



**UNIVERSITY OF ALBERTA  
COLLABORATIVE BACCALAUREATE  
NURSING PROGRAM**

**Keyano College**  
Grande Prairie Regional College  
Red Deer College  
University of Alberta

**NURSING 388  
NURSING RESEARCH AND STATISTICS  
COURSE SYLLABUS  
(2<sup>nd</sup> Year BScN)**

January 8<sup>th</sup>, 2018 – April 20<sup>th</sup>, 2018

**"Do not go where the path may lead, go instead  
where there is no path, and leave a trail"**

*Ralph Waldo Emerson*

**Tutor: Arlene Starkes, BSc, BNRN, MN**

Revised December, 2017

**NURSING 388A: Nursing Research and Statistics**  
**Course Syllabus Winter 2018**

**CALENDAR STATEMENT:**

**NURS 388 Nursing Research & Statistics**

Students will be introduced to the process of research through a comparative analysis of selected studies exemplifying different theoretical, methodological, and analytical approaches. Emphasis will be on understanding the research process, in knowing how to critically read, analyze, and begin to apply the knowledge gained from research in practice. Students will gain an understanding of descriptive & inferential statistics used in nursing research. Students will also examine trends and issues in developing evidence-based practice for the profession of nursing.

Co-requisite: NURS 206/NURS 207 or NURS 208/209

**COURSE HOURS**

6 Credits (5 hours of lecture & 1 hour of lab activities per week, over 14 weeks; there is an additional estimated time of 30 hours for independent study activities).

**COURSE DESCRIPTION:**

This course is designed to develop the student's knowledge and appreciation of the research process, and of the relationship between research, theory, and practice. Emphasis will be placed on the utilization of nursing research in practice, and on the practitioner as a consumer of nursing research. This course introduces students to the process of research through critical appraisals of quantitative and qualitative studies. Emphasis will be on understanding the research process and in knowing how to critically read, evaluate, and begin to apply research findings in practice. All aspects of the planning & implementation phases of research will be examined, including the research problem and purpose, literature review, theoretical/conceptual frameworks, variables, research questions and hypotheses, ethics of research, research designs, and population and samples, data collection, data analysis (descriptive & inferential statistics) and interpretation of findings.

**TUTOR INFORMATION**

Arlene Starkes, BSc, BNRN, MN

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Office Hours: Wednesday 1300-1530 (or by appointment)

**LEARNING OUTCOMES**

1. Understand the use of research findings for clinical decision-making.
2. Appreciate the use of the scientific method of inquiry for acquiring knowledge.
3. Develop and refine researchable questions from nursing practice.
4. Conduct literature searches, using a variety of library databases.
5. Compare the major characteristics, strengths, and limitations of quantitative and qualitative research designs.
6. Critically analyze the following sections of research reports: research problem and purpose, literature review, conceptual/theoretical frameworks, variables, research questions and hypotheses, research design, ethical considerations, population and sample, data collection techniques, data analysis, and research findings.
7. Explore the ethical considerations in the conduct of research.
8. Determine application of research findings to clinical practice.
9. Determine the purpose and importance of statistics in nursing.
10. Describe the four levels of measurement and the limits and advantages of each level of measurement in relation to statistical methods.
11. Discuss the most commonly used sampling methods and their advantages and disadvantages.
12. Identify the purpose of, appropriateness, and distinguishing features, including advantages and disadvantages, of commonly used inferential statistics.
13. Identify and assess the common methods that are used in data collections and data analysis, including numerical and graphical summaries.
14. Describe the meaning and interpretation of general concepts of probability, including the clinically relevant probabilities used in epidemiology.
15. Discuss the meaning and correct interpretation of confidence levels.
16. Develop a systematic approach for reading and critically analyzing selected components of published research reports.
17. Differentiate between the meanings of statistical significance and clinical significance.

## **Nursing Program Policies**

Students must be familiar with all Nursing Program Policies. Refer to the Keyano College Nursing Program: Student Handbook for Specific Nursing Program policies and to the Keyano College Credit Calendar for general college policies.

### **Student Code of Conduct**

Please refer to the Student Handbook and review the Student Code of Conduct Policy (Policy 110.0), Student Rights Policy (Policy 111.0) and Student Code of Conduct Procedure (110.1). It is expected that you will review and be aware of expectations relative to student rights, responsibilities and behavior.

### **Withdrawal Period for Classes**

Students may drop or delete courses before classes start or within the first  $\frac{1}{8}$  of their semester or session. Dropped courses do not appear on the official transcript. Students who withdraw between  $\frac{1}{8}$  and  $\frac{3}{4}$  the length of a course will receive a grade of "W" (Withdrawal) in their course(s) which will appear on the official transcript, but is not calculated in the Grade Point Average (GPA). After  $\frac{3}{4}$  into the course length, students are not eligible to withdraw. The final day to withdraw, with no academic penalty is March 30<sup>th</sup>, 2018.

