

Oakland University School of Nursing

Statistics in Advanced Nursing Practice

**NRS 5302 (595)
CRN #12510**

Faculty:

**Julie A. Kruse, PhD, RN
Associate Professor**

Winter 2018



GRADUATE SCHOOL

Course Syllabus

COURSE NUMBER	NRS 595- CRN # 12510; NRS 5302
CREDITS & HOUR ALLOCATION	3
COURSE TITLE	Statistics in Advanced Nursing Practice
CLASS TIME	January 3, 2018 – April 25, 2018 (Winter 18)
LOCATION	Online

FACULTY OF RECORD

Instructor:	Julie Kruse PhD, RN
	Associate Professor
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Office Hours:	By appointment
Classroom:	Online

I. Course Overview

This course focuses on developing a conceptual understanding of statistical tests and analyses to appropriately evaluate their use in scholarly literature. Statistical software will be used to perform a variety of descriptive and inferential statistics. In addition, data analysis techniques will be used to evaluate nursing interventions and program outcomes.

II. Course Objectives

1. Demonstrate a conceptual understanding of statistical tests and analyses.
2. Critique Statistical analyses presented in scholarly literature. (Essential III)
3. Use statistical software to analyze data.
4. Interpret statistical findings and convert analyses into tables/figures.
5. Evaluate outcome data using statistical principles to develop strategies to reduce risks and improve health outcomes. (Essential V)
6. Apply data analysis techniques to evaluate nursing interventions and program outcomes. (Essential III)

III. Essential Content

- Issues in data analysis
- Principles of statistical inference



- Descriptive statistics
- Inferential statistics
- Application of statistical principles and strategies to analyze and evaluate outcome data

IV. Technical Requirements

All e-Learning courses at Oakland University are delivered using a learning management system called Moodle that allows instructors to design entire courses online or to enhance a classroom-based course. The Moodle software resides on a server allowing students to access it via a web browser, e.g. Mozilla, Firefox. Each course is uniquely designed by the instructor who may include some of the following components in his/her web-based or web enhanced course: course syllabus, course material/content, course assignments, quizzes/tests, hyperlinks to other websites on the Internet and/or other OU web pages, discussion boards, Internal email, and the course grade book.

Logging into Moodle

Students login to Moodle with their NetID (oakland.edu email) account password. Please remember that anytime you change your NetID password, it will be reflected in your Moodle login.

- Open the Moodle Login page: <https://moodle.oakland.edu>
- Log-in using the first part of your NetID username and password, e.g. if your email is jwilson3@oakland.edu then:
 - Username: jwilson3
 - Password: whatever your Oakland University email password is

If you have any problems/issues with Moodle, you need to contact or fill out a help desk request form for e-Learning and Instructional Support.

To view course materials in Moodle you will need the latest version of Adobe Reader that can be downloaded free of charge at www.adobe.com

V. Academic Conduct

Students are expected to practice and uphold standards of academic integrity as outlined in the Oakland University Undergraduate and Graduate catalogs under the section titled "Academic Conduct". Academic dishonesty may result in a numerical grade of 0.0 for this course.

In addition to the Oakland University Academic Conduct policy, students in the School of Nursing are expected to complete all course-related assignments independently, except in the specific circumstance when the assignment requires group effort.

VI. Americans with Disabilities Act (1990)

The Office of Disability Support Services (DSS) is the campus office responsible for verifying that students have disability-related needs for academic accommodations and for planning student appropriate accommodations. Students with learning, psychological, or physical disabilities who require academic accommodations should contact DSS at: 103A North Foundation Hall, Phone: 248-370-3266; TTY: 248-370-3268.

Students may request to meet with Linda Sisson, the DSS Director, privately to discuss specific accommodation needs. Please contact DSS at 248-370-3266 to arrange an appointment.

VII. Student Perception of Faculty Teaching Effectiveness

Students will be provided the opportunity to evaluate this course and faculty toward the end of the semester. The information students provide regarding the course and faculty is extremely valuable to both the School of Nursing faculty and administration. Student feedback is especially useful for faculty as they continue to revise and refine course content and teaching strategies. Please take the time to complete the evaluation forms. We appreciate your time and attention to this important matter.

VIII. Student Nurse Professionalism Expectations

Students in the School of Nursing (SON) are educated in classroom, laboratory, simulation, and clinical settings that constitute professional learning environments. The American Nurses Association (2015) Scope and Standards of Practice are the standards of the nursing profession and identify behaviors that are expected of every registered nurse. It is imperative that these behaviors be demonstrated in all professional settings- including online.

(Please refer to the student handbook for the entire document.)

IX. Required Textbooks

Kim, M., & Mallory, C. (2017). *Statistics for evidence-based practice in nursing* (2nd ed.). Burlington, MA: Jones & Bartlett Learning.

Pallant, J. (2016). *SPSS survival manual* (6th ed.). New York, NY: McGraw-Hill.

OR

Pallant, J. (2013). *SPSS survival manual* (5th ed.). New York, NY: McGraw-Hill.

X. Recommended Textbook

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: American Psychological Association.

