

School of Nursing | The University of Texas at Tyler
NURS 6322 Advanced Statistics
Fall 2018

A Welcome Note

Welcome to the Advanced Statistics course and congratulations on your milestone completion of Data Management! While there is not a Capstone for statistics, I hope each stats course you take help to mark your growth as a researcher in the PhD program. The Data Management course is intended to prepare you to develop an understanding of how researchers tell a story with numbers by describing a target population with descriptive statistics and answering questions through inferring sample results to the population following the hypothesis testing steps, or inferential statistics. In this second stats course, we will continue this journey to explore how we can tell stories with numbers via more ways to look at differences and relationships. Again, secondary data from national databases alongside from the tasks in your textbook will be used to moderately challenge you and support will be provided for you to succeed in this course. I look forward to another rewarding semester with everyone!

Faculty information



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Course information

Students will study advanced statistical techniques in health care research together with discussions on the corresponding research designs. Topics include various types of general linear modeling, multiple regression, as well as non-parametric tests. Prerequisite: NURS 6320.

Student Learning Outcomes and Assessment

This course is intended to have you go beyond basic statistical concepts and analyses and proceed to various tests that address more sophisticated quantitative research designs. After completing this course, you should demonstrate knowledge and/or skills in the following categories including:

Student Learning Outcomes	Assessment Methods
1. Approaching quantitative data analysis by screening the data, obtaining and interpreting sample characteristics or descriptive statistics, and testing assumptions	Discussions, quizzes and/or assignments
2. Understanding the mechanism of inferential statistics (i.e., the theory of hypothesis testing and probability)	Discussions, quizzes and/or assignments
3. Selecting and conducting appropriate non-parametric tests for ordinal data or in the case of non-normal distribution	Discussions, quizzes and/or assignments
4. Conducting the appropriate statistical tests of general linear models to answer questions on differences	Discussions, quizzes and/or assignments
5. Conducting the appropriate statistical tests of regression to answer questions on relationships	Discussions, quizzes and/or assignments
6. Using data analysis software (e.g., SPSS, G*Power) to perform the above activities	Quizzes and/or assignments
7. Working with secondary data from national health research studies	Quizzes and/or assignments

Textbooks, References, Required Software, and Useful Websites

Textbooks:

Field, A. (2018) *Discovering statistics using SPSS* (5th Ed.). Thousand Oaks, CA: Sage Publications.

American Psychological Association. (2009). *Publication manual of the American Psychological Association*. (6th Ed.). Washington, D.C.: Author.

References on quantitative research:

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2001). *Experimental and quasi-experimental designs for generalized causal inference* (2nd ed.). Belmont, CA: Wadsworth Publishing.

Polit, D. F. & Beck, C. T. (2012). *Nursing research: Generating and assessing evidence for nursing practice*. (9th ed.). Philadelphia, PA: J. B. Lippincott.

Or other print/online resources on quantitative research designs.

Software: The latest version of SPSS (the one available on the UT Tyler Horizon Virtual Desktop or your own purchase).

Useful websites:

- The Institute for Digital Research and Education at UCLA: <http://www.ats.ucla.edu/stat/>
- An anonymous but very helpful personal website with numerous SPSS demo videos together with the APA style sample results write-ups: <http://www.how2stats.net/p/home.html>
- Research methods knowledge base: <http://www.socialresearchmethods.net/kb/index.php>

Assessments and Grading*

Student learning outcomes will be assessed by the following methods and graded based on the criteria below.

Quizzes (7@4% each)	28%	A = 89.5 -100
Discussions (6@2% each)	12%	B = 79.5 – 89
Assignments (7@8% each)	56%	C = 69.5 – 79
Course participation	4%	D = 59.5 – 69
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Total	100%	F = Below 59.5

**Students are expected to achieve an average of B (80%) to successfully complete the course.*

Graded items: Refer to Canvas for more detailed information on descriptions, templates, and grading rubrics for specific assessed items. In brief:

- Quizzes may be taken two times but must be completed by the due date on the calendar and the two scores are averaged. Late attempts will be graded at a discount rate of 10%/day.
- Course discussions are due per the course calendar and no extensions are given due to absence of peer interaction after the due date.
- Course assignments are due per the course calendar. No extensions are given without prior faculty approval. There is a 5 points/day penalty for late assignments (on a 100-point scale).
- Allow *one to two weeks* for grades to be posted for graded discussions and assignments.

Workload and Time Expectations

You should expect to spend as much time on an online course as you do in a face-to-face course. Besides lecture videos (and/or live Zoom meetings), a typical week's work for this course will include but not limited to (1) assigned readings, (2) a quiz on the topic, and/or (3) discussions and assignments alongside. You may also refer to online resources out of the course to promote learning. As a rough guide, you should plan to spend six to ten hours per week on this course. The actual amount of time will vary from individual to individual.

