

**NURS 6390-001: Topics in Nursing: Nonparametric Statistics**  
Fall 2012

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

**Office Number:** Pickard Hall, CNR

**Office Telephone Number:** 817.272.2776

**Email Address:** cipher@uta.edu

**Office Hours:** Wednesdays 2pm to 4pm

**Section Information:** NURS 6390, Section 001

**Time and Place of Class Meetings:** Pickard Hall, room 216, Wednesday, 4:00 – 6:50 pm

**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; reliability and validity of instruments commonly used on nursing; outcome measurement in health care; common research designs in health care research; nonparametric statistics for dependent samples and independent samples; logistic regression; and survival analysis.

**Student Learning Outcomes:**

1. The identification and classification of variables in health care research.
2. Understanding outcome measurement specific to patient care settings.
3. Building and managing databases of patient outcome data.
4. Choosing and applying the appropriate research design to answer a given study research question.
5. Making correct statistical choices (parametric versus nonparametric) for comparing dependent and independent samples.
6. Conceptualize, compute, summarize, and interpret the Wilcoxon signed test and Signed-rank test.
7. Conceptualize, compute, summarize, and interpret logistic regression.
8. Compute and interpret test of hypotheses for logistic regression.
9. Discuss the relationship between logistic regression and contingency table analysis.
10. Conceptualize one-sample and two-sample survival analysis.
11. Compute and interpret the Kaplan-Meier survival function.
12. Conceptualize and interpret Cox regression models.
13. Use SPSS to analyze data using each of the statistical methods covered in this class

**Required Textbooks and Other Course Materials:**

None – handouts are the primary reading material, located on Blackboard (elearn.uta.edu)

Recommended:

1. Daniel, W.W. (2000). *Applied Nonparametric Statistics*. Duxbury Press.
2. Zar, J.H. (1999). *Biostatistical Analysis*, 4th ed. Upper Saddle River: Prentice-Hall.
3. Green, S.B., & Salkind, N.J. (2004). *Using SPSS for Windows and Macintosh: Analyzing and Understanding Data* (4<sup>th</sup> Edition): Prentice-Hall.

## **Course Topics:**

Review Introductory Statistical Concepts

August 29

Reliability – Internal consistency

***Handout 1 + Instruments***

Reliability and Validity:

Internal consistency, test-retest & inter-rater reliability

Convergent and Discriminant Validity

***Handout 2***

September 5

HW 1 due

Scales of Measurement

Measurement Theory

Outcome Measurement in Health Care

***Handout 3 + Articles***

September 12

HW 2 due

Applied Exploratory Factor Analysis:

Understanding Factor Loadings in Measurement

***Handout 4 + Articles***

September 19

## **MIDTERM EXAM**

September 26

HW 3 due

Choosing Between Parametric and Nonparametric

Statistics; Performing Tests of Normality

Nonparametric statistics for independent samples:

Mann-Whitney U Test

***Handouts 5 and 6***

October 3

Nonparametric statistics for independent samples:

Kruskal-Wallis one-way analysis of variance

Nonparametric statistics for dependent samples:

Sign Test and Wilcoxon Signed-Rank Test

***Handouts 7 and 8***

October 10

HW 4 due

Simple Logistic Regression

***Handouts 9 and 10***

October 17

HW 5 and 6 due

Multiple Logistic Regression

***Handout 11***

October 24

Life Tables and Kaplan Meier Survival Analysis

**Handout 12**

October 31

HW 7 due

Cox Regression Analysis

**Handout 13**

November 7

HW 8 due

Final Exam Review

**Review Worksheet and Datasets**

November 14

HW 9 due

**Thanksgiving Holiday, no class**

November 21

**FINAL EXAM**

November 28

**Requirements:**

***Course prerequisite: Introductory statistics course; mastery of basic computer management tasks, proficiency in Microsoft Word and Microsoft Excel, proficiency performing functions within any statistical software package.*** Moreover, this class requires mastery in the application of hypothesis testing, p values, descriptive statistics, correlation, confidence intervals, ANOVA, t-tests, and chi-square tests.

