

Fall 2018



COUN 613: Advanced Statistical Techniques

Course Syllabus: Fall 2018

Thursdays from 4:30-7:10 in Room 105 at CHEC (McKinney)

INSTRUCTOR INFORMATION

Instructor: Michael K. Schmit, PhD, LPC

Office Location: Binnion 220A (Commerce); CHEC (McKinney)

Office Hours: Tuesdays & Thursdays from 3-4:30 at CHEC in McKinney (by appointment only)

University Email Address: Michael.Schmit@tamuc.edu

Preferred Form of Communication: Email

Communication Response Time: 24-72 hours, Monday-Friday

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required

Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). Thousand Oaks, CA: Sage Publications

Note: This course will use D2L as its Learning Management System

**Other readings as assigned

Software Required

The Statistical Package for the Social Sciences (SPSS; Version 24 or higher)—**PREMIUM Grad Pack**.

Note: SPSS Statistical software (version 24 or higher is recommended). About the cheapest place you can purchase and download a copy is from <http://www.hearne.software/Home>. Other sources include <http://www.onthehub.com/spss/> and <http://studentdiscounts.com> (can be installed on two computers). Be sure that you choose the **PREMIUM Grad Pack**. If you do not buy the Premium version, you will not be able to do the last few assignments for this class. You can get a 6 month or 12 month license. The software is also available on computers located in the student labs at the Metroplex and various labs on the Commerce campus.

Textbook(s) Recommended

The syllabus/schedule are subject to change.

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American Psychological Association. (2011). *Publication manual of the American Psychological Association* (6th ed.). Washington, D.C.: American Psychological Association.

COURSE DESCRIPTION

Catalogue Description of the Course

COUN 613. Advanced Statistical Techniques

Includes a review of introductory statistics, presentation of basic concepts of analyses of variance, advanced correlational methods, and multiple regression, as well as other advanced statistical methods. Focuses on use of the computer for data. Meets requirements for a Level III research tool course. Prerequisite: Level I and Level II research tools or equivalent or permission of the instructor.

General Course Information

Advanced Statistical Techniques is intended to provide graduate students with advanced training statistical techniques and is approved by the Graduate School as a Level III 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 and multiple regression, sampling distributions, and the assumptions associated with and the application of selected inferential statistical procedures (including t-tests, chi-square, one-way ANOVA, factorial ANOVA, mixed-ANOVA, MANOVA). Computer software, the Statistical Package for the Social Sciences (SPSS; version 24 or higher) 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 include, but are not limited to, the following:

1. design and implementation of quantitative research methodologies and corresponding statistical analyses (univariate and multivariate)
2. uses and limitations of statistical software (SPSS®)
3. appropriate application and interpretation of inferential statistical tests
4. assumptions underlying inferential statistical tests
5. accurately developing APA style write ups describing methodology and results from various statistical analyses

Content Areas include, but are not limited to, the following:

- I. Data screening procedures as appropriate for each experimental and correlational statistical model
 - A. Numerical
 - B. Visual
 - C. Statistical methods
- II. Correlational designs as appropriate to the research questions and hypotheses, using:
 - A. Bivariate,

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- B. Part and partial correlation,
- C. Simple, standard, stepwise and hierarchical multiple regression models
- III. Experimental designs as they are appropriate to the research questions and hypotheses
 - A. One-way ANOVA
 - B. Factorial ANOVA
 - C. Repeated measures ANOVA
 - D. MANOVA
- IV. Critically statistical outcomes (in the context of Type I and II errors)
 - A. Sample size
 - B. Robustness
 - C. Effect size
 - D. Threats to internal and external validity

COURSE REQUIREMENTS

Minimal Technical Skills Needed

In this class, you will utilize the Learning Management System (LMS) entitled D2L for portions of instructional and learning methods, submitting assignments, participating in online discussions, and completing quizzes. You will need to utilize other technologies such as SPSS, Microsoft Word, PowerPoint, etc. If you have issues with this system, it is your responsibility to contact the help desk immediately.

Instructional Methods

This course consists of lecture and didactic learning methods, small group discussions, and in-class assignments, demonstrations using SPSS, coupled with experiential learning and practical application. Be aware that a significant part of this class requires you to learn and become proficient with using SPSS. When we are not meeting face to face, you will be expected to participate and complete all online tasks via D2L. In addition to this, small lecture, discussion, activities, and workshops may be utilized during this course.

