

## NURS 6324 Multivariate Statistics

Long summer 2016  
School of Nursing  
The University of Texas at Tyler

Welcome to the multivariate statistics course!

I am Dr. Zhaomin He, your faculty for this course. I am glad to know that this summer two sections, i.e., 24 of you, signed up for this third stats course. How exciting is that! While this course is intended to moderately challenge you by extending your knowledge and skills in quantitative data analysis, it is desired and designed with efforts to be a positive learning experience. I personally enjoy statistics and have a passion for teaching it. I get great sense of fulfillment when I can make stats accessible, sensible, and (if possible) pleasant for my students and colleagues. This is all because I was there myself -- I had a degree of Bachelor of Arts in English education in China and started graduate school in the states with a zero stats background. These experiences were precious for they allow me to take a learner's approach in my teaching where students' learning is always the priority. I am a strong believer that 1) stats can be learned and 2) learning it is not necessarily a boring and stressful experience. ☺ I look forward to a rewarding long summer with everyone!

### Faculty Information



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*\*I'm bad at checking text messages unless you call in loudly.*

### Course Information

Within this course, you will study multivariate statistical techniques in health care research and apply aspects of complex research designs, including multivariate model testing, decision theory, and advanced statistical techniques. This is a three-credit course and requires the prerequisites of NURS6320 Data Management and NURS 6322 Advanced Statistic or equivalent courses with instructor permission.

### Student Learning Outcomes and Assessment

This course is aimed to continue cultivating and developing your quantitative data analysis reasoning and skills. You are expected to obtain independence in your decision making and desirably get ready to be a life-long learner for quantitative data analysis. After completing this course, you should demonstrate knowledge and/or skills in the following statistical techniques including:

Student Learning Outcomes	Assessment Methods
1. More prediction techniques including path analysis and logistic regression.	Quizzes and/or assignments
2. The multivariate general linear model (MANOVA) and discriminant analysis.	Quizzes and/or assignments
3. The latent variable techniques including exploratory factor analysis with an introduction to confirmatory factor analysis.	Quizzes and/or assignments
4. A conceptual understanding of more sophisticated techniques of the structural equation modeling (SEM)	Discussion board posts
5. Testing assumptions of the multivariate statistical tests.	Quizzes and/or assignments
6. Using statistical software, i.e., SPSS and G*Power.	Quizzes and/or assignments
7. Reporting and interpreting statistical results and findings.	Quizzes and/or assignments
8. Working with secondary data from national health research studies.	Quizzes and/or assignments

### Textbooks, References, Required Software, and Useful Websites

*Textbooks:* Required readings used in this course will be a compilation of book chapters, journal articles, and website resources (available on the Blackboard).

*Reference texts* include:

- Field, A. (2009) *Discovering Statistics Using SPSS*, 4rd edition. Thousand Oaks, CA: Sage. Publications.
- American Psychological Association. (2009). *Publication manual of the American Psychological Association*. (6th ed.). Washington, D.C.: Author. ISBN 1433805618

*Software:* The most recent version of SPSS (the one available on your UTT laptops or via Citrix).

*Useful websites:* There are many great resources on the Internet. The websites below are very reliable and handy learning tools and resources (some of which I have been frequently referring to till today). One practice you may find helpful for organization is to bookmark the websites and create a “stats” folder on your browser tool bar. Something like this. Start putting together your own toolkit now! ☺



- 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 demon videos (I first learned about him from his YouTube channel): <http://www.how2stats.net/p/home.html>
- Mplus (stats software package featuring latent techniques) discussion forum: <http://www.statmodel.com/cgi-bin/discus/discus.cgi?pg=topics>
- 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.

Pre-test	5%	A = 89.5 -100
Quizzes (5@5% each)	25%	B = 79.5 – 89
Assignments 1 @5%	5%	C = 69.5 - 79
Assignments 2-4 @20% each	60%	D = 59.5 - 69
Course participation	5%	F = Below 59.5
Total		100%

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

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

- The pre-test is used as a tool to prepare students for the course content and thus may be taken unlimited times within the given time frame. A grade of greater than 90% (including 90%) is required for passing. Any grade greater than 90% is credited at full credit (5 points) with less than 90% zero point.
- Quizzes may be taken two times but must be completed by the due date on the calendar and the two scores are averaged. There is a 10%/day penalty for late submissions.
- 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 submissions (on a 100-point scale).

