listed below:

1. Devote an appropriate amount of time and energy toward achieving academic excellence. There is a strong, positive relationship between your course grade and how much time you spend on the course.
2. Graduate school stresses critical thinking. I expect to see this in everything you do.
3. Your work is more than simply the regurgitation of class notes, PowerPoint presentations, or Internet sources. Be thoughtful and provide cogent arguments.
4. Reporting statistically analyses is an important learning outcome for this course. Therefore, I expect careful analyses and well written discussions.
5. Many students enjoy the convenience of an online course. However, online courses assume a high

level of maturity and professionalism. While online courses are convenient, you must be self-disciplined and have good time management skills. Lacking these skills will be no excuse when assignments are due.

6. Finally, please member that you are responsible for knowing course deadlines.

Communication

Given this is an online course, e-mail and discussion boards are the primary place for making impressions both socially and academically. Therefore, I expect you to follow generally accepted rules for considerate behavior in online communications. Some tips to keep in mind:

1. Spend time crafting your message and be thoughtful. This is a place for the exchange of academic knowledge. Use words that contribute to this purpose in a professional, concise manner.

2. Be sure to check your words for correct spelling and grammar.

3. Respond politely and promptly.

UNILERT

Emergency Warning System for Texas A&M University – Central Texas

UNILERT is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email and text message. By enrolling in UNILERT, university officials can quickly pass on safety-related information, regardless of your location. Please enroll today at http://tamuct.edu/UNILERT

COURSE INFORMATION

Course Description:

This course provides an overview of advanced statistical techniques to analyze quantitative data resulting from experimental and quasi-experimental research designs. This course is a continuation of PSY 500 and 501 and requires students to demonstrate proficiency in the use of SPSS for data analysis. The course reviews One-Way and Two-Factor ANOVA. Other topics include ANCOVA, MANOVA, MANCOVA, multiple regression, logistic regression, data reduction techniques (factor analysis and principal components analysis), and non-parametric analyses appropriate for two- and multi-group designs. The course emphasizes the integration of multivariate and advanced statistical design with applicable research paradigms.

Course Student Learning Outcomes

1. Discriminate between the applications of multivariate methods under various study designs
2. Examine the logic behind the construction of the various multivariate methods
3. Execute multivariate statistical analysis using statistical software
4. Interpret multivariate statistical analysis and communicate the findings appropriately
5. Defend the analytical decisions made in a multivariate analysis

Required Reading and Textbook(s):

Harlow, L. (2014). *The essence of multivariate thinking*, (2nd ed.). New York, NY: Routledge. – **REQUIRED**

Green, S.B., & Salkind, N.J. (2014). *Using SPSS for Windows and Macintosh: Analyzing and understanding data*, (7th ed.). Boston, MA: Pearson. – **RECOMMENDED**

COURSE REQUIREMENTS

Course Requirements:

1. **Completion of assigned readings.** You are responsible for all material in the course. You are also responsible for any supplemental readings provided to include reports written by your fellow students. At anytime the instructor may present a pop quiz on the readings. Pop-quizzes may cover either the current unit's reading or readings from the previous weeks.

2. **Analyses & Annotated Output (55%).** During the course of the semester, the instructor will assign several analyses. Students will be required to submit both the SPSS output and a write up of the submitted analysis. To help in the process, a set of analysis guidelines have been provided. *No late papers will be accepted.*

3. **Alternative Analysis of Journal Article (45%).** Each student will be provided a selection of articles to reanalyze. The original articles utilized univariate analyzes. Students will select an appropriate multivariate analysis and reanalyze the original article. Students will be required to submit a final paper that include the following sections: a) Introduction b) Discussion of Univariate Analysis c) Discussion of Multivariate Analysis d) Discussion of Original Article e) Reanalysis results and f) Discussion of reanalysis. The paper will be due May 11th. *No late papers will be accepted.*

Grading Criteria Rubric and Conversion

100-90% = A
89-80% = B
79-70% = C
69-60% = D
59% = F

Posting of Grades:

*Grades will be posted **two weeks** after the availability period has passed.*

TECHNOLOGY REQUIREMENTS AND SUPPORT

Technology Requirements

Blackboard

This course will use the new TAMU-CT Blackboard Learn learning management system for class communications, content distribution, and assessments.

Logon to **https://tamuct.blackboard.com** to access the course.

Username: Your MyCT username (xx123 or everything before the "@" in your MyCT e-mail address)
Initial password: Your MyCT password

For this course, you will need reliable and frequent access to a computer and to the Internet. You will also need a headset with a microphone or speakers and a microphone to be able to listen to online resources and conduct other activities in the course. If you do not have frequent and reliable access to a computer with Internet connection, please consider dropping this course or contact me (youremail and phone number) to discuss your situation.

Blackboard supports the most common operating systems:

PC: Windows 8, Windows 7, Windows Vista
Mac: Mac OS X Mavericks
NOTE: **Computers using Windows XP, Windows 8 RT and OS X 10.6 or lower are NO longer supported**

Check browser and computer compatibility by following the "Browser Check" link on the TAMU-CT Blackboard logon page. (**https://tamuct.blackboard.com**) This is a CRITICAL step as these settings are important for when you take an exam or submit an assignment.