Student Responsibilities or Tips for Success in the Course

As a student in this course, you are responsible for the active learning process. Expectations of this course include the following:

1. You are expected to display professionalism at all times. Be respectful of your professor and peers. Be open to feedback, as you will receive this throughout the program.
2. Prepare for classes. Complete any and all readings prior to class time.
3. Complete all assignments by the deadline.
4. Adhere to the university student code of conduct.
5. Participate. During face-to-face classes, you are expected to actively participate in all activities and discussion. In the online format, you are expected to participate in all online discussions/activities. This is crucial to your learning.
6. All writing assignments must be done according to APA 6th edition standards.
7. Regularly check your University email. My suggestion is to check this at least once a day as your instructors and others from the department and University may contact you.
8. Begin your readings ASAP. Sometimes it may take more than one attempt to digest the

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material.

9. Deadlines are the last possible moment something is due—not the first moment to start. Work ahead. I realize this may not always be possible; however, when you can, do so.
10. Be open to the process. This degree takes time, work, effort, and growth.

Assignments/Assessments

1. **Five Homework Assignment (100 points total; 20 points each homework assignment):** Five homework assignments will be distributed in D2L throughout the semester. Homework will be pertinent to the information covered in class. You will have a week's time to complete the homework assignment. Feel free to use your classmates as a resource, but your work is your own and must be submitted independently. Submission of homework will include an APA write up for both method and results sections and SPSS output (when applicable). Note that homework must be submitted by 4:29pm on Thursday of the week it is due. More information will be provided before you first homework assignment is due.
2. **Journal Article Critique of EFA and Phenomenology (50 points):** You will compare and contrast two empirical journal articles, one that uses exploratory factor analysis and the other that uses a phenomenological approach, from any ACA journal listed below. The article critique must address research methodology (e.g., design, analysis, instruments [when applicable], trustworthiness [when applicable]/internal validity, presentation of results, and procedures/data collection. In addition, you will provide a brief summary of the article, describe its purpose, and give your overall impression on the quality of the research conducted. The critique (3-5 pages) must adhere to the APA 6th edition standards, include references and in-text citations, and be written in a professional manner suitable for publication. Hint: when discussing the various components of the critique and assessing the quality of research conducted, utilize empirical and textbook resources to support your assertions.

American Counseling Association Journal List:

Journal of Counseling & Development (JCD)

Adultspan Journal

The Career Development Quarterly (CDQ)

Counseling and Values (CVJ)

Counselor Education and Supervision (CES)

Journal of Addictions & Offender Counseling (JAOC)

Journal of College Counseling (JCC)

Journal of Employment Counseling (JEC)

Journal of Humanistic Counseling (JHC)

Journal of Multicultural Counseling and Development (JMCD)

Counseling Outcome Research and Evaluation (CORE)

Measurement and Evaluation in Counseling and Development (MECD)

The Family Journal (IAMFC)

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Journal of Child and Adolescent Counseling (ACAC)
Journal of Creativity in Mental Health (ACC)
Journal of LGBT Issues in Counseling (ALGBTIC)
Journal of Mental Health Counseling (AMHCA)
Journal of Military and Government Counseling (MGCA)
Journal for Social Action in Counseling and Psychology (CSJ)
Journal for Specialists in Group Work (ASGW)
Rehabilitation Counseling Bulletin (ARCA)

3. **In-class Presentation (100 points):** Each student will choose a statistical analysis covered in class and apply it to a research project they create. The project will include a scenario of the study, identification of the research design, description of the sample, and step-by-step analysis of data in SPSS (i.e., model assumptions, statistical analysis, and interpretation of results). Please note that students will have to develop their own dataset for this project. More information will be provided throughout the semester.
4. **Final Quiz (50 points):** The final quiz will be comprehensive in nature and will consist of multiple-choice, true/false, matching and free response type questions. The specific of the exam and item points values will be provided at a later time. However, you will have the entire class period to complete the quiz. A review of the final quiz will be provided on 11/29. Do not miss class on that day.

