



## **Department of Nursing Education and Health Studies**

### **Course Outline 2016-2017**

#### **NS 3690- Nursing Research and Statistics**

**6 (6-0-3), UT, 100 hours**

**Two Terms- YA2 & YB2**

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**OFFICE HOURS:**

Office hours vary according to the instructor. Please consult the individual instructor for details.

**CALENDAR DESCRIPTION:**

**NS 3690 6 (6-0-3) UT 100 Hours Two Terms- 14 Weeks Lecture**

NS 3690 is an introduction to the process of research through a comparative analysis of selected studies exemplifying different theoretical, methodological and analytical approaches. Emphasis will be on the communicability of research, the needs of the research consumer and the development of critical appraisal skills. Also included are introduction to descriptive and inferential statistics and the application of statistical methods to nursing problems.

This is a two-term course offered over fall/winter terms. It is identifiable in the schedule of Courses (timetable) with a Part A and a Part B. Students must register in both the Part A and the Part B of all types of sections offered (sections, labs, seminars, etc.) for this course.

**PREREQUISITE/COREQUISITE:**

**Nursing Research & Statistics I (Fall Term)**

Corequisite: NS 3900.

**Nursing Research & Statistics II (Winter Term)**

Corequisite: NS 3900.

**REQUIRED TEXT:**

Loiselle, C. & Profetto-McGrath, J. (2011). *Polit and Beck: Canadian essentials of nursing research*. (3rd ed.). Philadelphia, PA: Lippincott Williams & Wilkins.

**DELIVERY MODES:**

The course work includes lectures, class discussions, individual and group work, in-class practice exercises and student presentations (both written and oral).

Students will participate in a number of activities to assist in meeting the objectives of the course:

## 1. **Class Attendance**

The purpose of the class time is to highlight primary concepts of the research process and to develop the student's ability to understand and critique published research through discussion of critiques. In class, essential concepts related to nursing research and statistics will be discussed. Additionally, students will have the opportunity to discuss group critiques of selected articles to assist in understanding the concepts.

## 2. **Small Group Work**

The purpose of this activity is to provide students with an opportunity to critique selected aspects of a published research study using the critiquing criteria. The instructor(s) will select various research reports which the students are asked to critique. Students are expected to read each assigned research report and answer the critiquing questions included in the course outline or as provided by the course instructor. For example, prior to the class on the planning phase of the research process, students will be expected to critique the research problem /questions, literature review, theoretical framework and hypothesis in the assigned article.

Students are encouraged to work in pairs or small groups to complete their research study critique (answer the criteria questions). During class, students will be asked to discuss and or present their evaluation of the selected aspects of the research report. Opportunities for discussion, debate and consensus will be provided in this course. Critical thinking should be emphasized throughout the process.

## 3. **Appraising Findings from Multiple Studies**

The importance of appraising findings from multiple studies related to a nursing practice issue for guiding practice will be the focus of this activity. In addition to the article(s) selected in NS 3690 for critique, students are expected to brainstorm research questions within their NS 3900 and NS 3940 tutorial classes.

## **COURSE DESCRIPTION:**

### **Nursing Research & Statistics I**

#### **Fall Term:**

Fall term will introduce the process of research through critical appraisals of selected **qualitative** studies. Emphasis will be on understanding the research process and in knowing how to critically read, analyze and begin to apply the knowledge gained from research in practice. The focus of this section of the course will include the planning phase of the qualitative research process (research problem and purpose, literature review, theoretical/conceptual frameworks, research questions, ethics of research, and research designs) and the implementing phase (population and samples, data collection, data analysis, interpretation of findings).

## **Nursing Research & Statistics II**

### **Winter Term:**

Winter term will introduce the process of research through critical appraisals of selected **quantitative** studies. Emphasis will be on understanding the research process and in knowing how to critically read, analyze and begin to apply the knowledge gained from research in practice. The focus of this section of the course will include the planning phase of the quantitative research process (research problem and purpose, literature review, theoretical/conceptual frameworks, research questions and hypotheses, ethics of research, and research designs) and the implementing phase (population and samples, descriptive statistics, data collection, data analysis, inferential statistics, and interpretation of findings).

### **DELIVERY MODES:**

The course work includes lectures, class discussions, individual and group work, in-class practice exercises and student presentations (both written and oral).

Students will participate in a number of activities to assist in meeting the objectives of the course:

#### **1. Class Attendance**

The purpose of the class time is to highlight primary concepts of the research process and to develop the student's ability to understand and critique published research through discussion of critiques. In class, essential concepts related to nursing research and statistics will be discussed. Additionally, students will have the opportunity to discuss group critiques of selected articles to assist in understanding the concepts.

