NURS 9007: Applied Statistical Methods in Nursing

Semester/Year: Summer, 2014
Time/Location: 100% Online
Instructor: Frances Chumney, PhD
Office Location: Education Annex, room 153
Office Hours: By appointment
Telephone: Direct Line: (678) 839-6123
Department Line: (678) 839-6558
Email: Send email via CourseDen (in case of emergency, fchumney@westga.edu)
Online Support: D2L Home Page
https://westga.view.usg.edu/
D2L UWG Online help
http://uwgonline.westga.edu/students.php
D2L 24 hour Help
https://d2lhelp.view.usg.edu/
UWG Distance Learning
http://uwgonline.westga.edu/
Distance Learning Library Services
http://libguides.westga.edu/content.php?pid=194430
Resources for Distance & Off-Campus Students
http://libguides.westga.edu/content.php?pid=194459
Ingram Library Services
http://www.westga.edu/library/
University Bookstore
http://www.bookstore.westga.edu/

COURSE DESCRIPTION

This course provides the student with the opportunity to examine statistical methods for nursing research studies. Emphasis is on the utilization and interpretation of descriptive and inferential statistics. An additional emphasis will be on critiquing data analysis in current research articles.


APPROACHES TO INSTRUCTION

This course will be delivered entirely online using UWG’s CourseDen system, other Internet resources, and printed materials. Various pedagogical methods will be used for this course, including (but not limited to) static and narrated PowerPoint presentations, pre-recorded lectures, videos, and online discussions. All evaluation criteria upon which grades will be based are described in detail below.

Assignment due dates are included in the Course Schedule at the end of this document. A complete list of reading assignments and supplemental learning activities for each unit is provided as part of the corresponding learning module on CourseDen.

This course will be delivered 100% online. This requires the online equivalent of 2250 minutes of instruction (seat-time) and an additional 4500 minutes of supporting activities. As such, you will be required to complete the following online activities during this course:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Instructional Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio/Video Lectures/Instruction</td>
<td>2250 minutes (37.5 hours)</td>
</tr>
<tr>
<td>Readings</td>
<td>960 minutes (16 hours)</td>
</tr>
<tr>
<td>Other Activities/Assignments</td>
<td>3540 minutes (59 hours)</td>
</tr>
</tbody>
</table>

COURSE OBJECTIVES

Students will be able to:

1) Identify methods for organizing and displaying data;
2) Examine principles of selected multivariate analyses and their application to nursing research;
3) Compare and contrast selected multivariate statistical methods used to analyze research data;
4) Apply knowledge of inferential statistics and hypothesis testing;
5) Select appropriate statistical tests for a particular data set;
6) Critique research studies with a focus on the data analysis procedures.

TEXTS, INSTRUCTIONAL RESOURCES, REFERENCES

Required Text


Recommended Texts

ASSIGNMENTS

Evaluation of student performance in this course is based on successful completion of various tasks throughout the semester, including applied practice assignments and content quizzes. Each type of task is described below. Additional information will be provided to students via CourseDen.

Online Discussions

Online discussions enable students to share thoughts, exchange ideas, ask questions, and develop a more complete understanding of course content and its real-world applications. A discussion forum will be available for each module of this course. Students are strongly encouraged to participate in the discussion activities of the course, but this is not a course requirement. In past semesters, students who use the discussion boards to share ideas, ask questions, and interact with the instructor and other students generally learn more from the course and earn better grades.

Syllabus Quiz

To ensure students are familiar with and understand the expectations of this course, students will complete a syllabus quiz. One hour (60 minutes) will be allowed for each quiz attempt; once you begin a quiz, it cannot be paused. The syllabus quiz consists of 10 multiple-choice items covering the expectations and policies governing this course.

The syllabus quiz will not be used to calculate students’ grades in this course. However, the syllabus quiz must be completed with a score of at least 90% in order for this course requirement to be satisfied. Students will be allowed to attempt the syllabus quiz an unlimited number of times.

Applied Practice Assignments

An important part of the process of learning about statistical methods is the opportunity to apply newly acquired knowledge. Students will complete ten (10) assignments. To complete each assignment, students will complete a variety of tasks, but most assignments consist of (a) selecting an appropriate analytic technique, (b) calculating/computing relevant test statistics, and (c) interpreting the results.

The goal of the assignments in this course is to provide students the opportunity to practice analyzing data. For this reason, assignments will be graded for mastery. This means students who earn an assignment grade below the mastery level of 80% (80 points) have the option of resubmitting their corrected assignment for an improved score. Resubmitted work can earn up to 80% of the total possible score for the assignment. Revised assignments must be submitted within 3 days of receiving feedback from the instructor, and no later than the final turn-in date for all course assignments (as listed on the course schedule). Further instructions for resubmitting assignments are provided via CourseDen.