GRADING

Final grades in this course will be based on the following scale:

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

Assignment/Assessment	Point Value
Homework Assignments	100
Journal Article Critique	50
In-class Presentation	100
Final Quiz	50

Total points possible = 300. Your Final Grade is determined adding the point values earned from each assignment and dividing by 300. The resulting value is multiplied by 100 to yield a percentage. For example: $(240 \text{ [points earned]} / 300) \times 100 = 80\%$

Assignments are due on the day noted in the syllabus. Unless noted otherwise, all assignments are due at the beginning of the class period (i.e., 4:29pm). Late assignments will have 10% deduction per day late from the final score. **I will not accept late discussion/response postings.**

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TECHNOLOGY REQUIREMENTS

Browser support

D2L is committed to performing key application testing when new browser versions are released. New and updated functionality is also tested against the latest version of supported browsers. However, due to the frequency of some browser releases, D2L cannot guarantee that each browser version will perform as expected. If you encounter any issues with any of the browser versions listed in the tables below, contact D2L Support, who will determine the best course of action for resolution. Reported issues are prioritized by supported browsers and then maintenance browsers.

Supported browsers are the latest or most recent browser versions that are tested against new versions of D2L products. Customers can report problems and receive support for issues. For an optimal experience, D2L recommends using supported browsers with D2L products.

Maintenance browsers are older browser versions that are not tested extensively against new versions of D2L products. Customers can still report problems and receive support for critical issues; however, D2L does not guarantee all issues will be addressed. A maintenance browser becomes officially unsupported after one year.

Note the following:

- Ensure that your browser has JavaScript and Cookies enabled.
- For desktop systems, you must have Adobe Flash Player 10.1 or greater.
- The Brightspace Support features are now optimized for production environments when using the Google Chrome browser, Apple Safari browser, Microsoft Edge browser, Microsoft Internet Explorer browser, and Mozilla Firefox browsers.

Desktop Support

Browser	Supported Browser Version(s)	Maintenance Browser Version(s)
Microsoft® Edge	Latest	N/A
Microsoft® Internet Explorer®	N/A	11
Mozilla® Firefox®	Latest, ESR	N/A
Google® Chrome™	Latest	N/A
Apple® Safari®	Latest	N/A

Tablet and Mobile Support

Device	Operating System	Browser	Supported Browser Version(s)
Android™	Android 4.4+	Chrome	Latest
Apple	iOS®	Safari, Chrome	The current major version of iOS (the latest minor or point release of that major version) and the previous major version of iOS (the latest minor or point release of that major version). For example, as of June 7, 2017, D2L supports iOS 10.3.2 and iOS 9.3.5, but not iOS 10.2.1, 9.0.2, or any other version. Chrome: Latest version for the iOS browser.
Windows	Windows 10	Edge, Chrome, Firefox	Latest of all browsers, and Firefox ESR.

- You will need regular access to a computer with a broadband Internet connection. The minimum computer requirements are:
 - 512 MB of RAM, 1 GB or more preferred
 - Broadband connection required courses are heavily video intensive
 - Video display capable of high-color 16-bit display 1024 x 768 or higher resolution
- **For YouSeeU Sync Meeting sessions 8 Mbps is required.** Additional system requirements found here: <https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>
- You must have a:
 - Sound card, which is usually integrated into your desktop or laptop computer
 - Speakers or headphones.
 - *For courses utilizing video-conferencing tools and/or an online proctoring solution, a webcam and microphone are required.
- Both versions of Java (32 bit and 64 bit) must be installed and up to date on your machine. At a minimum Java 7, update 51, is required to support the learning management system. The most current version of Java can be downloaded at: [JAVA web site](http://www.java.com/en/download/manual.jsp)
<http://www.java.com/en/download/manual.jsp>

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- Current anti-virus software must be installed and kept up to date.

Running the browser check will ensure your internet browser is supported.

Pop-ups are allowed.

JavaScript is enabled.

Cookies are enabled.

- You will need some additional free software (plug-ins) for enhanced web browsing. Ensure that you download the free versions of the following software:
 - Adobe Reader <https://get.adobe.com/reader/>
 - Adobe Flash Player (version 17 or later) <https://get.adobe.com/flashplayer/>
 - Adobe Shockwave Player <https://get.adobe.com/shockwave/>
 - Apple Quick Time <http://www.apple.com/quicktime/download/>
- At a minimum, you must have Microsoft Office 2013, 2010, 2007 or Open Office. Microsoft Office is the standard office productivity software utilized by faculty, students, and staff. Microsoft Word is the standard word processing software, Microsoft Excel is the standard spreadsheet software, and Microsoft PowerPoint is the standard presentation software. Copying and pasting, along with attaching/uploading documents for assignment submission, will also be required. If you do not have Microsoft Office, you can check with the bookstore to see if they have any student copies.

