

NURS 6390-001: Special Topics: Statistics for Health Care
Summer 2015

Instructor(s): Daisha J. Cipher, Ph.D.

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Office Hours: By appointment only

Section Information: NURS 6390, Section 001

Time and Place of Class Meetings: PKD 216, Monday, 1:00–3:50 pm: 6/8, 6/22, 7/6, 7/27, 8/10
Online discussions occur in Blackboard

Description of Course Content:

This course provides students with the basic knowledge and skills to effectively use biostatistics in different research design and data analysis, and to understand articles in related professional journals. Topics include choosing correct statistical methods and study designs in nursing research and practice; descriptive statistics; probability and probability distributions; estimation and hypothesis testing, simple linear regression, introduction to analysis of variance and an introduction to the use of statistical software packages.

Student Learning Outcomes:

1. Identify different types and scales of measurement for health-related variables (i.e., nominal, ordinal, ranked, discrete, and continuous data).
2. Summarize health data using standard descriptive statistical methods including measures of central tendency and variation (dispersion), and grouped data procedures by using selected software.
3. Recognize the applications of descriptive statistical methods in nursing research.
4. Identify and apply the measures of disease frequency, commonly used in medicine and nursing, including counts, ratios, proportions, and rates.
5. Apply basic concepts of probability and conditional probability used in hypothesis testing, evaluation of screening and diagnostic procedures, and measures of association used in nursing, medicine, and other health sciences.
6. Identify the concepts of Type I and Type II errors to the application of clinical research.
7. Calculate the confidence intervals for measures of disease frequency and association.
8. Select and apply the statistical tests needed to assess the significance of mean differences when two or more means are compared for paired and independent samples by using selected software.
9. Select and apply the statistical test needed to assess the significance of the difference of two proportions for paired and independent samples by using selected software.
10. Apply the statistical procedures of simple linear regression and correlation to analyze the relationship of two continuous variables by using selected software.
11. Calculate contingency tables and chi-square statistics to determine differences in proportions of responses.

Required Textbooks and Other Course Materials:

Grove, S., Burns, N., & Gray, J. (2013). The practice of nursing research: Appraisal, synthesis, and generation of evidence (7th ed.). St. Louis, MO: Elsevier.

Recommended:

Green, S.B., & Salkind, N.J. (2010). Using SPSS for Windows and Macintosh: Analyzing and Understanding Data (6th Edition): Prentice-Hall.

Additional reading materials will be made available on Blackboard. Chapter readings and other reading materials are assigned on the Blackboard schedule.

Tentative Course Schedule

Blackboard has a schedule of the course content, organized week by week for the students' convenience. It is also listed here. Dates listed in **BOLD** are in class dates in Pickard Hall 216.

Review of Statistical Concepts
Frequency Distributions, Measures of Central Tendency
Measures of Variation and The Normal Curve
cales of Measurement
Hypothesis Testing, Type I and II Errors

**IN CLASS:
JUNE 8**

Review: Descriptive Statistics

*June 15 online
HW 1 due
Quiz 1 6/15-6/19*

Measurement and Hypothesis Testing
Correlation: Pearson product-moment correlation coefficient
Linear Regression

**IN CLASS: JUNE 22
HWs 2 and 3 due**

Review: Correlation and Regression

*June 29 online
HW 4 due
Quiz 2 6/29-7/3*

Sampling and Estimation; 95% CI
t-tests: Independent and Paired Samples

**IN CLASS: JULY 6
HW 5 due**

Review: *t*-tests

*July 13 online
HW 6 due
Quiz 3 7/13-7/27*

Review: *t*-tests

*July 20 online
HW 7 Due*

One-way Analysis of Variance

**IN CLASS:
JULY 27
Quiz 4 7/27-8/10**

Review: ANOVA

*August 3 online
HW 8 due
Quiz 5 8/3-8/17*

Pearson Chi-square

**IN CLASS:
AUGUST 10
HW 9 due**

August 17: No Class, Homework 10 Due

Requirements:

Course Perquisite: Introductory statistics course and proficiency with Blackboard, web browsers, Microsoft Word and Microsoft Excel.

This class only meets 5 times for in-class lectures. Therefore, ***attendance of the first class is mandatory and required.***

This course requires the completion of all assigned projects, in addition to class participation via Blackboard. At the beginning of every week (**Sunday 8pm CST**), the instructor will post a question to the Discussion Board that pertains to that week's assigned book chapter. Students will post at least two substantive posts to the Discussion Board by the due date listed on the schedule by **1:00pm** (above). These answers are recorded and counted toward the "Class Participation" grade listed below (see Course Evaluation section). You must have one post logged by the **Tuesday** of that week, by **11:59 CST**, or the maximum points you may achieve is 70% of that week's grade. Essentially, the main discussion points should be made in the early to middle part of the week so that everything can be wrapped up by Friday afternoon.