More information about each assignment (detailed instructions, rubrics, additional resources) is available on CourseDen. Each assignment is worth up to 100 points toward the final course grade. Thus, assignments are worth up to a total of 1000 points (100 points per assignment × 10 assignments) = 1000 points.

Course Objectives: 1, 2, 3, 4, 5, 6
EVALUATION PROCEDURES & GRADING

Final course grades will be based on the total number of points earned for completing the applied practice assignments. In total, 1000 points are possible in this course. Due dates are firm, and are included in the course schedule presented at the end of this document.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syllabus Quiz</td>
<td>0</td>
</tr>
<tr>
<td>Applied Practice Assignments</td>
<td>1000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1000</strong></td>
</tr>
</tbody>
</table>

**Syllabus.** Students are responsible for completing the syllabus quiz. Any student who does not complete the syllabus quiz with a score of at least 90% will have 21% of the total possible points deducted from their final grade. For example, a student who earns 100% of the points in this course but does not complete the syllabus quiz will earn a grade of C (100% - 21% = 79%) in this course.

**Accountability Clause.** Students are responsible for completing all assigned tasks. For each graded activity a student fails to complete, 10% of the total possible points will be deducted from their final grade. For example, a student who earns 94% of the possible points in this course but does not complete Assignment 2, will earn a grade of B (94% - 10% = 84%) in this course. Similarly, a student who earns 89% of the possible points but fails to complete both the Assignment 2 and Assignment 7 will earn a final grade of D (89% - 10% - 10% = 69%).

To avoid the penalty associated with the accountability clause, students must submit all work no later than 11:59 PM on the last day of the course. Work submitted late is subject to the Late Work policy stated below, but must be turned in to satisfy the course’s Accountability Clause.

**Grading**

A = 90% - 100%, B = 80% - 89%, C = 70% - 79%, and F = Below 70%.

CLASS, DEPARTMENT, AND UNIVERSITY POLICIES

**Class Policies**

**Class Materials.** All course materials will be available via CourseDen. Inability to effectively navigate CourseDen is not an acceptable excuse for missing deadlines. UWG provides helpful resources to facilitate online learning ([http://www.westga.edu/~distance/webct1/students/](http://www.westga.edu/~distance/webct1/students/)). If you need additional assistance learning to use CourseDen for this course, contact the instructor during the first week of the semester.

**Grade Questions/Disputes.** All concerns regarding grades should be addressed directly to the instructor within three (3) days of grade assignment. You are welcome to contact the instructor by phone to discuss grades; you will be asked to send an email to the instructor which outlines your concern. Having a written record of any concerns will help both the student and instructor to understand both the issue at hand as well as how that concern is addressed and resolved.
Email & Course Communication. University of West Georgia students are provided a MyUWG email account. The University considers this account to be an official means of communication between the University and the student. It is the student’s responsibility to check this email account for important University-related information.

The primary means of communication between instructor and students for this course will be email. Specifically, the instructor will send information and announcements to students using the email feature within CourseDen. Students are responsible for knowing how to access within the CourseDen system, and for checking email regularly. The instructor will make every effort to respond to emails in a timely manner (generally within 24 hours).

In addition to emails, information and announcements relevant to this class will be posted to the “News” section of the CourseDen course web site.

Late Work. Due dates are firm! Late submissions will not be graded, except in emergency situations. Documentation of any emergency event which prevents students from completing course expectations by their due dates will be required. All due dates are included on the course schedule (below), and will be included in students’ module course activity lists and updates from the instructor. All assignments are due no later than 11:59 pm (EST) on the date provided in the course schedule.

Students who fail to complete a task by its deadline will not earn points toward their final grade in the course, but are encouraged to submit the work late to avoid an additional 5% deduction from their final course grade, as specified by this course’s Accountability Clause.

Technical Disasters. A special challenge online students face is technology. Students are responsible for knowing how to use the equipment they select for completing course tasks, as well as for ensuring their equipment works consistently. Due dates will not be extended to accommodate “technical disasters,” except when the problem is due to a documented failure in the CourseDen system. A documented failure is one that can be verified by CourseDen technical support. Therefore, students should double-check to make sure quizzes and dropbox documents have been submitted as intended.