### **Examinations**

Please consult pages 29-30 of the 2017-2018 Keyano College Credit Calendar for the policy statements on examinations.

Please note that examinations begin and end at a scheduled time. Students who arrive late will not be allowed to write the examination if students have already completed the examination and have left the room. Students will not be allowed to leave the classroom during the writing of exams without the permission of the tutor. Students are to leave all jackets, purses, books, bags, eyeglass cases, pencil cases or similar items in their lockers. Any of these items brought to the examination are to be left at the front of the classroom. Students are not allowed to have food or drink in the classroom during exams.

### **Expectations of Students Writing On-Line Exams**

1. Students are responsible for accessing the exam from a location and computer of their choice. The student is responsible for discussing any computer/internet issues with the Instructor at least two days prior to the exam date listed on the course timetable.
2. Quizzes and exams are not open book exams. The quiz or exam is to have been studied for prior to the quiz/exam date and is to be completed independently; that is by oneself, not in collaboration with or company of another person or persons. No photos of quiz/exam questions are to be taken via phones.
3. Once the quiz/exam has started, the student will submit their answers immediately before going on to the next question. The student will not be able review/change answers.
4. Students must ensure they have a reliable internet connection.
5. If students are writing from outside Fort McMurray or in another province, it is the students' responsibility to ensure the time change is adhered to. That is if the exam is to start at 0900 hours Alberta time and is being written in Ontario, then the time to begin the exam is at 1100 hours Ontario time. It is **strongly recommended** that students write within Alberta as Moodle may not be supported outside of the province. Students must seek permission from instructor if writing a quiz/exam outside of the province.
6. Time for online quizzes/exams will be strictly adhered to. For example, if a quiz is for thirty minutes it will be open for exactly thirty minutes. The instructor will let the student know the exact time of the quiz/exam. Fourth year students will have access to the NCLEX prep exam for 60-90 minutes after the exam closes in order for review of rationale to occur for questions they answered incorrectly.
7. No grades will be released until the instructor has had time to review the quiz/exam stats. Once the review has been done, the marks will be released. Review of quiz/exam questions in class will be done at the instructors' discretion.
8. If any issue arises during the taking of the quiz/exam, the student is to contact the instructor immediately at the time of the issue.
9. It is the responsibility of each student to be familiar with the contents of the Student Code of Conduct. At the beginning of January 2016, it will be mandatory that all students sign a form identifying they have read/or are familiar with the Student Code of Conduct. First,

Second, and Third year students will have read or are familiar with the Keyano College Student Code of Conduct. Fourth year students will identify they are familiar with the University of Alberta Student Code of Conduct. Beginning in September 2017, all new students plus students moving from third to fourth year will be mandated to sign the above form(s).

### **Cheating and Plagiarism**

All students must complete the Plagiarism/Tutorial Certificate found on Moodle. To locate this information, sign into Moodle and on the left side of the page under student the tutorial can be located.

Expectations:

1. Beginning in January 2016, all students must complete this tutorial. The certificate must be shown to the instructor prior to submitting any written assignment. Failure to show the instructor the certificate of completion could result in a late written assignment penalty.
2. If you have completed this tutorial in a University Studies course you can show your instructor the certificate. The tutorial is required to be completed only once during your time at Keyano unless you have left the program and returned.
3. Beginning in September, 2016 all new students must complete the plagiarism tutorial.
4. All work must be original in this course. Cutting and pasting from work done in a previous course is considered cheating/plagiarism.

### **Students with Disabilities**

It is the College's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please contact Student Academic Support Services (780-791-8934) or visit office CC260 immediately to discuss options and establish reasonable accommodations.



## LEARNING ACTIVITIES

**Classes will occur on Mondays (0900-1200) & Fridays (0900-1200) from January 8<sup>th</sup>, 2018 to April 20<sup>th</sup>, 2018.**

**Please see timetable for dates, times & room numbers as well as specific course readings & class topics.**

To assist students in meeting the course objectives, they will participate in three types of learning activities. These activities include:

1. Weekly Fixed Resource Sessions (FRS): Guiding Questions and Facilitated Discussion.
2. FRS: Small Group Work focused on the Critical Analysis of Research Reports.
3. Labs
  - a. Statistics Lab #1: Descriptive Statistics
  - b. Research Lab #1: Qualitative Data Analysis
  - c. Statistics Lab #2: Inferential Statistics: Conceptual Approach