There will be 5 weeks of online posting requirements, for a maximum of 10 points per week. Final totals will be inflated to a scaling of 100 before being submitted to the grade calculation described below.

Homework: This course has 10 homework assignments, focused on the application of the week's topic. Most homework assignments will require SPSS in addition to hand calculations. All require Microsoft Word. Each homework will be assigned on Blackboard, and completed homework will be submitted via the "Homework" function of Blackboard. Homework assignments are due on the date indicated on the Course Schedule by 1:00pm. Late homework will not be accepted.

Quizzes: Quizzes are formatted similarly to each week's homework assignments, with the exception that they are timed. They will be made available for one week (Monday through Friday) but will have a timed limit, once the student begins the quiz. Quizzes are completed on Blackboard. Because they are timed, and students have only one allowed attempt to take a quiz, it is highly recommended that the student have reliable internet access. **Technical difficulties, such as a failed internet connection, are the students' responsibility. There are no opportunities to make up quizzes.** Therefore, using a hardwired internet connection is strongly recommended. Each quiz will be assigned on Blackboard, and completed quizzes will be submitted via the "Test" function of Blackboard.

Teaching Methods/Strategies:

This course involves online instruction via Blackboard, as well as in-class instruction. The class will communicate with one another weekly using the Blackboard Discussion Board. In-class discussion will consist of applied tutorials of statistical applications.

Descriptions of major assignments and examinations with due dates: Homeworks are due on the date indicated on the Course Schedule by 1:00pm. Late homework will not be accepted. The quizzes serve as the examinations for this course, and are assigned and due on the dates listed in the course schedule.

Grading Policy:

	% of Final Grade
Class Participation via Blackboard Discussion Board	30%
Homework (10 Total)	30%
Quizzes	40%

Students with a final grade of 91 to 100 will receive an 'A'
Students with a final grade of 81 to 90 will receive a 'B'
Students with a final grade of 71 to 80 will receive an 'C'
A final grade of <71% constitutes failure.

Attendance Policy: Regular class attendance and participation is expected of all students. Students are responsible for all missed course information. The instructor is unable to re-review the course information due to the lengthy content presented in class. This class only meets 5 times for in-class lectures. Therefore, **attendance of the first class is mandatory and required.**

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial

aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information.

Graduate students who wish to change a schedule by either dropping or adding a course must first consult with their Graduate Advisor. Regulations pertaining to adding or dropping courses are described below. Adds and drops may be made through late registration either on the Web at MyMav or in person through the student's academic department. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information. The last day to drop a course is listed in the Academic Calendar available at <http://www.uta.edu/uta/acadcal>.

1. A student may not add a course after the end of late registration.
2. A student dropping a graduate course after the Census Date but on or before the end of the 10th week of class may with the agreement of the instructor, receive a grade of W but only if passing the course with a C or better average. A grade of W will not be given if the student does not have at least a C average. In such instances, the student will receive a grade of F if he or she withdraws from the class. Students dropping a course must: (1) complete a Course Drop Form (available online http://www.uta.edu/nursing/MSN/drop_resign_request.pdf or Graduate Nursing office rooms 512 or 606); (2) obtain faculty signature and current course grade; and (3) submit the form to Graduate Nursing office rooms 512 or 606.
3. A student desiring to drop all courses in which he or she is enrolled is reminded that such action constitutes withdrawal (resignation) from the University. The student must indicate intention to withdraw and drop all courses by completing a resignation form in the Office of the Registrar or by: (1) Completing a resignation form (available online http://www.uta.edu/nursing/MSN/drop_resign_request.pdf or Graduate Nursing office rooms 512 or 606; (2) obtaining faculty signature for each course enrolled and current course grade; (3) Submitting the resignation form in the College of Nursing office room 512 or 606; and (4) The department office will send resignation form to the office of the Registrar.
4. In most cases, a student may not drop a graduate course or withdraw (resign) from the University after the 10th week of class. Under extreme circumstances, the Dean of Graduate Studies may consider a petition to withdraw (resign) from the University after the 10th week of class, but in no case may a graduate student selectively drop a course after the 10th week and remain enrolled in any other course. Students should use the special Petition to Withdraw for this purpose. See the section titled Withdrawal (Resignation) From the University for additional information concerning withdrawal.
<http://www.grad.uta.edu/handbook>

Last Day to Drop or Withdraw: July 25, 2015

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Academic Integrity: It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. According to the UT System Regents' Rule 50101, §2.2, "Scholastic dishonesty includes but is 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."

