



College of Nursing  
**UNIVERSITY OF THE PHILIPPINES MANILA**  
The Health Sciences Center



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**N391: QUANTITATIVE RESEARCH METHODS**  
*A.Y. 2024 – 2025, First Semester*

**COURSE GUIDE**

**Course Description**

The main purpose of the program leading to Doctor of Philosophy (PhD) in Nursing is to strengthen and deepen the intellectual and scholastic capability of students to enhance the theory and evidence-based practice of the profession. Research is an important component to achieve evidence-based nursing practice. This course is intended to develop competence in applying quantitative research methods to the development and application of nursing theory. This course focuses on advanced quantitative research methods relevant to nursing adapted from social science research and epidemiologic research.

**Course Outcomes**

At the end of this course, students should be able to:

1. Utilize quantitative research methods in examining current issues and trends in nursing and healthcare, and in developing and testing nursing theory and interventions
2. Develop a research proposal that is aimed at generating data that contribute to the improvement of nursing practice and health outcomes.
3. Adhere to technical and ethical health research standards in the development of the proposal.

**Course Credit:** 3 units (48 course hours)

**Course Schedule:** Thursdays, 4PM – 7PM (PHT)

\*Time may be adjusted at times to accommodate our adjunct professors from overseas

**Course Delivery:**

Onsite [face-to-face]: UPCN (Sotejo Hall) PhD Room

Online: UP Manila Virtual Learning Environment

Link: <https://vle.upm.edu.ph/mod/url/view.php?id=87004>

**Course facilitator:** Laurence Lloyd B. Parial, PhD, RN

**Adjunct Professors/Resource Persons:**

Leorey N. Saligan, PhD, RN, CRNP, FAAN  
*National Institute of Nursing Research*  
*National Institutes of Health, Maryland, USA*

Emerson Ea, PhD, DNP, APRN, FAAN  
*Rory Meyers College of Nursing*  
*New York University, New York, USA*

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## Course Requirements:

1. *Critical appraisal of a research paper* – This involves the appraisal of a published research article that utilizes a specific quantitative research design. This accounts for 35% of your course grade.
2. *Assignments and activities* – These include reports or exercise outputs from specific modules. They account for 15% of your course grade.
3. *Research proposal* – This includes writing a quantitative research capsule proposal, which will be submitted at the end of the course. The student will also present this to the class to receive feedback/suggestions from other students and course facilitators. This accounts for 50% of your course grade.

## Class Schedule

Week	TOPIC	Facilitator/s
Week 1 <b>Aug 29</b>	<b>Orientation to the course</b> <b>Overview of quantitative research</b> <ol style="list-style-type: none"> <li>1. Nursing research in an evidence-based practice</li> <li>2. Characteristics, key concepts, and steps</li> <li>3. Planning in quantitative research</li> </ol> *Output: Presentation of preliminary research topics/areas	LLBParial
Week 2 <b>Sept 05</b>	<b>Classes suspended</b> (Asynchronous activity [Recorded lecture]) <b>Preliminary steps in quantitative research</b> <ol style="list-style-type: none"> <li>1. Research problem, research questions, objectives</li> <li>2. Hypotheses</li> <li>3. Literature review</li> <li>4. Critical appraisal</li> <li>5. Research framework</li> </ol> *Output: Literature review matrix to identify research gap/s	
Week 3 <b>Sept 12</b>	Student presentation of preliminary research topics/areas, backed up by literature review synthesis <ol style="list-style-type: none"> <li>1. Research problem, research questions, objectives</li> <li>2. Research framework</li> <li>3. Hypotheses</li> </ol>	
Week 4 <b>Sept 19</b>	<b>Quantitative research designs</b> <ol style="list-style-type: none"> <li>1. Experimental</li> <li>2. Quasi-experimental</li> <li>3. Non-experimental</li> <li>4. Other quantitative research designs</li> </ol> *Output: Critical appraisal tool/reporting guideline for assigned research design	LLBParial
Week 5 <b>Sept 26</b>	<b>Student presentation of revised research topics</b> <ol style="list-style-type: none"> <li>1. Background identifying the research gap</li> <li>2. Research problem, questions, objectives, hypotheses</li> </ol>	LLBParial