XI. Class Format

Consistent with the schedule of classes, this course is offered online. No in-person meetings can be required/scheduled. **Weekly synchronous WebEx sessions** will be provided to ensure student success in the course. The format for the live WebEx session will be as follows: 1) Clarification of any concepts from the week prior, 2) Presentation of essential content for the week, 3) Review and analysis of sample problem/s, 4) Question and answer session, and 5) If time permits, you may start to work on the Weekly Statistics & Data Analysis Assignment.

The weekly synchronous WebEx sessions will be offered with times and dates to be determined. All sessions will be recorded for those who cannot attend the live sessions.

Readings, course activities and assignments are available on the Moodle course site in a topic format designed for a self-paced workload. Completion of all the required assignments is mandatory in order to successfully complete this course.

The faculty reserves the right to modify the site due to unforeseen circumstance although every effort is made to keep the intended content. Any change/modification will be clearly communicated by the Faculty of Record either by Moodle email, forum posting, and/or announcement during regularly scheduled meeting times. It is the responsibility of the student to keep up to date with information that is communicated. Adjustments and updates will also posted on the Moodle course page and listed within the appropriate topic.

XII. General Course Information

University Information: The Oakland University and School of Nursing follows the academic calendars as described by Oakland University web site/Office of the Registrar. Policies and procedures can found in the Oakland University catalog and School of Nursing handbook and will be followed in the course.

Computer Access: Students are expected to have computer access and have regular access the course site throughout the semester in order to participate in online activities that will be used to facilitate assignments. Students experiencing computer difficulties should plan to have a backup method available. Non-participation based upon lack of access will not be approved unless prior approval has been provided.

Netiquette: Electronic communication lacks inflection and expression that is captured in verbal communication so please be cognizant during open exchanges of ideas. Any communication using offensive language, slang, or inappropriate content will be treated



on an individual basis and assignments may result in a failing grade or dismissal from the course.

Meeting with Faculty: I am routinely available for email communication however if face to face meeting is desired, please email to schedule and secure a meeting time.

Progression and Success: It is my goal to help each student achieve success in the course and meet the objectives however it is also the student's responsibility to contact the Faculty of Record to discuss progression concerns. It is recommended that any student receiving a failing grade contact the Faculty of Record via course email.

XIII. APA Format Writing Expectations

The American Psychological Association 6th edition (2009) format will be expected for written assignments and reference citations of sources. Headers, a cover page and numbering are not necessary for the weekly homework assignments but double spacing, attention to grammar, and a reference format is expected.

XIV. Student and Teacher Expectations

Students are expected to:

1. Complete all reading assignments before each class
2. Ensure that their computer is compatible with Moodle
3. Login to Moodle as needed during the week to complete weekly activities
4. Follow the calendar of events and complete all assignments by their deadline
5. Respond to emails within 2 days
6. Participate in the course in a thoughtful manner
7. Respect rules of netiquette
 - a. Respect your peers and their privacy
 - b. Use constructive criticism
 - c. Refrain from engaging in inflammatory comments

The teacher is expected to:

1. Login to the course every day
2. Moderate conversations in question and answer forums
3. Respond to email within 2 days
4. Grade assignments within 2 weeks of the assignment deadline

XV. Evaluation and Grading

The Grading Scale follows the policy of the Graduate School:

GRADUATE GRADE CONVERSION Oakland University – School of Nursing							
PERCENTAGE	GPA	PERCENTAGE	GPA	PERCENTAGE	GPA	PERCENTAGE	GPA
99.00 - 100	4.0	85.00 - 86.99	3.3	85.00 - 86.99	3.3	70.00 - 71.99	2.5
97.00 - 98.99	3.9	83.00 - 84.99	3.2	80.00 - 80.99	3.0	68.00 – 69.99	2.4
95.00 - 96.99	3.8	81.00 - 82.99	3.1	78.00 – 79.99	2.9	66.00 – 67.99	2.3
93.00 - 94.99	3.7	85.00 - 86.99	3.3	76.00 – 77.99	2.8	64.00 – 65.99	2.2
91.00 - 92.99	3.6	83.00 - 84.99	3.2	74.00 – 75.99	2.7	62.00 – 63.99	2.1
89.00 - 90.99	3.5	81.00 - 82.99	3.1	72.00 – 73.99	2.6	60.00 – 61.99	2.0
87.00 - 88.99	3.4						

XVI. Final Grades will be Determined as Follows:

Assignments	Percent of Grade
Weekly Statistics & Data Analysis Assignments	25%
Weekly Review and Research Article Critique	25%
Mid-Term Exam	25%
Final Exam	25%
Total	100%

XVII. Assignment Descriptions

Weekly Statistics & Data Analysis Assignments: 25%

Weekly class sessions include the experience of using your computer for data analysis. You will be given a weekly statistics and data analysis assignment. Completion of all assignments is required. We will spend some time in class working through sample problem/s which relate/s to the homework assignment for the week. If time permits, you may work on your weekly statistics and data analysis assignment while in the live WebEx session.

Most weekly assignments will require you to: 1) perform an analysis of a given data set and 2) write a brief paragraph for the results you have obtained. Both parts of the assignment will need to be uploaded to our Moodle site.

You will be expected to use SPSS and Microsoft Word to prepare the assignment. Each assignment is due by the date indicated on our Moodle site (which equates to the next class session). The assignments will serve as a basis for discussion about interpreting and drawing appropriate conclusions about the data. You will be given credit for the assignment when turned in each week.



To meet the requirements of the computer assignments, you will use a provided SPSS data set. There is a set questionnaire which corresponds to this data set. Both the data and a copy of the questionnaires is located in our Moodle site. Please note that you cannot complete these assignments at home unless you have SPSS and Windows software installed on your computer. All of the computer clusters on campus have SPSS available for your use.

The latest SPSS network distribution software is available to you for no cost. Information for installation can be found using the following link:
<https://kb.oakland.edu/uts/SPSS%20Campus%20License%20FAQ>

Weekly Review and Research Article Critique: 25%

Students in previous years have supported a short weekly review (quiz) each week on materials covered the previous week. This has helped students to reinforce concepts and stay current with the material.

Additionally, one of objectives of the course is to be able to read and critique research articles with a special focus on the results section. Students have consistently evaluated that the course has immensely helped them to read and understand the data analysis used in research studies. To that end, each week you will read an assigned research article. In reading the research articles, it will be important that students provide their own evaluations and raise important questions about the data analyses used.

Therefore, each week you will be given a series of questions related to 1) material covered the previous week, and 2) material related to the analysis of the research article. Since you are learning new material and the point is to learn from your mistakes, your lowest score on the weekly review will be thrown out to calculate your points for this learning activity. If your average score is 80% or better, you will receive 25 points; if 70% or better you will receive 20 points; if less than 70% you will receive 15 points. It is expected that each student follow the university honesty policy for test-taking when completing weekly reviews.

Mid-Term and Final Exams: 25% each; Total 50%

A mid-term and final exam will be given during the week indicated on the syllabus. The mid-term exam will cover concepts and materials up to what has been covered in class at midterm whereas the final exam is comprehensive for the entire course. The examination will only be given during the weeks when they are scheduled. The weekly reviews and statistics and data analysis assignments will prepare you well for the final examination. It is expected that each student follow the university honesty policy for test-taking when completing exams.



XIX. Course Schedule (at a glance):

Date	Topic/Activity	Reading Assignments	Assignment Due Dates
Week 1: 1/3	Introduction to the course Why do I need to take statistics? Statistical essentials	Kim & Mallory: Chapters 1, 2, & 3	
Week 2: 1/10	Designing a study, coding, getting to know SPSS, data entry, and preliminary analysis	Pallant: Chapters 1, 2, 3, & 4	
Week 3: 1/17	Screening and cleaning the data, manipulating the data by recoding and computing variables	Pallant: Chapters 5 & 8	Data Analysis Assignment: Data Entry
Week 4: 1/24	Descriptive statistics, using graphs to describe and explore the data, levels of measurement, frequencies and percentages	Pallant: Chapters 6 & 7	Data Analysis Assignment: Recodes
Week 5: 1/31	Descriptive statistics in nursing research	Kim & Mallory: Chapter 6 Pallant: Chapter 10	
Week 6: 2/7	Hypothesis testing	Kim & Mallory: Chapter 7	Data Analysis Assignment: Descriptives
Week 7: 2/14	Normality	Kim & Mallory: Chapter 8 Pallant: Chapter 8 (review again if needed)	
Week 8: 2/21	Winter Break: February 18th-27th		
Week 9: 2/28	Nonparametric tests: Nominal level of measurement; use and interpretation of Chi-Square in nursing research	Kim & Mallory: Chapters 13 & 14 Pallant: Chapter 16	Data Analysis Assignment: Normality
Week 10: 3/7	Mid-term Exam Posted		Data Analysis Assignment: Chi-Square
Week 11: 3/14	T-tests: independent-samples & paired; use and interpretation in nursing research	Kim & Mallory: Chapter 11 Pallant: Chapter 17	Mid-term Exam Due
Week 12: 3/21	Analysis of variance	Kim & Mallory: Chapter 12 Pallant: 18, 19, 20, 21, & 22	Data Analysis Assignment: T-test
Week 13: 3/28	Correlation: use and interpretation in nursing research	Kim & Mallory: Chapter 9 Pallant: Chapter 11 & 12	Data Analysis Assignment: One-way ANOVA
Week 14: 4/4	Multiple regression in nursing research	Kim & Mallory: Chapter 10 Pallant: Chapters 13 & 14	Data Analysis Assignment: Correlations
Week 15: 4/11	Reliability in nursing research Common statistical mistakes	Pallant: Chapter 9 Kim & Mallory: Chapter 15	Data Analysis Assignment: Multiple Regression
Week 16: 4/18	University Study Day Final Exam Posted		Data Analysis Assignment: Reliability
Week 17: 4/25	Final Exam		Final Exam Due

Note: The faculty of record reserves the right to alter the assigned course schedule as needed; however, alteration will be announce to the class in advance.