#### **2. Small Group Work**

The purpose of this activity is to provide students with an opportunity to critique selected aspects of a published research study using the critiquing criteria. The instructor will select various research reports which the students are asked to critique. Students are expected to read each assigned research report and answer the critiquing questions included in the course outline or as provided by the course instructor. For example, prior to the class on the planning phase of the research process, students will be expected to critique the research problem /questions, literature review, theoretical framework and hypothesis in the assigned article.

Students are encouraged to work in pairs or small groups to complete their research study critique (answer the criteria questions). During class, students will be asked to discuss and or present their evaluation of the selected aspects of the research report. Opportunities for discussion, debate and consensus will be provided in this course. Critical thinking should be emphasized throughout the process.

### 3. Appraising Findings from Multiple Studies

The importance of appraising findings from multiple studies related to a nursing practice issue for guiding practice will be the focus of this activity. In addition to the article(s) selected in NS 3010 for critique, students are expected to brainstorm research questions within their NS 3900 and NS 3940 tutorial classes.

## COURSE OBJECTIVES:

### Fall Term:

1. Describe the purpose and importance of research in nursing.
2. Describe how theory, practice and research are related.
3. Identify a question from nursing practice that can be answered by research.
4. Describe the role of nurses in research.
5. Apply critiquing criteria for the critical analysis of the following sections of a **qualitative** research report: research problem and purpose, literature review, theoretical/conceptual framework, research questions, research design, ethical components, population, sample, sampling procedures, data collection, data analysis, and interpretation of findings.
6. Compare the major characteristics, strengths and limitations of qualitative research.
7. Describe the differences between Phenomenology, Ethnography, and Grounded Theory.
8. Identify appropriate data collection methods of various qualitative designs.
9. Discuss the types, advantages, and limitations of data collection methods used in qualitative nursing research methods.
10. Differentiate data analysis methods for qualitative research.
11. Discuss the criteria for determining confirmability of findings in a qualitative study.
12. Develop a systematic approach for reading and critical appraisal of multiple published research reports in their entirety.
13. Determine the applicability of knowledge gained from research for evidence-based practice.
14. Identify the role of a nurse in promoting research activities and using knowledge from research in the practice settings.

### Winter Term:

1. Review the purpose and importance of research in nursing, how theory, practice and research are related, identify questions from nursing practice that can be answered by research, and the role of nurses in research.
2. Apply critiquing criteria for the critical analysis of the following sections of a **quantitative** research report: research problem and purpose, literature review, theoretical/conceptual framework, research questions and hypotheses, variables, research design, ethical components, population, sample, sampling procedures, data collection, data analysis, descriptive and inferential statistics, and interpretation of findings.
3. Discuss the types, advantages, and limitations of data collection methods used in quantitative nursing research methods.

4. Identify the criteria for determining the validity and reliability of measurement tools.
5. Describe the four levels of measurement.
6. Identify appropriate data collection methods for various quantitative designs.
7. Differentiate data analysis methods for quantitative research.
8. Identify the purpose of and appropriateness of commonly used inferential statistics.
9. Distinguish between type I and type II errors and their effects on findings.
10. Differentiate between the meanings of statistical significance and clinical significance.
11. Develop a systematic approach for reading and critical appraisal of multiple published research reports in their entirety.
12. Determine the applicability of knowledge gained from research for evidence-based practice.
13. Identify the role of a nurse in promoting research activities and using knowledge from research in the practice settings.

### TRANSFERABILITY:

NS 3690 is part of the block transfer agreement with the University of Alberta in the Collaborative BScN Program. Admission to the fourth year of the Program and registration at the U of A will be contingent upon confirmation by the Faculty of Nursing that the first three years of the Program have been completed with satisfactory academic standing. For promotion to Year 4 at the U of A, a student is required to pass all previous courses and obtain a minimum cumulative GPA of 2.0 on a 4.0 point scale in the first three years of the program. If these conditions are met, the student will be granted a block transfer of work completed at GPRC to the U of A record. Please consult the Alberta Transfer Guide for more information.

(<http://alis.alberta.ca/ps/tsp/ta/tbi/onlineSearch.html?SearchMode=S&step=2>)

\*\* Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions.

**Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

### EVALUATION:

Evaluation:	Date and Time	Percentage of Total Mark
<b>Fall 2016</b>		
Lab		2.5%
Qualitative Critique		5.0%
Weekly Stats Assignment Part I	Weekly	10%
Research Midterm Exam		17.5%
Statistics Midterm Exam	Group A: Last week of class Group B: Last week of class	15%

Winter 2017		
Lab		2.5%
Quantitative Critique		5.0%
Weekly Stats Assignment Part II	Weekly	10%
Research Final Exam		17.5%
Statistics Final Exam	Group A: Last week of class Group B: Last week of class	15%
<b>Total</b>		<b>100%</b>

**PLEASE NOTE: The student must pass each of the statistics portion and the nursing research methods portion of the course with a minimum Grade of “C-” to receive credit for this course. If a student fails either of the stats or research portion, they will receive an “F” in NS 3690.**

### **GRADING CRITERIA:**

<b>GRADING CONVERSION CHART</b>			
<b>ALPHA GRADE</b>	<b>PERCENTAGE CONVERSION (%)</b>	<b>4-POINT EQUIVALENT</b>	<b>DESCRIPTOR</b>
<b>A+</b>	<b>90 – 100</b>	<b>4.0</b>	<b>Excellent</b>
<b>A</b>	<b>85 – 89.9</b>	<b>4.0</b>	
<b>A-</b>	<b>80 – 84.9</b>	<b>3.7</b>	<b>Very Good First Class Standing</b>
<b>B+</b>	<b>77 – 79.9</b>	<b>3.3</b>	
<b>B</b>	<b>73 – 76.9</b>	<b>3.0</b>	<b>Good</b>
<b>B-</b>	<b>70 – 72.9</b>	<b>2.7</b>	
<b>C+</b>	<b>67 – 69.9</b>	<b>2.3</b>	<b>Satisfactory</b>
<b>C</b>	<b>63 – 66.9</b>	<b>2.0</b>	
<b>C-</b>	<b>60 – 62.9</b>	<b>1.7</b>	
<b>D+</b>	<b>55 – 59.9</b>	<b>1.3</b>	<b>Minimal Pass</b>
<b>D</b>	<b>50 – 54.9</b>	<b>1.0</b>	
<b>F</b>	<b>0 – 49.9</b>	<b>0.0</b>	<b>Failure</b>
<b>WF</b>	<b>0</b>	<b>0.0</b>	<b>Fail Withdrawal after the deadline</b>

Students may receive a grade of D or D+ in an assignment, but must have an overall grade of C- to achieve a passing grade in a nursing course.

**Note:** Refer to the 2016-2017 GPRC calendar for further details regarding the grading policy and the progression criteria in the Bachelor of Science in Nursing program.

**COURSE SCHEDULE/TENTATIVE TIMELINE:** (this outline may be subject to change)

**FALL 1 (YA2) Class Outline**

<b>Date</b>	<b>Wednesday</b>	<b>Friday</b>
Week 1	Introduction to course & Chapter 1	Chapters 2 & 3
Week 2	Chapters 4 & 5 Consent Forms	Chapters 6 & 7
Week 3	Chapter 8	Chapter 10 <b>Lab Prep Due</b>
Week 4	Ethnography/ Phenomenology	<b>*LAB</b>
Week 5	Grounded Theory/Chapter 12	Chapters 13 & 14
Week 6	Chapter 16	Chapter 16 <b>Critique Due</b>
Week 7	Review	<b>Midterm</b>

**FALL 2 (YB2) Class Outline**

<b>Date</b>	<b>Monday</b>	<b>Wednesday</b>
Week 1	Introduction to course & Chapter 1	Chapters 2 & 3
Week 2	Chapters 4 & 5 Consent Forms	Chapters 6 & 7
Week 3	Chapter 8	Chapter 10 <b>Lab Prep Due</b>
Week 4	Ethnography	Phenomenology
Week 5	<b>*LAB</b>	Grounded Theory
Week 6	Chapter 12	Chapter 13&14 <b>Critique Due</b>
Week 7	Chapter 16	Review
Week 8	<b>Midterm (See Exam Schedule)</b>	



**WINTER 1- (YA2) Class Outline**

<b>Date</b>	<b>Wednesday</b>	<b>Friday</b>
Week 1	No Classes	Chapter 1 & 2 Introduction to course
Week 2	Chapters 3, 4, and 5	Chapters 6 & 7
Week 3	Chapter 8	Chapter 9
Week 4	Chapter 9	Chapter 11&12
Week 5	Chapter 12	Chapters 13 & 14
Week 6	<b>Lab</b>	Chapter 15
Week 7	No Classes Winter Break	
Week 8	Chapter 15 <b>Critique Due</b>	Chapter 17
Week 9	Review	<b>Final Exam</b> (see exam schedule)

**WINTER 2- (YB2) Class Outline**

<b>Date</b>	<b>Monday</b>	<b>Wednesday</b>
Week 1	Chapter 1 & 2 Introduction to course	Chapters 3,4, and 5
Week 2	Chapters 6 & 7	Chapter 8
Week 3	Chapter 9	Chapter 9
Week 4	Chapter 11&12	Chapter 12
Week 5	Chapters 13 & 14	<b>Lab</b>
Week 6	Chapter 15	Chapter 15 <b>Critique Due</b>
Week 7	Chapter 17/Review	<b>Final Exam</b> (see exam schedule)

**FALL****WINTER**

<b>Statistics</b>	<b>Statistics</b>
<b>What is Statistics?</b> <b>Random Samples</b> <b>Introduction to Experimental Design</b>	Sampling Distributions The Central Limit Theorem
<b>Bar Graphs, Circle Graphs, and Time-Series Graphs</b> <b>Frequency Distributions, Histograms, and Related Topics</b> <b>Stem and Leaf Displays</b>	Estimating $\mu$ When $\sigma$ Is Known Estimating $\mu$ When $\sigma$ Is Unknown
<b>Measures of Central Tendency: Mode, Median, and Mean</b> <b>Measures of Variation</b> <b>Mean and Standard Deviation of Grouped Data</b>	Introduction to statistical Tests Testing the Mean $\mu$ Tests Involving Paired Differences (Dependent Samples) Testing The Difference of Two Means
<b>What is Probability?</b> <b>Some Probability Rules—Compound Events</b> <b>Trees and Counting Techniques</b>	Scatter Diagrams and Linear Correlation Linear Regression and the Coefficient of Determination Inferences for Correlation and Regression Multiple Regression
<b>Introduction to Random Variables and Probability Distributions</b> <b>Binomial Probabilities</b> <b>Additional Properties of Binomial distribution</b>	<b>Inferences Using the Chi-Square Distribution:</b> Overview of the Chi-Square Distribution Chi-Square: Tests of Independence Chi-Square: Goodness of Fit
<b>Graphs of Normal Probability Distributions</b> <b>Standard Units and Areas Under the Standard Normal Distribution</b> <b>Areas Under Any Normal Curve</b>	<b>Inferences Using the <math>F</math> Distribution</b> Testing Two Variances One-way ANOVA: Comparing Several Sample Means

\*These Outlines may be subject to change.

## **EXAMINATIONS:**

This course includes a mid-term examination and final examination in Nursing Research and a mid-term examination and a final examination in Statistics.

Note: Please refer to the 2016-2017 *Grande Prairie Regional College Academic Calendar* for the Academic Regulations that pertain to Examinations and Examination Procedures.

## **STUDENT RESPONSIBILITIES AND IMPORTANT POLICIES:**

### **Important Dates:**

Information about last day to change registrations and dropping full-year courses has changed and the updates are available on the GPRC website.

### **Nursing Program Policies**

Please refer to the *Grande Prairie Regional College* calendar and the *University of Alberta Collaborative Baccalaureate Nursing Program with Grande Prairie Regional College Student Handbook* 2016-2017 for specific nursing program policies that may pertain to this course.

### **Assignment Policy:**

Research assignments are due at the date and time they are due in the front office and must be verified (stamped with date and time) by Nursing Office Personnel. Extensions on assignments may be granted and must be negotiated with the instructor prior to the due date and with a date specified for late submissions. Extensions will not be granted the day the assignment is due.

A penalty of one letter grade per day will be deducted from the final grade of a late assignment. For example, a paper graded at a C would receive an adjusted grade of C- if handed in one day late.

It is the responsibility of the student to ensure electronically submitted papers and assignments are delivered and retrievable to the instructor (i.e. emailing assignments). If the instructor is unable to open documents or if documents are sent in error via electronically, the assignment will be considered late and the student will have one letter grade deducted from the final grade. It is highly recommended that students ensure their assignments have been retrieved by the tutor prior to the due date and time.

In the statistics portion of the course, assignments will be handed out at the beginning of class and handed into the instructor at the end of that same class.

## **STATEMENT ON PLAGIARISM AND CHEATING:**

**We expect honesty from our students.** This demands that the contribution of others be acknowledged (GPRC Calendar, 2016-2017). Penalties will be given according to the degree of the plagiarism or cheating. If you are unsure whether an action is plagiarism or not, please consult your course tutor. Cheating refers to dishonest conduct such as speaking in an exam, bringing written material not authorized by the tutor, tampering with grades, or consciously aiding another student to cheat. Please refer to your rights and responsibilities in the Grande Prairie Regional College 2016-2017 Calendar.