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	<ol style="list-style-type: none"> <li>3. Variables of interest</li> <li>4. Research design</li> <li>5. Initial data collection tools</li> </ol> <p>Guidelines in writing the quantitative research proposal</p>	
<p>Week 6 <b>Oct 03</b></p>	<p><b>Instrumentation and data collection methods</b></p> <ol style="list-style-type: none"> <li>1. Checklists and questionnaires</li> <li>2. Participant observation</li> <li>3. Records review</li> <li>4. Other data collection methods</li> </ol> <p>Validity and reliability of instruments</p> <p>*Output: Data collection tools/instruments for the proposed research problem/topic</p>	LOSaligan
<p>Week 7 <b>Oct 10</b></p>	<p><b>Reporting, analysis, and interpretation of quantitative data</b></p> <ol style="list-style-type: none"> <li>1. Statistical analysis of quantitative data</li> <li>2. Rigor and interpretation in quantitative research</li> </ol> <p>Sample and sampling designs</p> <ol style="list-style-type: none"> <li>1. Sample size calculation in quantitative research</li> <li>2. Power analysis</li> </ol> <p>*Outputs: Critique of statistical analysis on a published paper Statistical analysis plan for the research problem/topic</p>	LLBParial
<p>Week 8 <b>Oct 17</b></p>	<p><b>Appraisal of published studies utilizing quantitative research designs</b></p> <ol style="list-style-type: none"> <li>1. Cross-sectional / Descriptive / Predictive</li> <li>2. Case control</li> <li>3. Prospective / Retrospective Cohort</li> <li>4. Randomized controlled trial</li> <li>5. Quasi-experimental</li> <li>6. Implementation research</li> </ol>	LLBParial
<p>Week 9 <b>Oct 24</b></p>	<i>Independent working time</i> - Writing the revised proposal / individual consultation with facilitator	
<p>Week 10 <b>Oct 31</b></p>	READING BREAK (Holiday)	
<p>Week 11 <b>Nov 07</b></p>	<i>Independent working time</i> - Writing the revised proposal / attendance to online research ethics course	
<p>Week 12 <b>Nov 14</b></p>	<p><b>Ethical considerations in quantitative research</b></p> <ol style="list-style-type: none"> <li>1. Recruitment, voluntary participation, informed consent</li> <li>2. Data privacy and confidentiality, data handling</li> <li>3. Risk and benefits, compensation</li> <li>4. Access to results</li> <li>5. Researcher qualification</li> </ol> <p>*Output: Ethical considerations section for the research proposal</p>	EEa

Week 13 <b>Nov 21</b>	<b>Appraisal of published studies utilizing quantitative research designs</b> 1. Randomized controlled trial 2. Quasi-experimental 3. Implementation research	LLBParial
Week 14 <b>Nov 28</b>	<b>Introduction to other research designs involving quantitative methods</b> 1. Mixed Methods Research (MMR) 2. Instrument/Tool Development	LLBParial
Week 15 <b>Dec 05</b>	<b>Presentation of the revised/working research proposal</b> 1. Introduction (Background, Aims, Research framework, Hypotheses) 2. Methods (Design, Setting, Participants [w/ Eligibility criteria and sampling plan/size], Instruments, Data Collection Procedure, Statistical Analysis, Ethical considerations)	
Week 16 <b>Dec 12</b>	<i>Independent working time/consultation</i> – Writing the final research proposal	
Week 17 <b>Dec 19</b>	<b>Final presentation of research proposals</b> *Output: Submission of written research proposals	LLBParial LOSaligan EEa FVNgayaan

#### **ABOUT THE COURSE FACILITATOR:**

**Assistant Professor Laurence Lloyd B. Parial, PhD, RN** is a regular faculty of the College of Nursing, currently serving as the Coordinator for the Office of Research Integrity. He belongs to the Adult Health Nursing Specialty Group where he teaches courses both in the graduate and undergraduate programs. Asst. Prof. Parial finished his Doctor of Philosophy from the Hong Kong Polytechnic University. His research areas include gerontology, health literacy, and public health, publishing various research designs such as systematic/scoping reviews, cross-sectional/correlational designs, interventional studies, qualitative studies, and mixed-method designs in international, peer-reviewed journals. He has also served as a Special Editor for the *Acta Medica Philippina*, the national health science journal. Asst. Prof. Parial may be contacted through his email: [lbparial@up.edu.ph](mailto:lbparial@up.edu.ph).

#### **REFERENCES**

##### **Textbooks**

Burns, N. and Grove, S. (2013). *Understanding Nursing Research: Building an Evidence-Based Practice. Philippine Edition*. Singapore: Elsevier Saunders.

Fain, J. (2009). *Reading, Understanding, and Applying Nursing Research (3rd Edition)*. Philadelphia: F.A. Davis Company.

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Holloway, I. and Wheeler, S. (2010). *Qualitative Research in Nursing and Health Care. Third Edition*. Oxford: John Wiley and Sons Ltd.

Lo-Biondo-Wood, G. and Haber, J. (2010). *Nursing Research: Methods and Critical Appraisal for Evidence-Based Practice*. St. Louis, Missouri: Mosby/ Elsevier. Massachusetts: Jones & Bartlett Learning.

Polit, D.F. and Beck, C.T. (2012). *Foundation of Nursing Research: Generating and Assessing Evidence for Nursing Practice*. Philadelphia: Lippincott/ Williams & Wilkins.

Polit, D.F. and Yang, F. (2016). *Measurement and the Measurement of Change*. Philadelphia: Walters Kluwer.

## Websites

Critical Appraisal Skills Programme. CASP Checklists. <https://casp-uk.net/casp-tools-checklists/>

Enhancing the Quality and Transparency of Health Research Network (EQUATOR Network). Reporting Guidelines. <https://www.equator-network.org/toolkits/selecting-the-appropriate-reporting-guideline/>

Joanna Briggs Institute. Critical appraisal tools. <https://jbi.global/critical-appraisal-tools>

National Drug Abuse Treatment Clinical Trials Network. Good Clinical Practice Course. <https://gcp.nidatraining.org/>

National Institutes of Health. Study Quality Assessment Tools. <https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools>