COURSE TITLE: NUR 602 Research Methods in Advanced Practice Nursing

CREDITS: 3 credit hours

PRE- or COREQUISITE: Graduate Statistics Course

COURSE DESCRIPTION:
This course provides the knowledge and skills essential for using research to support clinical and organizational decision making. The strengths and limitations of various research designs and methods are reviewed for their utility in answering clinical questions, evaluating care delivery and patient outcomes, and making clinical decisions.

COURSE OBJECTIVES:
1. Analyze the role of research in evidence-based advanced practice nursing.
2. Critically examine clinical nursing problems that may be addressed using the research process.
3. Evaluate research designs and methods used to address clinical nursing problems.
4. Evaluate the use of basic descriptive and inferential statistics in research.
5. Analyze research utilization approaches and the applicability of research findings to nursing practice.

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OFFICE HOURS: By appointment
METHODS OF TEACHING:
- Seminar discussion
- Lecture
- Group work
- Reading assignments
- E-mail communication
- Research observation/participation
- Research Utilization Assignment
- Quizzes
- Web assignments
- Library/electronic research

EVALUATION:
- 45% Exams
- 45% Integrative Review:
- 10% Research Experience Presentation

GRADING SCALE:
- 90 – 100 A
- 80 – 89 B
- 70 – 79 C
- 69 or below E

TEXTBOOK:

REQUIRED READINGS:
The following articles will be used repeatedly for completion of the web-based modules AND for class discussions:


RECOMMENDED REFERENCES:
  Tornquist, E. (1986). From proposal to publication: An informal guide to writing about

CLASS TIMES:
  This course will use a distance learning format. Using a block scheduling plan, we will
  have only 4 class meetings. The remainder of the course will be taught via a web-enhanced
  format and independent learning. The on-line portion of the course will be facilitated using
  TopClass.
  Only approximately 1/3 of the course will consist of traditional face-to-face class
  meetings. The T-1 Line will be used for students in Morehead and Hazard only if absolutely
  necessary. Our class meeting dates will be:
   January 20
   February 17
   March 24
   April 21

OFFICE OF SERVICES FOR STUDENTS WITH DISABILITIES:
  If there is any student in this class who is in need of academic accommodations and who
  is registered with the Office of Services for Students with Disabilities, please make an individual
  appointment with me to discuss accommodations. Upon request, this syllabus can be made
  available in alternative forms.

ABSENCE POLICIES:
  As graduate students, you are expected to assume responsibility for your own learning
  and attend all classes. Because of the limited number of class meetings, your attendance and
  participation are required in EACH class meeting. If you must miss a class, you must clear this
  with me prior to the class meeting date. For the definition of excused absences, please refer to
  You are entitled to excused absences for the purpose of observing major religious
  holidays. You must notify me in writing prior to the date specified by University policy.
  Remember, by missing even one of the Saturday meetings, you will miss 25% of the class time!

CHEATING AND PLAGIARISM:
  Academic integrity is strongly supported by the faculty and students at the College of
  Nursing. Cheating and plagiarism are problems that are viewed with great seriousness by both
  the College of Nursing and the University. The minimum consequence for either cheating or
  plagiarism is an "E" in the course.
EXAMS (45% of Grade)

Four exams will be given. Two will be given during class times; two will be given via the web. The lowest exam grade will be dropped, thus, each exam will be worth 15%. All examinations are restricted material. NO COPIES ARE TO BE MADE. Possession of an exam from this course constitutes cheating.

In-Class Exams
Exam #2 and Exam #3 will be given during Saturday class meetings (February 17 and March 24). These will be paper and pencil exams that will consist of short answer and short essay questions. Exams will be given at the beginning of class.

On-line Exams
Exam #1 and Exam #4 will be given in a web-based format (February 3 and March 24) with the following conditions:

- The exams will be available for four hours (8am – 12noon) on the exam date. Students who do not complete the exam by 12:00 pm on the exam date will receive a 0 on the exam.
- Every student must log onto Top Class using their assigned ID and password. When the student has entered Top Class for the exam, a security agreement will be presented. Each student must agree with the honor statement (found on the Page 10 of the syllabus) prior to accessing the exam.
- Each exam will last one hour. From the time the exam is opened, students will have only one hour in which to complete the exam. At the end of the hour, the exam will be automatically shut down from student access and submitted. Students will not receive credit for exam items left unanswered.
- Remember that all exams are restricted. Printing a copy of the exam will constitute cheating.

The Exam schedule will be:

- Exam #1: (web) February 3 (available February 1)
- Exam #2: (class) February 17
- Exam #3: (class) March 24
- Exam #4: (web) April 14 (available April 12)

CONTENT OUTLINE:
I. Examination of clinical nursing problems
   Module 1:
   1. Ways of knowing (e.g., tradition, trial-and-error, scientific inquiry)
   2. Introduction to evidenced-based nursing practice
   3. Differentiating research conduction and research utilization
   4. Deriving clinical nursing problems
Module 2:
5. Identifying research variables, (e.g., dependent, independent, and extraneous)
6. Developing research questions
7. Using conceptual frameworks to guide the research process

Module 3:
8. Research vs. practice-based articles
9. Literature review vs. integrative review
10. Critiquing and synthesizing the literature

Module 4:
11. Formalizing research questions
12. Developing research hypotheses

II. Evaluation of research designs and methods
Module 5:
1. Examining the criteria for causal inference
2. Describing types of research (e.g., program evaluation, survey, clinical trials)
3. Distinguishing quantitative and qualitative methods
4. Differentiating experimental and non-experimental designs

Module 6:
5. Examining research design issues
6. Sampling
7. Threats to internal and external validity

Module 7:
8. Research Ethics (e.g. human subjects protection)

Module 8:
9. Instrumentation and measurement

Module 9:
10. Data quality: reliability, validity, credibility
11. Data collection procedures

III. Use of statistics in research
Module 10:
1. Interrelationships among research questions or hypotheses, design, and statistical strategies
2. Population statistics (e.g., incidence and prevalence)
3. Measures of association (e.g., Pearson correlation coefficient) (odds ratios, relative risk)

Module 11:
4. Applying descriptive and inferential statistics (e.g., t-tests, $\chi^2$, one-way ANOVA)
5. Using population statistics

Module 12:
6. Evaluating research data
7. Clinical vs. statistical significance

IV. Applicability of research findings to practice

Module 13:
1. Models and approaches to research utilization
2. Presenting an integrative review
3. Implementing evidence-based nursing practice
What does it mean to be a “web-enhanced” course?

First:

- This means that some of the course materials are available to you on the web. In-class meetings are scheduled once each month. This does not mean, however, that the course is not interactive. For example, you will participate in several threaded discussions with other class members outside of your study group.

- **Computer Requirements:** This web-enhanced course requires the following computer hard- and software:
  - Ready computer access with high speed modem or network connection
  - Internet browser -- either Netscape (4.0 or higher) or Internet Explorer (IE) (4.0 or higher)
  - Active e-mail account with attachment capabilities
  - Microsoft Office or MS PowerPoint Viewer

Second:

- It is important to have a basic understanding of how to use the World Wide Web. If you are not comfortable with using the web, please complete the [Internet Tutorial](#) by clicking the "hot link".

Third:

- Before beginning the course, you are strongly urged to read the Getting Started section to learn how to get around the Nursing Research Course. To accomplish this task, go to [Getting Started](#) on the course homepage.

Fourth:

- You will need to have MS PowerPoint Viewer available. This can be downloaded for free at Microsoft's [PowerPoint Viewer](#) Download site. Just Click on the hot link and follow the directions. You will need to save it to your hard drive and then activate it once it is downloaded. Be certain to write down the name of the file being downloaded and where it is being saved. Once it has been fully downloaded, to activate the program you will need to go to the file and click on its icon (picture). Then just follow the directions. If you have any problems or questions, please contact the College of Nursing’s Manager of Instructional Technology, [Brenda Ghaelian](mailto:brenda@pop.uky.edu) by e-mail (brenda@pop.uky.edu).