Plagiarism: Copying another student's paper or any portion of it is plagiarism. Copying a portion of published material (e.g., books or journals) without adequately documenting the source is plagiarism. Consistent with APA format, if five or more words in sequence are taken from a source, those words must be placed in quotes and the source referenced with author's name, date of publication, and page number of publication. If the author's ideas are rephrased, by transposing words or expressing the same idea using different words, the idea must be attributed to the author by proper referencing giving the author's name and date of publication. If a single author's ideas are discussed in more than one paragraph, the author must be referenced, according to APA format. Authors whose words or ideas have been used in the preparation of a paper must be listed in the references cited at the end of the paper. Students are expected to review the plagiarism module from the UT Arlington Central Library via <http://library.uta.edu/tutorials/Plagiarism>

Student Support Services Available: The University of Texas at Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. These resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals to resources for any reason, students may contact the Maverick Resource Hotline at 817-272-6107 or visit www.uta.edu/resources for more information.

Electronic Communication Policy: The University of Texas at Arlington has adopted the University "MavMail" address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. ***Students are responsible for checking their MavMail regularly.*** Information about activating and using MavMail is available at <http://www.uta.edu/oit/email/>. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington.

To obtain your NetID or for logon assistance, visit <https://webapps.uta.edu/oit/selfservice/>. If you are unable to resolve your issue from the Self-Service website, contact the Helpdesk at helpdesk@uta.edu.

Librarian to Contact:
Helen Hough, Nursing Librarian
Phone: (817) 272-7429
E-mail: hough@uta.edu
<http://libguides.uta.edu/nursing>

College of Nursing additional information:

Status of RN Licensure: All graduate nursing students must have an unencumbered license as designated by the Texas Board of Nursing (BON) to participate in graduate clinical nursing courses.

It is also imperative that any student whose license becomes encumbered by the BON must immediately notify their Associate Dean for the MSN Program, Department of Advanced Practicum Dr. Gray/Dr. Schira. The complete policy about encumbered licenses is available online at: www.bon.state.tx.us

Student Code of Ethics: The University of Texas at Arlington College of nursing supports the Student Code of Ethics Policy. Students are responsible for knowing and complying with the Code. The Code can be found in the student handbook online: <http://www.uta.edu/nursing/handbook/toc.php>

No Gift Policy: In accordance with Regent Rules and Regulations and the UTA Standards of Conduct, the College of Nursing has a “no gift” policy. A donation to one of the UTA College of Nursing Scholarship Funds, found at the following link: http://www.uta.edu/nursing/scholarship_list.php would be an appropriate way to recognize a faculty member’s contribution to your learning. For information regarding Scholarship Funds, please contact the Dean’s office.

Course Evaluation:

Course evaluation is a continuous process and is the responsibility of both the faculty and the students. Ongoing feedback (formative evaluation) is the only way to improve the course and to assure that it meets your needs and those of the discipline of nursing. It is your responsibility to give immediate, constructive feedback regarding class structure and process.

Formal evaluation of the course and the instructor occurs at the end of the course. You will receive instructions at your University of Texas at Arlington e-mail address about how to complete the course evaluations online. Your ratings and comments are sent to a computer not connected to the College of Nursing, and faculty members do not receive the results until after they have turned in course grades.

Bomb Threats:

If anyone is tempted to call in a bomb threat, be aware that UTA will attempt to trace the phone call and prosecute all responsible parties. Every effort will be made to avoid cancellation of presentations/tests caused by bomb threats. Unannounced alternate sites will be available for these classes. Your instructor will make you aware of alternate class sites in the event that your classroom is not available.

Online Conduct: The discussion board should be viewed as a public and professional forum for course-related discussions. Students are free to discuss academic matters and consult one another regarding academic resources. The tone of postings should be professional in nature. It is not appropriate to post statements of a personal or political nature, or statements criticizing classmates or faculty. Inappropriate statements/language will be deleted by the course faculty and may result in denied access to the Discussion boards. Refer to UTACON Student Handbook for more information.

For this course Blackboard communication tools, discussion boards, and UTA MAV email will be used extensively and should be checked often.

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