Professional Conduct. Students are expected to conduct themselves professionally. Professionalism includes but is not limited to the following:

✓ Participating in class interactions and activities in an online environment in a positive manner;
✓ Turning in assignments on time;
✓ Showing respect to the instructor and other students;
✓ Composing emails and discussion posts characterized by complete sentences (except in the case of bulleted lists), correct grammar and spelling, and appropriate punctuation.

Please remember that joking, teasing, and other comments (which may be perfectly acceptable in person) can be easily misunderstood when expressed in written form, including email and discussion posts. This is not to say that informal conversation is inappropriate in this course, but a friendly reminder of a special challenge to the online learning environment.
University Policies

Please carefully review the information pertaining to Common Language for Course Syllabi (http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf). It contains important information related to your rights and responsibilities in this class. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.

Academic Dishonesty. The university has a responsibility to promote academic honesty and integrity, and to develop procedures to deal effectively with instances of academic dishonesty. All work completed in this course must be original work developed this semester. Students are expected to adhere to the highest standards of academic honesty. Plagiarism occurs when a student uses or purchases ghostwritten papers. It also occurs when a student utilizes ideas or information obtained from another person without giving credit to that person. If plagiarism or another act of academic dishonesty occurs, it will be dealt with in accordance with the academic misconduct policy as stated in the latest Student Handbook and the Graduate Catalog.

Accommodations for Students with Disabilities. All students are provided with equal access to classes and materials, regardless of special needs, temporary or permanent disability, special needs related to pregnancy, etc. If you have any special learning needs, particularly (but not limited to) needs defined under the Americans with Disabilities Act, and require specific accommodations, please do not hesitate to make those known, either yourself or through the Coordinator of Disability Services. Students with documented special needs may expect accommodation in relation to classroom accessibility, modification of testing, special test administration, etc. Any student with a disability documented through Student Services is encouraged to contact the instructor immediately so that appropriate accommodations may be arranged. For more information, please contact Disability Services at the University of West Georgia, http://www.westga.edu/studentDev/index_8884.php.
## COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Dates</th>
<th>Content Topics &amp; Due Dates*</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2-4</td>
<td>Module 0: Welcome to Course, Syllabus Review, Introduction to Research&lt;br&gt;✓ Syllabus Quiz (due 6/8)</td>
</tr>
<tr>
<td>June 5-6</td>
<td>Module 1: Organizing &amp; Displaying Data&lt;br&gt;✓ Assignment 1: Organizing &amp; Displaying Data (due 6/9)</td>
</tr>
<tr>
<td>June 9-10</td>
<td>Module 2: Descriptive Statistics&lt;br&gt;✓ Assignment 2: Descriptive Statistics (due 6/14)</td>
</tr>
<tr>
<td>June 16-18</td>
<td>Module 4: Correlation&lt;br&gt;✓ Assignment 4: Correlation (due 6/22)</td>
</tr>
<tr>
<td>June 19-23</td>
<td>Module 5: Regression&lt;br&gt;✓ Assignment 5: Regression (due 6/27)</td>
</tr>
<tr>
<td>June 24-27</td>
<td>Module 6: Chi-square &amp; McNemar&lt;br&gt;✓ Assignment 6: Chi-square &amp; McNemar (due 7/1)</td>
</tr>
<tr>
<td>June 30 - July 3</td>
<td>Module 7: Independent t test &amp; Mann-Whitney U&lt;br&gt;✓ Assignment 7: Independent t &amp; Mann-Whitney U (due 7/7)</td>
</tr>
<tr>
<td>July 7-10</td>
<td>Module 8: Paired Samples t test &amp; Wilcoxon Signed Ranks&lt;br&gt;✓ Assignment 8: Paired samples t &amp; Wilcoxon Signed Ranks (due 7/14)</td>
</tr>
<tr>
<td>July 11-16</td>
<td>Module 9: One-way ANOVA &amp; Kruskal-Wallis H&lt;br&gt;✓ Assignment 9: One-way ANOVA &amp; Kruskal-Wallis H (due 7/20)</td>
</tr>
<tr>
<td>July 17-18</td>
<td>Module 10: ANOVA, ANCOVA, MANOVA, Factor Analysis&lt;br&gt;✓ Assignment 10: ANOVA, ANCOVA, MANOVA, FA (due 7/20)</td>
</tr>
<tr>
<td>July 21-22</td>
<td>Course Wrap-Up&lt;br&gt;✓ Final deadline to submit revisions to Assignments (due 7/22)</td>
</tr>
</tbody>
</table>

*Refer to CourseDen for a complete list of materials/activities associated with each learning module.

Please take a few minutes to complete an evaluation of this course at the end of the semester!