- You will also need Acrobat Reader. It can be downloaded for free at Adobe's [Acrobat Reader](#) download site. Be certain to write down the name of the file being saved and where it is being saved. This program allows you to read .pdf files. These are special files that I use when I scan certain text and images. You will not be able to access the files without having Acrobat Reader. Follow the same directions as described in PowerPoint Viewer instructions. If you have any problems or questions, please contact [Brenda Ghaelian](mailto:brenda@pop.uky.edu) by e-mail (brenda@pop.uky.edu).
### COURSE CALENDAR/CLASS SCHEDULE

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<tr>
<th>Date</th>
<th>Special Assignments</th>
<th>Activities</th>
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| January 13 |                                              | **Module 1:** Ways of knowing  
Introduction to evidence-based nursing practice  
Differentiating research conduction and utilization  
Deriving clinical nursing problems                |
| January 20 | 8am – 12noon: COURSE MEETING IN LEXINGTON    | **Course Overview**  
“Who’s Who?”: College of Nursing Researchers  
**Review Module 1**                                  |
| January 27 |                                              | **Module 2:** Identifying research problems  
Developing research questions  
Using conceptual frameworks to guide research        |
| March 3    | PowerPoint Presentation of Module 8          | **Group Exercise: Identifying Research Questions**                           |
| February 3 | Exam #1 (Modules 1-3)                        | **Module 4**  
Formalizing research questions  
Developing research hypotheses                        |
| February 10|                                              | **Module 5**  
Examining the criteria for causal inference  
Describing types of research  
Distinguishing qualitative and quantitative methods  
Differentiating experimental and non-experimental designs |
| February 17| 8am – 12noon: COURSE MEETING IN LEXINGTON   | **Module 6**  
Examining research design issues  
Sampling  
Threats to internal validity and external validity   |
| March 3    | PowerPoint Presentation of Module 8          | **Group Exercises: Examining Research Design Issues**                       |
| February 24|                                              | **Module 7**  
Research Ethics: Human subjects protection           |
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<th>Date</th>
<th>Event</th>
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<tr>
<td>March 10</td>
<td>Research Experience Due</td>
<td>Module 9</td>
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<td>Data quality: reliability, validity, and credibility</td>
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<td>Data collection procedures</td>
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<td>March 17</td>
<td>SPRING BREAK</td>
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<td>March 24</td>
<td>8am – 12noon: COURSE MEETING IN LEXINGTON</td>
<td>Module 10</td>
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<td>Exam #3 (Modules 6-9)</td>
<td>Statistical Strategies</td>
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<td>Interrelationships among research questions,</td>
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<td>Measures of association</td>
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<td>Group Exercise: Analyzing Research Data</td>
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<td>Student Presentations of Research Experiences</td>
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<td>March 31</td>
<td>Module 11</td>
<td>Applying descriptive and inferential statistics</td>
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<td>Using population statistics</td>
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<td>April 7</td>
<td>Module 12</td>
<td>Evaluating research data:</td>
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<td>Clinical vs. Statistical Significance</td>
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<td>April 14</td>
<td>Exam #4 (Modules 10-13)</td>
<td>Module 13</td>
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<td>Models and approaches to research utilization</td>
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<td>Presenting an integrative review</td>
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<td>Implementing evidenced-based nursing practice</td>
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<tr>
<td>April 21</td>
<td>8am – 12noon: COURSE MEETING IN LEXINGTON</td>
<td>UK Student Research Society:</td>
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<td>Integrative Reviews Due</td>
<td>Presentations of Integrative Reviews</td>
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**MODULES**

Each module will consist of a core on-line PowerPoint presentation with supplemental activities such as study questions for web-site discussion, web-based tutorials, research spotlight videotapes, and study messages. I strongly suggest that you stay on schedule with the modules. Each section of modules will be available on Top Class until the day the exam covering that section is posted. Videotapes will be available in the Medical Center Audiovisual Library (6th floor, CON Building) and at designated sites in Morehead and Hazard.
INTEGRATIVE REVIEW

Purpose:
To critique and synthesize existing scientific evidence on a clinical problem or issue and recommend evidence-based nursing practice.

Definition:
Research utilization is the process of using research findings as a basis for practice. It encompasses dissemination of scientific knowledge, critique of studies, synthesis of findings, determining applicability of findings, application/implementation of scientific findings in practice, and evaluating the practice change.

Requirements and Evaluation:
• Write an integrative review (no more than ten double-spaced pages) following the outline described below.
• Write the review in the third person and use the headings given below.
• The assignment must be typed, using APA format. One point will be deducted for each APA violation.
• The paper must be turned in on time. Each day the paper is late, 5% of the grade will be deducted.

Required Outline:
The Clinical Problem or Issue (10 points)
Identify the clinical problem or issue you have selected to study. Be very focused in identifying the problem or issue. This problem or issue should be something that you have observed in your practice and that you are passionate about. You should do an initial literature search to be sure there have been at least five research studies conducted on the problem or issue. In one or two sentences, explain the significance of this clinical problem or issue to nursing.

Critique of relevant research and related literature (60 points)
Write a review of the literature using the relevant research articles related to your clinical problem or issue. You also will want to refer to related literature (e.g., practice-based article or theoretical paper related to the problem or issue).

CAUTION: The bulk of the critical review is to relate to relevant research studies, not practice-based articles. This review is meant to be an exhaustive search of the literature on a focused topic (if there are too many relevant research articles, perhaps you need to re-focus your problem). When critiquing the research articles, be sure to evaluate whether the findings are consistent with the design, the instruments are valid and reliable measures, and the conclusions are consistent with the data analysis.

Synthesis of research findings (20 points)
Discuss whether there is enough existing research about the clinical problem/issue to guide practice. Identify the gaps in the literature. Create a table to compare and contrast contributions of the existing research studies.

Recommendation for evidence-based nursing practice (10 points)
Suggest best nursing practice based on the integrative review. Discuss how this information might be disseminated to practicing nurses, and how you might use it to change policy in your institution.
PRESENTATION OF RESEARCH EXPERIENCE

Purpose:
To experience the conduction, dissemination, or utilization of nursing research in the real world.

Requirements:
You must observe/participate in at least 3 hours of a nursing research experience. Some choices include, but are not limited to:

- UK CON Student Research Papers Day
  Time and date to be announced
  Lexington

- College of Nursing Research Seminars
  3rd Friday of each month
  11:30-1:00pm, CON 313/311

- Observe/participate/interview with a nurse researcher

- Attend/participate in a Nursing Research Committee meeting

- Attend any nursing research conference

You are encouraged to discuss the choice of a real-life research experience with me prior to attending.

Prepare a PowerPoint presentation (no more than 10 slides) describing your experience. The presentation will be posted on the course web site and should include:

- A brief description of the experience
- A description of at least 1 research concept observed/learned during the experience,
- How the experience has enhanced your understanding of the research process.

Evaluation:

- Description of the experience (50 points)
- Description of the observed research concept (20 points)
- Description of your enhanced understanding of the process (10 points)
- PowerPoint Presentation format (5 points)
- In class presentation (5 points)
- The presentation must be turned in on time. Each day the paper is late, 5% of the grade will be deducted.
HONOR STATEMENT for ON-LINE EXAMS

In accordance with the University of Kentucky Student Rights and Responsibility Handbook (revised June 6, 2000):

cheating “includes, but is not limited to, the wrongfully giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade.”

For the purpose of this on-line exam for NUR 602, cheating will include the following:

- Use of notebooks, textbooks, or other reference materials during the exam
- Talking or consulting with other students during the exam
- Talking or consulting with others knowledgeable of research methods during the exam
- Talking or consulting with other students who have viewed the exam prior to the submission of your own exam
- Talking or consulting with other student who have not viewed the exam after the submission of your own exam
- Printing or in any way creating a permanent copy of the exam

Accessing the exam with your course ID and password will imply that you have read and agree to abide by the conditions set forth in this Honor Statement.

Please be reminded that the minimum consequence for cheating is failure of the course.
ADDITIONAL REFERENCES:


