THE UNIVERSITY OF TEXAS
AT ARLINGTON
SCHOOL OF NURSING

N6390 - 016

Special Topics: Statistics for Health Care

SYLLABUS

Summer 2014

Classroom #: Pickard Hall 216

N6390-016 (3 credit Hours)
Summer 2014
In class lectures: June 4, June 18, July 2, July 16, July 30: 4:00–7:00pm PKD 216
Online: June 11, June 25, July 9, July 23 (Blackboard)

INSTRUCTOR:	Instructor: Daisha J. Cipher, Ph.D. Office Hours: By appointment only Email: cipher@uta.edu Web Site: elearn.uta.edu
COURSE WEB SITE OR WORLD WIDE WEB SITE:	All course handouts are available for download on Blackboard.
COURSE PREREQUISITES:	Introductory statistics course and proficiency with Blackboard, web browsers, Microsoft Word and Microsoft Excel.
REQUIRED TEXTBOOKS & 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 TEXTBOOKS & MATERIALS:	Green, S.B., & Salkind, N.J. (2010). Using SPSS for Windows and Macintosh: Analyzing and Understanding Data (6th Edition): Prentice-Hall.
COURSE DESCRIPTION:	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.
COURSE LEARNING GOALS/OUTCOME OBJECTIVES:	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.

ATTENDANCE AND DROP POLICY:	• This class only meets 5 times for in-class lectures. **Therefore, attendance of the first class is mandatory and required!** • 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.

A PhD student who wishes to change a schedule by either dropping or adding a course must first consult with his or her PhD Advisor. The following regulations pertain to adds and drops:
1. A student may not add a course after the end of the late registration.
2. A PhD student dropping a course or resigning from the university after the Census Date but before the final designated drop date for the enrolled semester will receive a grade of W only if at the time of dropping the student is passing the course (has a grade of A, B, or C); if the student has a D or F at the time of dropping, an F will be recorded. Students dropping a course must: (1) Complete a Course Drop Form (available online http://www.uta.edu/nursing/PhD/forms/ or PhD Office Room 512; (2) obtain faculty signature and current course grade; and (3) Submit the form to PhD Office Room 512.
3. A PhD student who desires to drop all courses for which he or she is

enrolled is reminded that such action constitutes a withdrawal from the University. The student should indicate intention to withdraw from all courses by: (1) Completing a Resignation Form (available online http://www.uta.edu/nursing/PhD/forms/ or PhD Office Room 512; (2) Obtaining faculty signature for each course enrolled and current course grade; (3) Filing the registration form in the School of Nursing Office Room 512; and (4) Filing the Registration Form in the Office of the Registrar in Davis Hall Room 333.

4. PhD students may drop a course up to 12 weeks in the fall or spring semester and up to 8 weeks in a 10-week summer session. Under extreme circumstances, the Dean or Associate Dean of the PhD in Nursing Program may consider a petition to withdraw after the designated drop date, but in no case may a PhD student selectively drop a course after the drop date and remain enrolled in any other course.

Last Date Drop or Withdraw: July 17, 2014

TENTATIVE LECTURE/TOPIC SCHEDULE (COURSE CONTENT):

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 Scales of Measurement Hypothesis Testing, Type I and II Errors	**IN CLASS: JUNE 4**
Review: Descriptive Statistics	*June 11 online*
Measurement and Hypothesis Testing Correlation: Pearson product-moment correlation coefficient Linear Regression	**IN CLASS: JUNE 18 HW 1, 2, 3 due**
Review: Correlation and Regression	*June 25 online*
Sampling and Estimation t-tests: Independent and Paired Samples	**IN CLASS: JULY 2 HW 4 and 5 due**
Review: t-tests	*July 9 online*
One-way Analysis of Variance Pearson Chi-square	**IN CLASS: JULY 16 HW 6 and 7**

FINAL EXAM

**HOMEWORK
ASSIGNMENTS:**

This course requires the completion of 9 homework assignments, participation in the online discussion forums, and 1 final exam. Homework will be assigned regularly to help students apply the lecture topic. Most assignments will require both pen/pencil/calculator as well as a computer with a statistical software package such as SPSS. SPSS is available in Pickard Hall 216.

Homework is due on the date indicated on the schedule. Homework turned in after the due date will not be counted, unless you obtain written permission from the instructor.