### 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 (or live Zoom meetings), a typical week's work for this course will include (1) assigned reading, (2) a quiz on the topic under discussion, and/or (3) assignments alongside. 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.

You will have access to course materials one module at a time. The unit material will remain up through the end of the course. You may look and study ahead within the units, or go back and review a past unit, at any time during the course.

### Communications

I am a strong advocate for learning communities. Communication is strongly encouraged on a regular basis and timely in the case of questions and concerns.

#### *Email*

To communicate by email with your peer(s), go to the course on your Blackboard and click the [Communications](#) link on the left. Click [Send E-mail](#) to send a message. You are able to send messages to [All Users](#) or [Select Users](#) in the course, including the instructor. If you need more instructions on how to send email messages with Blackboard please read the student manual

located in the *Resources* area of the course (refer to the *Technical Information* section on page eight in this document for more information on technical support. )

Questions or problems other than technical may be submitted to the faculty email address ([zhe@uttyler.edu](mailto:zhe@uttyler.edu)). When you email about questions or problems, specificity helps me to process them faster. Please also include the reference information such as the Module/Week/page number together with the copy-pasted information or screenshots 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*

Technical considerations: At this point in the program, I assume you all have no problem posting on the Discussion Board. Whenever possible, please post directly onto the Blackboard 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 your instructor.

Time & frequency: Blackboard 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.

Check the Discussions section often (or you can *Subscribe* to a forum so you never miss posts). Since the discussion is asynchronous, other responses will be submitted after your post. Be sure to check the Discussions section each time you log into the course to view any added material and respond to your colleagues' comments. Blackboard will show you the number of unread messages for each topic and highlight them until read.

Quality learning: Asking questions and posing a different viewpoint yields higher quality learning experiences than simply giving kudos. Posting responses to colleagues on BB is an opportunity to give your peers input. Your instructor will generally delay feedback to give the group members a chance to post. When the instructor 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.

## University Policies

### 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://www2.uttyler.edu/wellness/rightsresponsibilities.php>

### 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. 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 is the deadline for many forms and enrollment actions that students need to be aware of. 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 Services**

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University offers accommodations to students with learning, physical and/or psychiatric disabilities. If you have a disability, including non-visible disabilities such as chronic diseases, learning disabilities, head injury, PTSD or ADHD, or you have a history of modifications or accommodations in a previous educational environment you are encouraged to contact the Student Accessibility and Resources office and schedule an interview with the Accessibility Case Manager/ADA Coordinator, Cynthia Lowery Staples. If you are unsure if the above criteria applies to you, but have questions or concerns please contact the SAR office. For more information or to set up an appointment please visit the SAR office located in the University Center, Room 3150 or call 903.566.7079. You may also send an email to [cstaples@uttyler.edu](mailto:cstaples@uttyler.edu)

**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.

**Student Absence for University-Sponsored Events and Activities**

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

**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.

**Course Evaluation**

UT Tyler will ask you to complete a voluntary evaluation to help them make improvements and adjustments in their overall online learning forums. Also, an end of semester evaluation specifically for this course will be made available for you to complete in the last week of instruction. Your comments and recommendations will be considered seriously as the course is updated. Your input throughout the semester contributes to our commitment to improve continually the quality and relevance of this course.

## Technical Information

### Technical Support

If you experience technical problems or have a technical question about this course, you can obtain assistance by contacting the [Blackboard Support](#) (24/7). You can submit a ticket, check the Knowledge Base, call the support center, or chat with a live support technician. When you submit your ticket or chat with a Technician, be sure to include a complete description of your question or problem including:

- The title and number of the course
- The page in question
- If you get an error message, a description and message number
- What you were doing at the time you got the error message

You may also visit the [Help](#) tab in Blackboard

<http://wiki.uttyler.edu/display/B8H/Home> for helpful information. In

case of technical issues, keep your faculty informed so that arrangements can be made for learning experience purposes as necessary.

### 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/>

### Netiquette Guide

“[Netiquette](#)” (ctrl + click to follow the link) 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.

*Note:* The content of this syllabus is subject to change at the discretion of the faculty according to current learning needs.