HIED 617.01W Introduction to Quantitative Research

COURSE SYLLABUS: Fall 2025

INSTRUCTOR INFORMATION

Instructor: David Tolliver, Ph.D.
Office Location: Virtual
Office Hours: Virtual (by appointment)
Office Phone: 903-886-5618 (use email for faster response)
University Email Address: david.tolliver@tamuc.edu
Preferred Form of Communication: Email
Communication Response Time: Email is the best way to reach me as I check it daily. A reply will be sent within 24 - 48 hours (except on weekends and holidays), depending upon the time your message was received.

COURSE INFORMATION

Materials - Textbooks, Readings, Supplementary Readings

Textbook(s) Required:

- Urdan, T.C. (2022). *Statistics in plain English* (5th ed.). Routledge. ISBN: 978-0-367-34283-8

- Cronk, B.C. (2024). *How to use SPSS: A step-by-step guide to analysis and interpretation* (12th ed.). Routledge. ISBN-13: 978-1032582351 or ISBN-10: 1032582359

  * ***Please make sure you purchase the correct editions!***

Software Required:

- If the link doesn't open automatically, please copy and paste it directly onto your Web browser. SPSS Statistical Software (version 18.0 or higher is recommended). You can purchase and download a copy from http://www.onthehub.com/spss/. **Be sure to select the Statistics Standard Grad**

Pack (NOT the Base Grad Pack!). You can obtain a 6- or 12-month license. You can also purchase a copy from http://studentdiscounts.com (can be installed on two computers).

- 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 applicable 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 REQUIREMENT

This is a fully online course. Assignments will be delivered via the D2L 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, organization, and explicit use of readings. A serious commitment to mastery of the content and contribution to everyone's learning is expected. An online course inherently requires students to be active, reflective, and contributive learners.

Assigned readings are noted within the module overview as well as on the course schedule. Required module readings will serve as a basis for online discussion. Late submissions, one week past the due date **WILL NOT** be accepted, and **each day late will incur 10% score deduction.** I do understand that at times 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

Biography (10 points)
Post a brief biography and share what you hope to learn from this course.

Discussion Boards (6 at 20 points each = 120 points total):
Each discussion thread topic will require a "post" and two "replies" to fellow classmate's posts.

Initial Post (80%): Module discussion is to verify your understanding of readings and applying learning to your own research. You will not be 1able to read other's post until you post your own work. Students will need to complete an initial "post" to each discussion board thread at least four days before the module end date. Review "post" content for correct grammar and spelling.

Replies (20%): The sharing of feedback with your classmates is expected to strengthen the application of module learning to your (dissertation) research. Review "reply" content for correct grammar and spelling. It is suggested that each reply consist of a minimum of four to five complete sentences.

SPSS Work (6 at 20 points each = 120 total points):
Learning how to analyze, interpret, and write up your quantitative data using SPSS is important. Each module has SPSS practice exercises from Cronk's book: How to use SPSS. You will submit SPSS files, which also include your answers to instructor-added questions to the Module DropBox.

Research Application (40 points):

The *syllabus/schedule are subject to change.*

Selected module discussions will include questions that ask, how you can/apply learned design or analyses to your potential dissertation research (I leach qualitative research course as well, and in that course, students who are considering qualitative research as their dissertation design still need to answer how course learning will apply to their future qualitative study). During the last module, you can revisit previous module discussions, refine them, and create a 3~5 pages (double spaced) paper listing potential research questions (or hypotheses) and describing how they will capture and analyze the data.

Course Reflection (10 points)

American Psychological Association (APA) 6th edition formatting is required for all writing assignments.

Grading	** Scoring scheme is subject to change*
Sharing Biography	10 points
Class Discussion	120 points (20 x 6)
SPSS Exercises	120 points (20 x 6)
Research Application	40 points
Course Reflection	10 points
Total	300 points (A > 90%, B > 80%, C > 70%)

*Please remember, no grade below a "B" may be applied to a doctoral degree.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Video Conferencing Tool

https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

Interaction with Instructor Statement

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

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https://inside.tamuc.edu/admissions/registrar/documents/studentGuidebook.pdf.

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: https://www.britannica.com/topic/netiquette

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedures 13.99.99.R0.01
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03
Undergraduate Student Academic Dishonesty Form

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf

Graduate Students Academic Integrity Policy and Form

Graduate Student Academic Dishonesty Form

https://inside.tamuc.edu/aboutus/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10.pdf

Students with Disabilities-- 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
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu

Website: Student Disability Services

https://www.tamuc.edu/student-disability-services/

The *syllabus/schedule are subject to change.*

Nondiscrimination Notice

Texas A&M University-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.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.
Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

A&M-Commerce Supports Students' Mental Health

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit **www.tamuc.edu/counsel**

Mental Health and Well-Being

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.

AI use policy [Draft 2, May 25, 2023]

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors 'guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty
13.99.99.R0.10 Graduate Student Academic Dishonesty