HW 1: Create frequency distributions and report measures of
central tendency for sample data set: pencil/paper + SPSS

HW2: Compute SD and variance for sample data set:
pencil/paper + SPSS

HW3: *z*-score questions: **pencil/paper only.**

HW4: Compute Pearson correlations on sample data set:
Homework summary, pencil/paper + SPSS

HW5: Compute regression coefficients on sample regression model:
Homework summary, pencil/paper + SPSS

HW6: Estimation and confidence interval problems:
 pencil/paper only.

HW7: Compute independent-samples and paired-samples *t*-tests:
Homework summary, pencil/paper + SPSS

HW8: Compute ANOVA with sample data set: Homework summary,
pencil/paper + SPSS

HW9: Compute chi-square values with sample data set:
Homework summary, pencil/paper + SPSS

SPECIFIC COURSE REQUIREMENTS:

This course requires the completion of all homework (above), participation in online discussions, and the completion of the final examination.

Homework is due at **4:00 pm CST on the date shown** in the Schedule (see above). Homework received after this time will not be accepted.

Online Class Participation
A post or message that demonstrates substance contributes to the understanding and application of ideas by doing one or more of the following:
Reflection about meaning: Describe thoughtfully what something means or new insights it provides, or raise a question as a seed for clarification or further discussion.
Analysis: Discuss relevant themes, concepts, main ideas, components, or relationships among ideas. Or, identify hidden assumptions or fallacies in reasoning.
Elaboration: Build on ideas of others or ideas found in the readings by adding details, examples, a different viewpoint,. or other relevant information.
Application: Provide examples of how principles or concepts can be applied to actual situations, or discuss the implications of theory for practice.
Synthesis: Integrate multiple views to provide a summary, a new perspective, or a creative refashioning of ideas.
Evaluation: Assess the accuracy, reasonableness, or quality of ideas.
Note: A substantive message does not have to be long. Not all long posts are substantive, and not all short posts are non-substantive.

Students who do not participate during Monday to Friday will receive a zero for that week. To receive full credit, the student must be an active participant. Participation is defined as "making substantive comments or asking good questions." It does not include comments such as "way to go!" or "yeah, that's what I was thinking too" although these comments are perfectly acceptable and contribute to the *esprit de corps*. "Substantive comments," as described in the previous paragraph, can be addressed to fellow students or to the faculty. These would include helping other students when they have questions. "Good questions" means a question that is not readily obvious when reading the chapter. Questions that would not be considered for points are those that could be answered by anyone who read the chapter, such as "what's the formula for the Odds Ratio?"

If you explain how to work a problem but your explanation is wrong, you will not receive points for class participation, or in other words, comments must be constructive and accurate. You will not be graded down for saying the wrong thing, but you do not receive any points either.

Students who meet the minimum requirements for participation in any

given week will earn a grade of 7. If students go beyond the minimum and do a good job of discussion, the grade will be 8. Earning above an 8 requires an outstanding level of participation.

The reason this section gets such a high percentage of the grade is because in online learning, interaction is critical. Also, working together is the best way to really learn the concepts. Students who do not wish to participate or do not participate fully will not be getting the full educational experience they need in order to successfully understand these concepts and thus to successfully complete the course.

TIMELINE FOR ONLINE WEEKS: Sunday – Friday. The timeline for these weekly discussions is as follows: For those weeks that involve an online discussion, your topic will be introduced on Blackboard on the Sunday prior to the online week at 9:00 pm CST. Postings of comments and questions should begin on Monday and no later than Tuesday at 11:59 pm so that all discussion can be completed by Friday at 1:00pm. 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.

Your grade for online participation will be based on postings made between the time at which the topic is introduced on Sunday night and Friday at noon. Students who begin their postings after Tuesday night can receive no more than 7 points for the week.

There will be 4 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.

TEACHING METHODS/STRATEGIES:	This course involves the applications of statistical formulas and concepts using both pencil/paper problem solving as well as using computer applications. The course materials are presented audio-visually and active participation from all class members is expected.

GRADE CALCULATION (COURSE EVALUATION & FINAL GRADING):

	% of Final Grade
Homework Assignments:	1/3
Online Participation	1/3
Final Exam:	1/3

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.

STATUS OF RN LICENSURE: All graduate nursing students must have an unencumbered license as designated by the Board of Nursing (BON). It is imperative that any student whose license becomes encumbered by the BON must immediately notify the Associate Dean for the PhD Program, Dr.