**\*\* *Specific, additional, weekly learning activities are listed on Moodle.***

**\*\* Students are expected to have read assigned material prior to attending class and/or lab. PowerPoint presentations used in class will be available through moodle, approximately one week prior to the scheduled class.**

### **1. Fixed Resource Sessions (FRS): Guiding Questions and Facilitated Discussion**

The purpose of the guiding questions and facilitated discussion components of the FRS's is to emphasize primary concepts of the nursing research process. Using the guiding questions and facilitated discussion format, course content related to nursing research and statistics will be addressed. Included on moodle are the required reading(s) for each week, including, specific articles (not in the textbook) and guiding questions. Students are to come to the FRS prepared to explore their answers to the guiding questions. During some of these FRS's, research articles will be utilized as a means to illustrate the various components of the research process. Use of these

articles will foster learning in preparation for evaluative components of the course. The three articles are:

Bottorff, J.L., Oliffe, J.L., Halpin, M., Phillips, M., McLean, G., & Mroz, L. (2008). Women and prostate cancer support groups: The gender connect? *Social Science & Medicine*, 66(5), 1217-1227.

Van Riper, M. (2007). Families of children with down syndrome: Responding to “a change in plans with resilience. *Journal of Pediatric Nursing*, 22(2), 116-126.

Williams, A.M., & Irurita, V.F. (2005). Enhancing the therapeutic potential of hospital environments by increasing the personal control and emotional comfort of hospitalized patients. *Applied Nursing Research*, 18(1), 22-28.

**\* In addition, during some classes the critiquing articles at the back of the required text will be utilized. Therefore, students are asked to please bring their required text to each class.**

## **2. Fixed Resources Sessions: Small Group Work Focused on the Critical Analysis of Research Reports**

At the onset of the course, students will be divided into groups of three or four. These small groups will be students' research groups. The purpose of these research groups is to provide students with an opportunity to develop their ability to understand and critique selected aspects of research reports using selected critiquing criteria, in a group setting.

It is anticipated that critical analysis of these research articles will be relevant to developing students' nursing knowledge base. Additionally, students will have the opportunity to discuss their group critiques with all students to assist in understanding of the course content. Prior to attending the FRS, which includes group critiques; students are to read the assigned research articles and be prepared to answer questions. The research articles to be critiqued are:

**Qualitative Research Articles**

Freda, M. C., Devine, K. S., & Semelsberger, C. (2003). The lived experience of miscarriage after infertility. *MCN, (28)*1, 16-23.

Patterson, B. J., & Morin, K. H. (2002). Perceptions of the maternal-child clinical rotation: The male student nurse experience. *Journal of Nursing Education, 41*(6), 266-272.

**Quantitative Research Articles**

Walsh, S. M., Culpepper Martin, S., & Schmidt L. A. (2004). Testing the efficacy of a creative-arts intervention with family caregivers of patients with cancer. *Journal of Nursing Scholarship, 36*(3), 214-219.

**3. Labs**

Prior to each Lab, it is expected that students complete the required readings and answer the guiding questions. Failure to do so prior to the lab may negatively influence students' comprehension of the content.

**Statistics Lab #1: Descriptive Statistics: Concepts and Principles**

The focus of this lab is on understanding the purpose, use and interpretation of descriptive statistics (*frequency distributions, measures of central tendency and variability, standard scores*) for nursing research. *Also included are levels of measurement and reading descriptive tables and graphs.*

**Research Lab #2: Qualitative Data Analysis**

The focus of this lab is on understanding the purpose & use of qualitative data analysis. The lab will provide the students with an opportunity to discuss and practice this form of research analysis.

**Statistics Lab #2: Inferential Statistics: Conceptual Approach**

This lab will facilitate students' learning of quantitative data analysis using an inferential statistics approach. The purpose of this lab is to give students an opportunity to gain a conceptual understanding of inferential statistics.

**OVERVIEW: METHOD OF EVALUATION**

4 Unit Tests	<b>80%</b>
Unit Test #1 (20%)	
Unit Test #2 (25%)	
Unit Test #3 (15%)	
Unit Test #4 (20%)	
Final Critique Test	<b>20%</b>
<hr/>	
<b>Total</b>	<b>100%</b>

**Note: All methods of evaluation must be completed and submitted for grading in order to pass Nursing 388.**

**Final Course Grades will be awarded according to the Keyano College Four-Point Grading Scale (See Appendix).**

**Progression Policy:**

**A passing grade of C- for all courses and an overall yearly GPA of 2.0 is required for all students to progress.**

**SPECIFIC DETAILS: METHOD OF EVALUATION****Unit Tests** **80%**

There will be 4 unit tests throughout the semester, worth a total of 80% of the final course grade. These will be held on the dates as scheduled in your timetable.

Each unit test will consist of multiple choice questions; some independent questions, others based on scenarios/case studies. Questions will assess comprehension of terms & concepts and the ability to analyze and apply them.

**Test #1 (20%) – 55 questions**

This unit test will cover content up to and including Unit 1:

Chapter 1: Overview of Nursing Research, Statistics & the Research Process

Chapter 2: Introduction to Qualitative & Quantitative Research

Chapter 3: Research Process in Qualitative & Quantitative Studies

Chapter 4: Reading Research

Chapter 5: Legal & Ethical Considerations

**Test #2 (25%) – 65 questions**

This unit test will cover content up to and including Units 2 & 3:

Chapter 6: Scrutinizing Research Problems, Research Questions & Hypotheses

Chapter 7: Literature & Literature Reviews

Chapter 8: Frameworks

Chapter 9: Qualitative Research Designs

Chapter 10: Quantitative Research Designs

Chapter 11: Population & Sampling

**Test #3 (15%) – 45 questions**

This unit test will cover content up to and including Unit 4:

Chapter 12: Data Collection Methods

Chapter 13: Evaluation Measurements & Data Quality

**Test #4 (20%) – 55 questions**

This unit test will cover content up to and including Unit 5:

Chapter 14: Data Analysis: Qualitative Research

Research Lab #1: Qualitative Data Analysis

Chapter 15: Data Analysis: Quantitative Research (including Inferential Statistics)

Statistics Lab #1: Descriptive Statistics

Statistics Lab #2: Inferential Statistics

**Final Critique Test**

**20%**

There will be one critique test, worth a total of 20% of the final course grade. This test will be held, on the date, as scheduled in your timetable.

Students will be expected to read an article and complete a multiple choice quiz based on the article. This test will assess the student's ability to critique research articles critically & analytically based on research principles learned. This will be a comprehensive assessment.

### Required Course Texts & Course Reading List

#### Course Texts

- LoBiondo-Wood, G., Haber, J., Cameron, C., & Singh, M.D. (Eds.). (2013). *Nursing research in Canada: Methods, critical appraisal and utilization for evidence-based practice (3<sup>rd</sup> ed.)*. Toronto, ON: Elsevier Canada.
- LoBiondo-Wood, G., Haber, J., & Samuels-Dennis, J. (Eds.). (2013). *Study guide: Nursing research in Canada: Methods, critical appraisal and utilization for evidence-based practice. (3<sup>rd</sup> ed.)*. Toronto, ON: Elsevier Canada.

#### Course Reading List

- Bottorff, J.L., Oliffe, J.L., Halpin, M., Phillips, M., McLean, G., & Mroz, L. (2008). Women and prostate cancer support groups: The gender connect? *Social Science & Medicine*, 66(5), 1217-1227.
- Freda, M. C., Devine, K. S., & Semelsberger, C. (2003). The lived experience of miscarriage after infertility. *MCN*, (28)1, 16-23.
- Patterson, B. J., & Morin, K. H. (2002). Perceptions of the maternal-child clinical rotation: The male student nurse experience. *Journal of Nursing Education*, 41(6), 266-272.
- Van Riper, M. (2007). Families of children with down syndrome: Responding to “a change in plans with resilience. *Journal of Pediatric Nursing*, 22(2), 116-126.
- Walsh, S. M., Culpepper Martin, S., & Schmidt L. A. (2004). Testing the efficacy of a creative-arts intervention with family caregivers of patients with cancer. *Journal of Nursing Scholarship*, 36(3), 214-219.
- Williams, A.M., & Irurita, V.F. (2005). Enhancing the therapeutic potential of hospital environments by increasing the personal control and emotional comfort of hospitalized patients. *Applied Nursing Research*, 18(1), 22-28.

Appendix  
Keyano College Percentage-Alpha Grading System

<b>Descriptor</b>	<b>Percentage Scale</b>	<b>Alpha Scale</b>
<b>Excellent</b>	<b>96-100</b>	<b>A+</b>
	<b>90-95</b>	<b>A</b>
	<b>85-89</b>	<b>A-</b>
<b>Good</b>	<b>80-84</b>	<b>B+</b>
	<b>76-79</b>	<b>B</b>
	<b>72-75</b>	<b>B-</b>
<b>Satisfactory</b>	<b>68-71</b>	<b>C+</b>
	<b>64-67</b>	<b>C</b>
<b>Minimum Pass</b>	<b>60-63</b>	<b>C-</b>
<b>Poor</b>	<b>55-59</b>	<b>D+</b>
	<b>50-54</b>	<b>D</b>
<b>Failure</b>	<b>0-49</b>	<b>F</b>