



**Advanced Statistics
NURS 6322.060
Summer 2026**

Scheduled Class Days and Times: Online

Instructor's Name: Kevin Gosselin, Ph.D.

Office: Virtual

Phone: (903) 566-7320

Email*: kgosselin@uttyler.edu

Office Hours: Virtual Office Hours: Tuesday from 11:00 AM – 2:00 PM CST or by appointment for phone call or video conference. Additional days and times may be arranged upon request. Please email faculty to make arrangements/obtain Zoom link.

*Best way to contact me.

Course Description: 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.

Prerequisites: NURS 6320

Student Learning Outcomes:

Upon successful completion of this course, the student will be able to:

1. Approach quantitative data analysis by screening the data, obtaining, and interpreting sample characteristics or descriptive statistics, and testing assumptions.
2. Understand the mechanism of inferential statistics (i.e., the theory of hypothesis testing and probability).
3. Select and conduct appropriate non-parametric tests for ordinal data or in the case of non-normal distribution.
4. Conduct the appropriate statistical tests of general linear models to answer questions on differences.
5. Conduct the appropriate statistical tests of regression to answer questions on relationships.
6. Use statistical software, e.g., SPSS and G*Power.
7. Report and interpret statistical results and findings.

Required Textbooks and Readings:

1. Field, A. (2017). Discovering statistics using IBM SPSS: North American edition, 5th edition. Thousand Oaks, CA: Sage. Publications.
2. Pallant, J. (2016) SPSS Survival Manual, 6th edition. New York: McGraw Hill Education
3. Bannon, W. (2013). The 7 steps of data analysis. Stats Whisperer Press. ISBN 978-0-615-85729-9
4. American Psychological Association. (2019). Publication manual of the American Psychological Association (7th ed). APA. ISBN-13: 978-1-4338-3216-1.

Recommended Textbooks and Readings:

1. Glaser, A. N. (2014) High-Yield Biostatistics, Epidemiology, & Public Health. 4th edition. Philadelphia, PA; Lippincott Williams and Wilkins ISBN-10: 1451130171
2. 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.
3. Polit, D. F. & Beck, C. T. (2012). Nursing research: Generating and assessing evidence for nursing practice. (9th ed.). Philadelphia, PA: J. B. Lippincott.

Special Course Notes:

- 1) This course requires you to use IBM SPSS Statistic Standard Grad Pack. Licenses (6 and 12 months) are available through the link (<http://www.onthehub.com/spss>).

Assignments and Weights/Percentage/Point Values (Should equal 100%)

1. Participation	5%
2. Discussion boards	15%
3. GLM Database Lab - SLR	20%
4. GLM Database Lab - MLR	20%
5. GLM Database Lab - ANCOVA	20%
6. Non-parametric Application	20%

Grading Scale:

Specific guidelines and grading criteria for all assignments are in the Modules. Final grades for the course will be determined based upon the following point assignments:

- A - 90-100
- B - 80-89
- C - 70-79
- D - 60-69
- F - Below 60

Grades will not be rounded when calculating the average (79.5 is not rounded to 80, and 89.5 is not rounded to 90). Students are required to achieve an average of 80% (B) to complete the course successfully.

Academic Integrity: Cheating of any kind, as defined in Section 8 of the UT Tyler Manual of Policies and Procedures (MOPP) for Student Affairs (<https://www.uttyler.edu/mopp/>), will not be tolerated. Consequences may include:

- reprimand
- exam failure
- course failure
- expulsion from the Nursing program
- expulsion from the University
- other consequences as assigned

Exam and homework materials, questions, and problems are the intellectual property of faculty, UT Tyler, or publishers.

- These materials may not be distributed without permission.
- Distributing or uploading them to online resources destroys the integrity of the assignment and the course, allowing others an unfair advantage by letting them view the materials.
- Uploading these materials to online resources is a violation of UT Tyler's academic misconduct policies and may result in formal conduct charges.
- Sanctions for uploading or otherwise divulging the contents of these materials can include:
 - a reduced or failing grade on an assignment
 - a reduced or failing grade for the course
 - removal from the Nursing program
 - removal from UT Tyler

Late Policy: 5% will be deducted each day an assignment is past due unless prior arrangements have been made with your course faculty. Extenuating circumstances may apply.

Repeating a Course: Students repeating this course may not use previously submitted assignments nor utilize the same patients for an assignment. Submitting the same or slightly modified assignments from previous semesters is considered self-plagiarism and is subject to academic discipline, including failing the assignment or the course.