Course materials will be available at the beginning of the semester and remain up through the end of the course. You may look and study ahead, or go back and review a past unit, at any time during the course.

Communications

Communication is critical in the online learning environment and it is your responsibility to check emails and Discussion Boards (DB) in a timely manner. If you do not want to miss notifications and postings, Canvas allows you to (1) set your *Notification Preferences* (under your profile) and (2) *subscribe* to a specific DB thread(s). Once you select to receive notifications and/or subscribe to a thread(s), you will receive an email with the updated content. However, this is definitely a personal preference so make your own choices.

While plenty of tools outside of Canvas are available, I consider the following major and also professional for course communication. For specific technical tips, refer to the Technical Support section below. If you come across any technical issues, make sure you also let me know while you contact IT so that we can make arrangement for your best learning experience.

Email

You can use either your UTT email or send messages in Canvas. You can send your questions or problems other than technical to zhe@uttyler.edu. In addition to the UTT email, the Inbox function in the Canvas app for students is also a handy tool. You can send messages similar to text messages, which increases the efficiency.

When you email about questions or problems, specificity helps me to process it faster. Please include the reference information such as the Module/Week/page number or screenshot if necessary. While I usually take care of student emails quite well, allow *24 hours for weekdays and 48 hours for weekends* to hear from me. You will be notified in advance in the case of conference travel and other situations when the Internet access is limited or unavailable. Also, faculty members usually set aside a specific time for their own research, so responses may be delayed (e.g., to the end of the day) depending on your faculty's schedule. My research day is Thursday (call my cell number if it is urgent).

Course Discussions

Instead of emailing your instructor individually, you are strongly encouraged to post your questions and thoughts on the Discussion Board to stimulate learning for each other and build up online learning communities.

Quality learning: Asking questions and posing a different viewpoint yields higher quality learning experiences than simply giving kudos. Posting responses to colleagues on the DB is an opportunity to give your peers input. For learning-related questions, I will purposefully delay feedback to give the group members a chance to post. When I posts too quickly, others sometimes become reticent to post. An important behavior in graduate education is questioning. Never hesitate to share different viewpoints and disagree with all colleagues including your instructors.

Time & frequency: The Canvas DB takes the place of in-class discussions so please plan on spending time reading and posting in order to have a high quality experience. Postings should occur several times during the week rather than several in one day. When individuals wait to post late in the week, the whole group suffers from the lack of full group interaction. Posting late also reduces the opportunity to get feedback.

Technical considerations: Whenever possible, please post directly onto the posting site rather than add attachments unless instructed otherwise because it speeds the experience of reading and posting by your classmates. Please do not copy and paste SPSS output which is often voluminous. When questions arise about output, simply save and send output to me.

Netiquette Guide

"Netiquette" is network etiquette, the do's and don'ts of online communication. Netiquette covers both common courtesy online and informal "rules of the road" of cyberspace. Review and familiarize yourself with the guidelines provided.

Course Schedule

Modules	Weeks & Dates	Content	Tasks of the week*
Introduction	Week 1 8/27-9/2	Introduction & review	Pre-test
Module 1: Non-parametric tests	Week 2 9/3-9	Non-parametric tests	Quiz 1
	Week 3 9/10-16	Hands-on	Assignment 1
Module 2: General linear models (GLM)	Week 4 9/17-23	GLM 2: ANCOVA	DB#1 Quiz 2
	Week 5 9/24-30	Hands-on	Assignment 2
	Week 6 10/1-7	GLM 3: Factorial ANOVA	DB#2 Quiz 3
	Week 7 10/8-14	Hands-on	Assignment 3
	Week 8 10/15-21	GLM 4: RM-ANOVA	DB#3 Quiz 4
	Week 9 10/22-28	Hands-on	Assignment 4
	Week 10 10/29-11/4	GLM 5: Mixed-Design ANOVA	DB#4 Quiz 5
	Week 11 11/5-11	Hands-on	Assignment 5
Module 3: Linear models	Week 12 11/12-18	Regression	DB#5 Quiz 6
	Week 13 (11/19-25): Thanksgiving		
	Week 14 11/26-12/2	Hands-on (1)	Assignment 6
	Week 15 12/3-9	Hands-on (2)	DB#6 Assignment 7
Evaluation	Week 16 12/10-14	Evaluation	Evaluation

*Refer to the course calendar for specific due dates for the quizzes and assignments.

UNIVERSITY POLICIES

The following university policies can be found in the Syllabus Policy document available online at <http://www.uttyler.edu/academicaffairs/files/syllabuspolicy.pdf>

UT Tyler Honor Code

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Students Rights and Responsibilities

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <http://www.uttyler.edu/wellness/rightsresponsibilities.php>

Campus Carry

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>

UT Tyler a Tobacco-Free University

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors. Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products. There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

Grade Replacement/Forgiveness and Census Date Policies

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. (For Fall, the Census Date is Sept. 12.) Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>.

Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar. Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract. The Census Date (Sept. 12th) is the deadline for many forms and enrollment actions of which students need to be aware. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.

- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a “W” grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Texas at Tyler offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit

<https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director of Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

Student Absence due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Social Security and FERPA Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform

your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

Student Standards of Academic Conduct

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

i. "Cheating" includes, but is not limited to:

- copying from another student's test paper;
- using, during a test, materials not authorized by the person giving the test;
- failure to comply with instructions given by the person administering the test;
- possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed "crib notes". The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
- using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
- collaborating with or seeking aid from another student during a test or other assignment without authority;
- discussing the contents of an examination with another student who will take the examination;
- divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
- substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
- paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program;
- falsifying research data, laboratory reports, and/or other academic work offered for credit;
- taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
- misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.

ii. “Plagiarism” includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another’s work and the submission of it as one’s own academic work offered for credit.

iii. “Collusion” includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.

iv. All written work that is submitted will be subject to review by plagiarism software.

UT Tyler Resources for Students

- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu
- UT Tyler Tutoring Center (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- UT Tyler Counseling Center (903.566.7254)

TECHNICAL INFORMATION

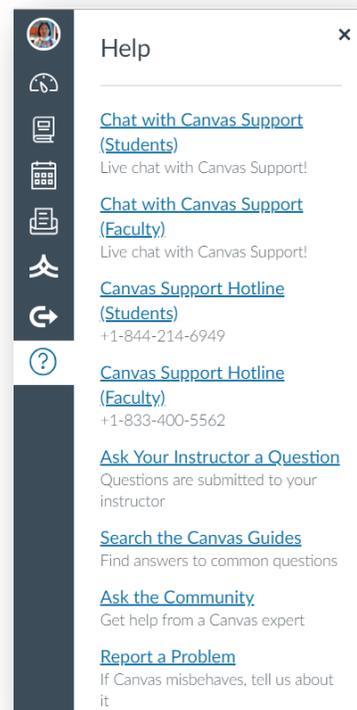
Technical Support

Refer to the Canvas Student Guide <https://s3.amazonaws.com/tr-learncanvas/files/pdf-guide/CanvasStudentGuide.pdf> for specifics about Canvas. If you experience technical problems or have a technical question about this course, you can access the CANVAS support (multiple options) by clicking the HELP button once you log into CANVAS (see the screen shot on the right).

Plug-ins and Helper Applications

UT Tyler online courses use Java, JavaScript, browser plug-ins, helper application and cookies. It is essential that you have these elements installed and enabled in your web browser for optimal viewing of the content and functions of your online course.

- **Adobe Reader** allows you to view, save, and print Portable Document Format (PDF) files. <http://get.adobe.com/reader/>
- **Java Runtime Environment (JRE)** allows you to use interactive tools on the web. <http://www.java.com/en/download/>
- **Adobe Flash Player** allows you to view content created with Flash such as interactive web applications and animations. <http://get.adobe.com/flashplayer/>
- **QuickTime** allows users to play back audio and video files. <http://www.apple.com/quicktime/download/>
- **Windows Media Player** allows you to view, listen and download streaming video and audio. <http://windows.microsoft.com/en-US/windows/products/windows-media-player>
- **RealPlayer** allows you to view and listen to streaming video and audio. <http://www.real.com/>



A Convenient Semester Course Calendar with Due Dates Marked

Week	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
I	Aug. 27 Classes begin	28	29	30	31	Sept. 1	2
II	3 Labor Day Pre-test	4	5	6	7	8	9
III	10 Quiz 1	11	12	13 Zoom	14	15	16
IV	17 Assignment 1	18	19	20	21	22	23
V	24 DB#1 Quiz 2	25	26	27 Zoom	28	29	30
VI	Oct. 1 Assignment 2	2	3	4	5	6	7
VII	8 DB#2 Quiz 3	9	10	11 Zoom	12	13	14
VIII	15 Assignment 3	16	17	18	19	20	21
IX	22 DB#3 Quiz 4	23	24	25 Zoom	26	27	28
X	29 Assignment 4	30	31	Nov. 1	2	3	4
XI	5 DB#4, Quiz 5 Last day to withdraw	6	7	8 Zoom	9	10	11
XII	12 Assignment 5	13	14	15	16	17	18
XIII	19-23 Thanksgiving holiday					24	25
XIV	26 DB#5 Quiz 6	27	28	29 Zoom	30	Dec. 1	2
XV	3 Assignment 6	4	5	6 Zoom	7	8	9
XVI	10 DB#6 Assignment 7	11	12	13	14	15 End of semester	16