Jefferson
Thomas Jefferson University

College of Nursing

PhD in Nursing Course Descriptions 2022-2023

For more information, contact:

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Fall Year 1

NU 800 Philosophy of Science in Nursing (3 credits)
This introductory course focuses on the logic of inquiry in the natural and social sciences. Concepts for discussion include cause, determination, measurement, error, prediction, reduction, and the roles of theory and experiment. In addition to these central issues of scientific inquiry, the broader questions of values in science are discussed. The distinction between natural and social science-laws, theories, methodologies, confirmation, and acceptance—is also explored. The course concludes with introductory discussions on how nursing as an applied science discipline connects to these intellectual developments.

PHS 605 Advanced Statistical Methods for Data Analysis (3 credits)
Presents general approaches to multivariate statistical analysis, including elaboration and control of confounding, and key multivariate statistical analysis techniques, i.e., analysis of variance; bivariate linear regression and correlation; multiple linear regression; multiple and partial correlation; and binary and multinomial logistic regression. Analyzes selected datasets, i.e., 2012 Southeastern Pennsylvania Household Health Survey performed by the Public Health Management Corporation, and federal datasets, e.g., NHANES.

NU 802 Foundations of Scientific Writing (3 credits)
This course will develop competencies in scholarly communication through applying the micro and macrostructure of storytelling to scientific writing in health sciences research.

Spring Year 1

NU 801 Theoretical Approaches to Research (3 credits)
This course explores the evolution and development of theories relevant to research, including grand and middle-range theories and their philosophical underpinnings and implications. The application of theory to research will be emphasized.

NU 810 Quantitative Research Methods (3 credits)
This quantitative methods course focuses on understanding and applying selected approaches to quantitative research. Practical approaches to applying quantitative methods to address health/healthcare problems will be examined including research design, sampling, measurement, data collection, data analysis, and human subject protection. Emphasis is placed on scientific principles and techniques used to minimize bias and maximize internal and external validity in quantitative inquiry.

NU820 Determinant Models of Human Health (3 credits)
In this course, students will examine the intersectionality of social and biological determinants of health and their combined influence on health and health outcomes. Selected biological characteristics will be explored, including genetics, family history, pathology, anthropometry, adiposity, physical fitness levels, age, ethnicity, and gender. Social and environmental conditions will also be examined, such as places of birth, residence, work, leisure, and worship, as they affect health,

physical functioning, health risks, and quality of health outcomes. The concepts of health disparities and health equity will be addressed, which are central to examination of health outcomes from both biological and sociological perspectives.

GC 640: Research Ethics: The Responsible Conduct of Research (I credit)
This course is a series of one-hour meetings that are designed to acquaint students with a number of issues related to the ethical conduct of scientific research.

Summer Year 1

NU 720 Academic Nursing Seminar I (3 credits)
This course introduces the teaching and learning process in nursing education and provides a forum for analysis of the role of nurse educators in preparing students to develop values and behaviors essential to practice. Students will explore learning theories, principles, and innovative teaching strategies for diverse learners in a variety of settings, with an emphasis on the learner-centered philosophy. Academic performance of students will be discussed.

Fall Year 2

PBH 512: Qualitative Research (3 credits)
Introduces philosophy, techniques, and uses of common forms of qualitative research with an emphasis on data collection and analysis. Addresses strengths and limitations of qualitative research and ethical issues surrounding its use. Students practice qualitative research methods through participant observation, fieldwork, in-depth interviewing, focus groups, and case studies.

NU821 Ways of Thinking (3 credits)
Students will explore the processes associated with creativity, innovation and design thinking and selected theories and principles of each. An experiential component of the course will include critique of students' early-stage dissertation proposals by immersion in a creativity think tank.

PHS 710 Advanced Health Behaviors Methods & Measurement (3 credits)
This course provides in-depth and applied measurement science training and is an opportunity to build on concepts and theories in health behavior and health outcomes assessment and measurement. The central focus will be on the methodology of theory-based instrument development and testing, and the topics will take students through the lifecycle of a health measurement instrument from conceptualization through reliability and validity assessment and structural modeling. The objective of this course is to train students in the principles and practice of good health measurement.

Spring Year 2

NU 812 Data Based Design & Management (3 credits)
This course lays the groundwork for database design, data collection and data management. The approach focuses on identification, formalization, and verification of study data, and is appropriate for both straightforward and complex clinical research studies. Students will learn how to request information and

organize it into well-defined data collection instruments. Students completing this course will develop a fundamental facility for data collection, data organization, and data analysis for research projects, including data cleaning, coding, determining shape of distribution and outliers, and handling missing data. Students will learn to use SPSS for database design and data analysis, and to use electronic data collection platforms. Students will derive their familiarity with each application through a series of research project simulations.

NU811 Team Science for Biomedical Research (3 credits)
This course provides students with basic knowledge to engage in team-based biomedical and clinical research. Students will learn how team science is critical to developing future biomedical research since complex problems will require solutions from teams of specialists from diverse backgrounds who are skilled at crossing the boundaries of disciplinary silos. Students will join an existing research team and access the NIH modules on Team Science to learn how to access relevant information on complex problems as well as learn how to form, lead, participate in, and evaluate research teams. The course will cover key concepts of team science and enable students to learn about the critical components of effective teams.

PHS 650 Evaluation and Outcomes Research (3 credits)
This course provides experience in design and critical review of scientific evaluative studies applicable to evaluation of health intervention programming. The course will cover material intended to enable students to critically examine various approaches and methods developed for interventional studies. Specifically, this course will use a classical validity approach to the design and evaluation of health intervention studies. The course will present classical theories of causality and experimental design to include operationalization of variables, threats to validity, and experimental, quasi-experimental and non-experimental research designs. The culminating assignment for the course is a research proposal for a population-health relevant evaluative research study and as such this course serves to prepare students for future technical writing and proposal development, the cornerstones of scientific communication and funding requests.

Summer Year 2

NU 830 Nursing Research Residency (1 credit)
The focus of this course is to engage nursing PhD students in a team science experience within a multidisciplinary research team. Efforts will be made to align each team assignment with the student's research interest. Students will apply principles of research design and innovation to develop and implement a project that supports and/or extends the work of the research team.

Fall Year 3

NU 831 Dissertation Seminar (3 credits)
This course provides advanced study in the student's discipline-specific research interest leading to the completion of the journal format dissertation proposal. The course will cover developing and identifying the key elements/ dimensions of the project and structuring that into a background and significance section clearly articulating the healthcare context. In addition, the course will help students

develop a well-defined research question(s)/problem statement and specific aims for the proposed project. Students will also learn to identify the methodology or process plan that is in alignment with the research. This will include the target population, recruitment approach, data collection, project implementation, analytic strategy and/or other steps. Students will be expected to draw on all their coursework as they prepare an abstract, lay summary, paper, poster, and podium presentation describing their work. Students will be encouraged to present at a peer-reviewed conference via a podium or poster presentation.

Plus 9 credits of electives depending on area of interest