Attendance and Make-up Policy: Attendance/participation is expected. Make-up for exams, quizzes, assignments, and missed clinical time is at the instructor's discretion.

Graded Course Requirements Information:

Participation: Attendance and participation are expected for the course. This requires posting to discussion boards, regular reading of the assigned material, and completion of assignment.

Discussion Boards: Students are expected to share ideas through the discussion board assignments. These ideas should be gained from the readings and literature by noting the source when appropriate and interpreting through your own words. It is also expected that you will use a more complex thought process to dissect and analyze what you read in the literature and in the thoughts of fellow students.

Assignment 1 (Generalized Linear Model – SLR Data Base Lab): This assignment allows you to apply your understanding of simple linear regression, the mathematical underpinnings of the generalized linear model, and post hoc testing through submission of an output file with the analysis and write up of the results in APA format. Additional information will be provided in class (20% of your grade).

Assignment 2 (Generalized Linear Model – MLR Data Base Lab): This assignment builds upon your understanding of GLM and simple linear regression by applying your understanding of multiple linear regression through submission of an output file with the analysis and write up of the results in APA format. Additional information will be provided in class (20% of your grade).

Assignment 3 (ANOVA Data Base Lab): This assignment allows you to demonstrate your knowledge of analysis of covariance through submission of an output file with the analysis and write up of the results in APA format. Additional information will be provided in class (20% of your grade).

Assignment 4 (Non-Parametric Methods Application): This assignment provides an opportunity to apply your understanding of non-parametric methods via a case study analysis. Additional information will be provided in class (20% of your grade).

Please Note: Detailed information along with grading rubrics for course assignments will be provided in Canvas.

Important Course Dates:

Classes Begin: May 11, 2026

Census Date (withdraw without penalty): May 26, 2026

Last Date to Withdraw: July 15, 2026. Students, please notify your course faculty and contact your advisor.

NURS 6322 Course Calendar – Summer 2026				
Course Schedule				
Week #	Date	Class Topic	Readings	Assignments Due
1	05/11 - 05/17	Course Orientation Syllabus, Course Calander, Assignments	N/A – Review course texts and software	Introduction Discussion, Statistical literacy part 1 (initial discussion post)

		Statistical literacy		
2	05-18-05/24	Statistical Literacy (cont.)	Tractenberg (2017) article	Statistical literacy part 2 (peer reply discussion post)
3	05/25-05/31	Study Maps, Sampling, Power Analysis, Data Screening	Bannon pgs 62, 86, 302-206 Field Chapter 2	Power Analysis Assignment & Discussion Holiday: May 25 th – No classes Census Date (05-26)
4 & 5	06/01-06/14	General Linear Model (GLM) – GLM 1 Simple Linear Regression	Ch. 9, 12	Data Base Lab 1 (DBL) Mid-Course Discussion
6 & 7	06/15-06/28	General Linear Model (GLM) – GLM 2 Multiple Linear Regression	Ch. 9, 12	Data Base Lab 2 (DBL)
8 & 9	06/29-07/12	GLM – Comparing Means adjusted for other predictors or Analysis of Covariance (ANCOVA)	Ch.13	Data Base Lab 3 (DBL)
10 & 11	07/13-07/26	GLM 4 – Repeated Measures Design		Discussion Post Last day to withdraw (07-15)
12 & 13	07/27-8/09	Non-parametric Analysis	Field Ch. 7 Bannon p. 35	Non-parametric Case Study Analysis
14	08/09-08/13	Course Summation		Discussion Post (due August 12 by 1:00 PM CT)

Calander weeks start on Monday and end the following Sunday.

Assignments are due on the designated Sundays at 11:59 pm CT.

Discussion Board forums run on a regular calendar week (start on Mondays at 8 AM and end the following Sunday at 11:59 pm. The final discussion is the exception).

***Course calendar is subject to change as faculty determines.**

School of Nursing Policies and Additional Information:

https://www.uttyler.edu/nursing/college/student_guide_and_policies.php

Student Resources and University Policies are provided in Canvas.

Statement on Artificial Intelligence

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course (see below) is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.

AI is permitted only for specific assignments or situations, and appropriate acknowledgement is required.

This course has specific assignments where artificial intelligence (AI) tools (such as ChatGPT or Copilot) are permitted and encouraged. When AI use is permissible, it will be clearly stated in the assignment directions, and all use of AI must be appropriately acknowledged and cited. Otherwise, the default is that AI is not allowed during any stage of an assignment.