**This course requires the completion of 1 midterm exam, 1 final exam, and 9 homework assignments.** 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 the statistical software package, SPSS. SPSS is available in Pickard Hall 216. You must accompany all Homework Assignments with "Homework Summary Sheet" provided on the handout website.

**Homework is due on the date indicated on the schedule, in class (no electronic submissions) by 7:00pm CST. Homework turned in after the due date will not be counted, unless you obtain written permission from the instructor. Please note that such permission will only be granted in cases of family emergency/illness or a similar event.**

HW 1: Compute KR-20 coefficient on dataset using pencil/paper and SPSS

HW 2: Compute Kappa coefficient on dataset using pencil/paper and SPSS

HW3: Compute factor analysis using SPSS

HW 4: Compute Mann-Whitney U test using pencil/paper and SPSS

HW 5: Compute Kruskal-Wallis ANOVA using pencil/paper and SPSS

HW 6: Compute Sign test and Wilcoxon rank-sum test using pencil/paper and SPSS

HW 7: Compute logistic regression analysis using SPSS

HW 8: Compute Kaplan-Meier survival analysis using SPSS

HW 9: Compute Cox regression analysis using SPSS

**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 audiovisually and active participation from all class members is expected.

**Descriptions of major assignments and examinations with due dates:** The midterm exam is September 26. The final exam is November 28. Together, these exams account for 66.67% of the course grade. The 9 homework assignments are due on the dates indicated above. Failure to take the exams on the designated exam days will result in an exam grade of zero.

**Grading Policy:**

	<u>% of Final Grade</u>
Homework Assignments:	1/3
Midterm Exam	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.	

**Attendance Policy:** Regular class attendance and participation is expected of all students. Students are responsible for all missed course information.

**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](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](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: October 31, 2012**

**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](http://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](http://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](mailto:helpdesk@uta.edu).

**Librarian to Contact:**

**Helen Hough**, *Nursing Librarian*

Phone: (817) 272-7429

E-mail: [hough@uta.edu](mailto: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](http://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](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.***

## **Departmental Office/Support Staff**

### **Department of Advanced Nurse Practice**

**Mary Schira**, PhD, Rn, ACNP-BC  
Associate Dean and Chair; Graduate Advisor  
Email: [Schira@uta.edu](mailto:Schira@uta.edu)

**Sheri Decker**, Assistant Graduate Advisor  
Office # 606-Pickard Hall, (817)-272-2776 ext.0829  
Email: [s.decker@uta.edu](mailto:s.decker@uta.edu)

**Rose Olivier**, Administrative Assistant I  
Office # 605-Pickard Hall, (817) 272-2776 ext. 4796  
Email: [Olivier@uta.edu](mailto:Olivier@uta.edu)

**Roshanda Marks**, Senior Office Assistant  
Office # 610-Pickard Hall, (817)-272-2043 ext. 4856  
Email: [r.marks@uta.edu](mailto:r.marks@uta.edu)

### **Department of MSN Administration, Education, and PhD Programs**

**Jennifer Gray**, RN, PhD  
Associate Dean and Chair, Graduate Advisor  
Email: [jgray@uta.edu](mailto:jgray@uta.edu)

**Vivian Lail-Davis**, Administrative Assistant II  
Office # 512-Pickard Hall, (817)-272-1038  
Email:

**Felicia Chamberlain**, Administrative Assistant I

Office # 515- Pickard Hall (817)-272-0659

Email: [chamberl@uta.edu](mailto:chamberl@uta.edu)

**Suzanne Despres**, AP Program, Assistant Graduate Advisor

Office # 512A- Pickard Hall (817)-272-1039

Email: [sdepres@uta.edu](mailto:sdepres@uta.edu)