Jennifer Gray. Failure to do so will result in dismissal from the PhD Program. The complete policy about encumbered RN license is available online at: http://www.uta.edu/nursing/PhD/forms/

CONFIDENTIALITY AGREEMENT:

You signed a Confidentiality Form in orientation and were provided a copy of the form. Please take your copy of this Confidentiality Form with you to your clinical sites. Please do not sign other agency confidentiality forms. Contact your faculty if the agency requires you to sign their confidentiality form.

AMERICANS WITH DISABILITIES ACT:

The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 93112 -- The Rehabilitation Act of 1973 as amended. With the passage of new federal legislation entitled Americans With Disabilities Act - (ADA), pursuant to section 504 of The Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels. Information regarding specific diagnostic criteria and policies for obtaining academic accommodations can be found at www.uta.edu/disability.   Also, you may visit the Office for Students with Disabilities in room 102 of University Hall or call them at (817) 272-3364.

STUDENT SUPPORT SERVICES

The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. They include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.

STUDENT CODE OF ETHICS

The University of Texas at Arlington School 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/hbk/toc.htm

ACADEMIC DISHONESTY:

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.

"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." (Regents' Rules and Regulations, Series 50101, Section 2.2)

PLAGIARISM: Copying another student's paper or any portion of it is plagiarism. Additionally, copying a portion of published material (e.g., books or journals) without adequately documenting the source is plagiarism. If <u>five</u> 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 <u>ideas</u> 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 at the end of each paragraph. 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 encouraged to review the plagiarism module from the UT Arlington Central Library via http://library.uta.edu/tutorials/Plagiarism

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.

E-CULTURE POLICY: The University of Texas at Arlington has adopted the University email address as an official means of communication with students. Through the use of email, UT-Arlington is able to provide students with relevant and timely information, designed to facilitate student success. In particular, important information concerning department requirements, registration, financial aid and scholarships, payment of bills, and graduation may be sent to students through email. All students are assigned an email account and information about activating and using it is available at www.uta.edu/email. Students are responsible for checking their email regularly.

NO GIFT POLICY: In accordance with Regent Rules and Regulations and the UTA Standards of Conduct, the School of Nursing has a "no gift" policy. A donation to one of the UTA School of Nursing Scholarship Funds, found at the following link: Nursing Scholarship List 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.

PhD COURSE SUPPORT STAFF:	**Vivian Lail-Davis**, Admin. Assistant, Room 512; Phone: (817) 272-1038; Fax: (817) 272-2950; Email: vivian@uta.edu
LIBRARY INFORMATION:	**Helen Hough**, Nursing Librarian (817) 272-7429 hough@uta.edu Research Information on Nursing: http://www.uta.edu/library/research/rt-nursing.html
MISCELLANEOUS INFORMATION:	Inclement Weather (School Closing) Inquiries: Metro (972) 601-2049

Fax Number - UTA School of Nursing: (817) 272-2950
Attn: PhD in Nursing Office

UTA Police (Emergency Only): (817) 272-3003

Mailing Address for Packages:
UTA School of Nursing
C/O (insert faculty name)
411 S. Nedderman Drive, Pickard Hall
Arlington, Texas 76019-0407

The University of Texas at Arlington
School of Nursing
PhD in Nursing Program

PHD IN NURSING WEBSITES

Description	Website
University of Texas Home Page	http://www.uta.edu
Graduate Catalog & Faculty	http://www.uta.edu/gradcatalog/nursing
PhD in Nursing Programs	http://www.uta.edu/nursing/PhD/program.php
PhD Nursing Courses & **Syllabi**	http://www.uta.edu/nursing/PhD/course_descriptions.php
Faculty and Staff Email Contacts and Biosketches	http://www.uta.edu/nursing/faculty.php
♦ Graduate Forms ♦ Student Confidentiality Statement ♦ Liability Policy ♦ Health Insurance Verification Form ♦ Traineeship Statement Forms	http://www.uta.edu/nursing/PhD/forms/
Criminal Background Check (Group One)	http://www.dfwhc.org/GroupOne/
Instructions for E-Reserves	http://www.uta.edu/library/ Select under Library Catalogs 　(UTA Library Catalogs) Select Course Reserves 　Look for Instructor's Name 　Click Search 　Select Article 　Password is course abbreviation and course 　number. 　ALL CAPS no spaces (ex. NURS5340).