



UNIVERSITY OF ALBERTA
COLLABORATIVE BACCALAUREATE
NURSING PROGRAM

Grande Prairie Regional College
Grant MacEwan College
Keyano College
Red Deer College
University of Alberta

NURSING 3970
Evidence Based Research
Course Outline

Developed by:

Lorraine Way, RN, MN

In consultation with:

Rene Day, RN PhD

Christine Newburn Cook, RN, PhD

Joanne Profetto McGrath RN, PhD

Debbie White, RN, MN, PhD (C)

Liz Richard, RN, MN

Anne Biro, RN, MN

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Approved ()

Evidence Based Research (NS 3970)

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Instructors:

Liz Richard, MN, RN

Office: H215
 Office Hours: flexible
 Phone: 539-2754
 Email: richard@gprc.ab.ca

Thomas Kaip, MSc

Office: J212
 Office Hours: flexible
 Phone: 539-2963
 Email: kaip@gprc.ab.ca

Course Hours:

Research: Thursdays 1030-1120
 Statistics: Thursdays 1130-1220

NS 3970 is integrated with NS 3900 learning packages; N 497 is integrated with N 490 learning packages.

NURSING RESEARCH & STATISTICS

Nursing 397 *2 (2- 1.5-0.5) 7 weeks

Introduction to the process of research through critical appraisals of selected quantitative and 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 course will be the planning phase of the research process and descriptive

Course Hours: Recommended: 14 hours of "structured" teaching/learning time (FRS's) and 3 hours of lab in 7 weeks. Additional estimated time of 10 hours for independent study and group work.

Pre/Co-Requisite: NS 3900

Course Description

Introduction to the process of research through critical appraisals of selected quantitative and 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 course will be the planning phase of the research process which includes: research problem and purpose, literature review, theoretical/conceptual frameworks, variables, research questions and hypotheses, ethics of research, research designs, and population and samples. Also included are descriptive statistics.

Course Objectives

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 nurses' roles in research.
5. Apply critiquing criteria for the critical analysis of the following sections of a research report: research problem and purpose, literature review, theoretical/conceptual framework, variables, research questions and hypotheses, research design, ethical components, population, sample, and sampling procedures.
6. Compare the major characteristics, strengths, and limitations of quantitative and qualitative research.
7. Explain the meaning of internal and external validity of research.
8. Develop a systematic approach for reading and critical analysis of selected components of published research.
9. Describe the four levels of measurement.
10. State the purposes of descriptive statistics.
11. Critically analyze the descriptive statistics used in published reports.
12. Explore ethical considerations in the conduct of research.

SUGGESTED LEARNING ACTIVITIES:

Students will participate in two primary activities to assist in meeting the objectives of the course:

1. Attendance at Fixed Resource Sessions

The purpose of the FRS's is to highlight primary concepts of the research process and to develop the students' ability to understand and critique research through discussion of critiques. In the FRS's, 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 of the concepts.

2. **Small Group Work**

The purpose of this activity is to provide students with an opportunity weekly to critique selected aspects of a research study using the critiquing criteria. Each week the instructor(s) will select a research report from the list of *Research & Statistics References* for Nursing 3900. It is anticipated that the research reports students are to critique will be relevant to the scenarios being covered in the learning packages. Students are expected to read each assigned research report and answer the critiquing questions included in the course outline **prior to attending the FRS**. For example, prior to the FRS 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 critique (answer the critique questions) of the aspects of the assigned study for discussion in the weekly FRS. Faculty assigned as resources for the course will assist student groups with the process of critiquing between fixed resource sessions. During FRS's, students will be asked to present their evaluation of the selected aspects of the research report. Opportunities for discussion, debate and consensus will be provided. 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 selected in N3970 for critique, students are expected to read at least one of the recommended research articles identified in each N3900 learning package, and discuss the findings with other members of the N3900 tutorial group. (E. g. Students distribute the research articles among the group, with each student reporting on a different research article related to the scenario.)

YEAR III

Recommended Fixed Resources Sessions (2 hrs./week over 7 weeks for a total of 14.0 hrs). This list is just a general guideline for FRS and topics can be changed if requested.