Upon logging on to Blackboard Learn, you will see a link to Blackboard Student Orientation under My Courses tab. Click on that link and study the materials in this orientation course. The new Blackboard is a brand-new interface and you will have to come up to speed with it really quickly. This orientation course will help you get there. There is also a link to Blackboard Help from inside the course on the left-hand menu bar. The first week of the course includes activities and assignments that will help you get up to speed with navigation, sending and receiving messages and discussion posts, and submitting an assignment. Your ability to function within the Blackboard system will facilitate your success in this course.

Required Software:
To complete the homework in this course, class participants will have to have access to IBM SPSS Below are some options for you to consider:

1) A&M-Central Texas Computer Labs:
   http://www.tamuct.edu/departments/informationtechnology/computerlabs.php

If this is not convenient for you, you can also purchase a IBM® SPSS® Statistics Base GradPack 22 for Windows. Below is a few of the many locations that offer the software:

http://www-01.ibm.com/software/analytics/spss/ - directly from SPSS
http://www.onthehub.com/ - 6 or 12 month licenses
www.creationengine.com - 12 month license
www.studentdiscounts.com - 12 month license
www.studica.com - 12 month license

Technology issues are not an excuse for missing a course requirement – make sure your computer is configured correctly and address issues well in advance of deadlines.

Technology Support

For technological or computer issues, students should contact Help Desk Central. 24 hours a day, 7 days a week:

Email: helpdesk@tamu.edu
Phone: (254) 519-5466
Web Chat: http://hdc.tamu.edu

When calling for support please let your support technician know you are a TAMUCT student.

For issues related to course content and requirements, contact your instructor.

COURSE OUTLINE AND CALENDAR
TENTATIVE CLASS SCHEDULE

Week Of	Content	Harlow Book Chapter	Green & Salkind Lessions
1/20	Theory is more important than statistics?		1-4
1/26	General Linear Model		
2/2	Multivariate Thinking	1	
2/9	ANOVA		25
2/16	Background Considerations	2	
2/23	Multiple Regression	3	34
3/2	ANCOVA	4	27
3/9	MANOVA	5	28
3/23	Descriptive Discriminant Analysis	6	35
3/30	Predictive Discriminant Analysis	6	35
4/6	Logistic Regression	7	
4/13	Canonical Correlation		
4/20	EFA	9	36
5/11	*Final Exam DUE*		

COURSE AND UNIVERSITY PROCEDURES AND POLICIES

Drop Policy.

If you discover that you need to drop this class, you must go to the Records Office and ask for the necessary paperwork. Professors cannot drop students; this is always the responsibility of the student. The record's office will provide a deadline for which the form must be returned, completed and signed. Once you return the signed form to the records office and wait 24 hours, you must go into Warrior Web and confirm that you are no longer enrolled. Should you still be enrolled, FOLLOW-UP with the records office immediately? You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the deadline or fail to follow the procedure, you will receive an F in the course.

Academic Integrity.

Texas A&M University -Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student's academic performance and includes, but is not limited to, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student's work, collusion, and the abuse of resource materials. All academic misconduct concerns will be reported to the university's Office of Student Conduct. Ignorance of the university's standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your

instructor before taking a course of action.

Disability Support and Access Services.

At Texas A&M University – Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to an education that is barrier-free. The Office of Disability Support and Access is responsible for ensuring that students with a disability enjoy equal access to the University's programs, services and activities. Some aspects of this course or the way the course is taught may present barriers to learning due to a disability. If you feel this is the case, please contact Disability Support and Access at (254) 501-5831 in Warrior Hall, Ste. 212. For more information, please visit their website at www.tamuct.edu/DisabilitySupport. Any information you provide is private and confidential and will be treated as such.

Tutoring.

Tutoring is available to all TAMUCT students, both on-campus and online. Subjects tutored include Accounting, Finance, Statistics, Mathematics, and Writing, and APA formatting. Tutors are available at the Tutoring Center in Warrior Hall, Room 111. Visit www.ct.tamus.edu/AcademicSupport and click "Tutoring Support" for tutor schedules and contact information. If you have questions, need to schedule a tutoring session, or if you are interested in becoming a tutor, contact Academic Support Programs at 254-501-5830/5836 or by emailing Cecilia.morales@ct.tamus.edu

Chat live with a tutor 24/7 for almost any subject on your computer! Tutor.com is an online tutoring platform that enables TAMUCT students to log-in and receive FREE online tutoring and writing support. This tool provides tutoring in Mathematics, Writing, Career Writing, Chemistry, Physics, Biology, Spanish, Calculus, and Statistics. To access Tutor.com, log into your Blackboard account and click "Online Tutoring."

University Library.

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 250,000 eBooks and 82,000 journals, in addition to the 72,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at TAMUCT are available through our website to help students navigate these resources. On-campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available twenty-four hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place on Skype or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the TAMUCT main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our homepage: http://www.tamuct.edu/departments/library/index.php