NRSG 489R: Research and Statistics to Support Evidence-Based Practice
(AD-MN Transition Course)

Credits: 6 (5 lecture, 1 college laboratory)
Semesters Offered:
Pre-requisites: Successful application to the RN-MN option

Course Description: This course provides an introduction to research principles and methodologies and the statistical procedures used most often to analyze data to support evidence-based practice. Emphasis is placed on critical analysis of nursing and health care research including the correct application and interpretation of statistical data.

Course Objectives

1. Demonstrate behaviors that are congruent with the MSU Code of Conduct, CON Student Handbook, ANA Code of Ethics, Scope and Standards of Practice, and Social Policy Statements in all class related interactions. (F6-9, 12; T2, 3, 6, 8)

Objectives specific to RESEARCH:
2. Examine the research process and steps of research. (T 4, 5)
3. Discuss the roles of research in evidence based practice. (F2, 4, 5, 10, 12; T2-4)
4. Explain the importance of evidence as a basis for improving clinical outcomes. (F4; T2-4)
5. Compare and contrast research and quality assurance/quality improvement and evidence-based practice. (F2, 4, 5, 10, 12; T2-4; T9)
6. Formulate research questions based on clinical problems. (F2, 5; T2-5, 10)
7. Critique research reports with a focus on application to nursing practice. (F4; T2-4)
8. Apply aspects of the research process to a selected health care issue. (F2, 5; T2-5, 10)
9. Demonstrate behaviors that are congruent with the legal and ethical standards guiding health science and nursing research. (F6-9, 12; T2, 3, 6, 8)

Objectives specific to STATS:
10. Select, apply, and interpret common statistical tests to answer research questions and hypotheses. (F4; T2-4)
11. Describe the characteristics of a distribution. (F4; T2-4)
12. Communicate the outcomes of estimation and hypothesis tests in the context of a problem. (F4, T2, T4)
13. Demonstrate an understanding of when to make causal inference from a sample to a population. (F4, T2-T4)
14. Demonstrate an understanding of the principles of sample selection. (T5, T9)

Recommended Content:

RESEARCH:
Introduction to research principles and methods.
Differentiation of research and quality assurance / quality improvement.
Role of research in evidence-based practice.
Legal and ethical principles guiding health research including the protection of human subjects.
The role of conceptual frameworks / theories in research.
Processes used to critically evaluate evidence.

STATS:
Variables, measurement, frequency distributions, and descriptive statistics.
Normal curve, percentiles, standard scores including z-scores.
Correlation (including nonparametric), regression, standard error of the estimate
Inferential statistics, hypothesis testing, power, p-values, confidence intervals
T-test for independent samples, same for paired
ANOVA and post hocs
Simple Chi square and Yates correction
Epidemiological measures including Odds Ratio, Risk Ratio,
Standardized mortality measures, Logistic regression

Approved by UAAC: 11/22/16
Approved by Faculty: 12/16/16