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

Brightspace Support

Need Help?

Student Support

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

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Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778 or click on the **Live Chat** or click on the words “click here” to submit an issue via email.



System Maintenance

Please note that on the 4th Sunday of each month there will be System Maintenance which means the system will not be available 12 pm-6 am CST.

Interaction with Instructor Statement

Communication with your professors is key to your professional growth. I am here to support and guide you along your academic journey. With that being said, I cannot help you if you do not communicate with me. Please make an appointment if you have any concerns or questions. Because I teach in different locations, email is the best way to reach me. I will attempt to answer all emails within 24 hours, Monday-Friday, but at times will need up to 72 hours to do so. When emailing, please use your university email and address me with courtesy and respect.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

Written assignments are due on the day noted in the syllabus. All papers are due at the beginning of the class period. Late papers will have 10% deduction per day late from the final score.

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](http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: [Netiquette](http://www.albion.com/netiquette/corerules.html)

<http://www.albion.com/netiquette/corerules.html>

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TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

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](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

ADA Statement

Students with Disabilities

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 162

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

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

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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.

COURSE OUTLINE / CALENDAR

Course Calendar

Date	Topic	Readings	Assignments
8/30 Week 1	-Introductions -Course Overview and Expectations -Differentiate Between Quantitative and Qualitative -Review of Basic Statistics	-Chapter 1 -Chapter 2 -Chapter 3	-Review Syllabus
9/6 Week 2 AARC Conference- Online Class	- Review of Basic Statistics Continues -NHST -Effect Sizes	-Chapter 2 Cont. -Chapter 3	

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9/13 Week 3	-Exploring SPSS -Exploring Data With Graphs -Model Assumptions	-Chapter 4 -Chapter 5 -Chapter 6	
9/20 Week 4	-Correlation -Simple Regression	-Chapter 8 -Chapter 9	-HW 1 Due
9/27 Week 5	-Multiple Regression	-Chapter 9 Cont.	
10/4 Week 6	-EFA and Instrument Design (in-class demonstration)	-Chapter 18	-HW 2 Due
10/11 Week 7	-Comparing Two Means -Comparing Several Independent Means	-Chapter 10 -Chapter 12	
10/18 Week 8	-Comparing Several Independent Means Cont. -Comparing Adjusted Means	-Chapter 12 Cont. -Chapter 13	- Journal Article Critique Due
10/25 Week 9	-Factorial Designs	-Chapter 14	-HW 3 Due
11/1 Week 10	-Repeated Measure Designs	-Chapter 15	-HW 4 Due
11/8 Week 11	-Mixed Designs	-Chapter 16	-HW 5 Due
11/15 Week 12 TCA Conference- Class Online	-MANOVA	-Chapter 17	
11/22 Week 13 No Class	HAPPY THANKSGIVING	HAPPY THANKSGIVING	HAPPY THANKSGIVING
11/29 Week 14	-MANOVA Cont. -Review for Final Quiz	-Chapter 17 Cont.	
12/6	Class Presentations	Class Presentations	Class Presentations

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Week 15			
12/13 Week 16	Final Quiz	Final Quiz	Final Quiz

CACREP Standards Addressed in COUN 613

Doctoral Standard	Learning Activity or Assignment	Assessment
2.C.5. Design, implementation, and analysis of quantitative and qualitative research.	Lectures, Readings, Class Activities, In-class Demonstrations	Homeworks, Article Critique, In-class Presentation, Final Quiz
2.C.6. Models and methods of assessment and use of data.	Lectures, Readings, Class Activities, In-class Demonstrations	Homeworks, Article Critique, In-class Presentation, Final Quiz
4.E.1. Understands univariate and multivariate research designs and data analysis methods	Lectures, Readings, Class Activities, In-class Demonstrations	Homeworks, Article Critique, In-class Presentation, Final Quiz
4.E.3. Knows models and methods of instrument design	Lectures, Readings, Class Activities, In-class Demonstrations	Homeworks, Article Critique, In-class Presentation, Final Quiz

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