<u>Nursing Research</u>	<u>Statistics</u>
1. Overview of Nursing Research Review role of Nursing Research Methods of Inquiry Framework for Critiquing Expectations, Process and Assigned Activities	1. Introduction to descriptive statistics.
2. Critique of Planning Phase of Research Process Identification of Research problems/questions/purpose Literature Review	2. Levels of Measurement
3. Placement of Problems within a Conceptual Framework Definition of Variables Formulation of Hypothesis	3. Measures of Central Tendency
4. Characteristics of Designs cont'd Qualitative - e.g. phenomenology, grounded theory, etc.	4. Measures of Variability
5. Critiques of Research Design Quantitative: Experimental, Quasi-Experimental, Non-experimental	5. Population and Sampling population and sampling concepts probability/non- probability
6. Critique of Sample, protection of human/legal rights.	6. Sampling bias and sampling error. Determining sample size. Concepts of correlation

LAB (Year III, 3.0 hrs)

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.*

PART A: Frequency Distributions

This learning activity is designed to give students a better understanding of a frequency distribution

- a. Develop a frequency distribution
- b. Identify the shape of a the developed frequency distribution

A set of descriptive data including participant number, age, height, and weight will be provided to the students by the instructor. Data should be drawn from at least 80 participants. Data may be real or fictitious. These data form the basis for developing a frequency distribution with age, height, and/or weight. Working in groups of four, students will plot the data in the form of a histogram or polygon. Identify the age range, mean, median and mode. Once the graphs are completed, each group will describe the graph in terms of symmetry, modality and kurtosis and evaluate the shape of the distribution. Groups will share their graphs, and descriptions of the distribution with other class members.

PART B: Measures of Central Tendency and Variability

Students will have an opportunity to determine the appropriate use of measures of central tendency and variability to summarize data.

- a. Identify the levels of measurement of selected variables.
- b. Determine the appropriate descriptive statistic to summarize data of selected variables.

The instructor will provide a set of data collected from the class participants in relation to at least four variables. Some examples of data that could be collected include: pulse rates, eye color, blood types, whether or not they have an annual health assessment, whether or not they take daily vitamins, their estimated pain tolerance (low, moderate, or high) and opinions regarding their current health status (poor, fair, good or excellent). For each item, the students will identify the variable, the level of measurement, and an appropriate measure of central tendency and variability. The instructor may provide the students with an example for one item. After completing each item, the students will examine the data grossly and identify possible findings.

[These activities have been adapted from Feldman & Levin (1998), Instructor's Resource Manual to accompany Nursing Research: Methods, Critical appraisal and utilization. Mosby.]

THE LAB WILL BE HELD THE WEEK OF SEPTEMBER 18. THE TIME WILL BE NEGOTIATED ACCORDING TO FIT AROUND ALREADY SCHEDULED CLASSES.

EVALUATION (YEAR III)

1. Test (45%): Date: TBA

Part I: Statistics – the student must pass this section with a minimum mark of 50% or a grade of “3” will be given regardless of other assignment marks.

Part II: Nursing Research

2. Paper (55%): Due: October 30, 2000 by 1600 h

Refer to your student handbook for the GPRC grading policy for final stanine ranges.

Critique of the Conceptual Phase, Research Design and Sample

Using a published nursing research report selected by the instructor, the student will critique the conceptual phase, research design and sample of the reported research. In this critique, the student will use criteria and concepts from small group work, fixed resource sessions and readings to evaluate the research question/problem, purpose, literature review, conceptual framework, hypothesis, research design and sample of the research report. APA format and scholarly writing is expected. See critiquing guidelines (page 13). Marking guideline for paper on page 17.

Length of paper: about 8 pages, double spaced.

[NOTE: It is recommended that an experimental or quasi-experimental study be chosen. Critique of qualitative research will occur in Year IV.]

Assignment Policy

All assignments are to be passed in at the time and place they are due. 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.

A penalty of 5% for each working day that an assignment is submitted after the due date will be deducted from the final mark. For example, a paper scored at 75% would receive an adjusted grade of 70% if handed in one day late. Late assignments are due by 1600h and must be verified (stamped with date and time) by nursing office personnel.