

# Nursing Science

Contact: Marilyn Schallom  
Phone: 314-362-3316  
Email: [smarilyn@wustl.edu](mailto:smarilyn@wustl.edu)  
Website: <https://www.barnesjewishcollege.edu/doctoral-degree/phd-nursing-science/>

## Courses

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### **NRSSCI 5005 Symptom, Science and Precision Health Care: Omics and Big Data**

This course focuses on symptom science as a major branch of nursing research as it relates to precision healthcare. Precision healthcare considers individual variability in genes, environment and lifestyles. An introduction to the omic sciences, big data science, and their relationships is also provided.

Credit 3 units.

Typical periods offered: Summer

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### **NRSSCI 5010 Philosophy and Theoretical Underpinnings of Nursing Science**

This course explores the evolution, assumptions, and principal themes that underpin philosophies of nursing science and their influence on knowledge development for nursing practice and nursing theory. The interrelationships among theoretical perspectives, theoretical thinking, scientific inquiry, and knowledge development in nursing will be discussed. The relationship of scientific integrity and bioethics to the scientific method will be discussed.

Credit 3 units.

Typical periods offered: Fall, Summer

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### **NRSSCI 5015 Literary Critique and Synthesis**

The focus of this course is on synthesizing evidence from the published research literature to determine the state of knowledge about a selected research topic and to guide a research plan. The course emphasizes the processes of critiquing, analysis, and synthesis of existing research in order to draw useful conclusions or make decisions about the topic, problem, or research plan.

Credit 3 units.

Typical periods offered: Fall, Spring

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### **NRSSCI 5020 Dissemination and Implementation Science**

This course focuses on dissemination and implementation research. Strategies underlying the creation, transmission, and reception of information will be explored. The goal of this course is to bridge the gap among clinical research, everyday practice, and public health by building a knowledge base to improve population health.

Credit 3 units.

Typical periods offered: Fall, Spring, Summer

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### **NRSSCI 5025 Grant Writing and Scientific Review**

This course focuses on developing and evaluating fundable research applications. Grant-writing and scientific review processes are emphasized, including identifying various types of funding mechanisms, developing successful grant applications, and

reviewing research proposals. Strategies for developing high impact scientific protocols and a feasible research budget will be discussed. Opportunities to conduct peer reviews of grant applications will be provided.

Credit 3 units.

Typical periods offered: Fall, Spring, Summer

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### **NRSSCI 5030 Interdisciplinary Science and the Innovative Nurse Scientist**

This course provides an educational opportunity to understand diverse disciplines with their specific perspective in conducting research. The emphasis is placed on understanding key scientific concepts and methodologies. The goal is to connect and integrate different schools of thought and demonstrate how the disciplines of science come together in innovative ways to identify and solve scientific challenges. Preparation, training, support, challenges, and roles of the nurse scientist are also explored. Related topics include how to advance a career as a nurse scientist with a focus on building a research trajectory, obtaining funding and becoming an innovative researcher who is able to identify trends in emerging science. Discussions will focus on integrating biologic and behavioral factors to achieve translational bench-to-bedside nursing science.

Credit 3 units.

Typical periods offered: Fall, Spring, Summer

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### **NRSSCI 5035 Mentored Research Experience I**

This course is the first in a five serial mentored research course series designed to provide one-to-one mentoring for students to have hands-on research experiences and gain skills necessary to conduct interdisciplinary research. Students will be paired with a nursing mentor and a non-nursing mentor. In courses I and II, students will learn about a chosen research project led by the non-nursing mentor and work with his/her research team. In courses III and IV, under the supervision of both nursing and non-nursing mentors, students will identify a scientific challenge that is significant to nursing. Students will then develop a research plan integrating methods from a non-nursing discipline to address the challenges. In course V, students will work closely with the nursing and non-nursing mentors in developing their dissertation research proposal.

Credit 1 unit.

Typical periods offered: Fall, Spring, Summer

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### **NRSSCI 5040 Mentored Research Experience II**

This course is the second in a five serial mentored research course series designed to provide one-to-one mentoring for students to have hands-on research experiences and gain skills necessary to conduct interdisciplinary research. Students will be paired with a nursing mentor and a non-nursing mentor. In courses I and II, students will learn about a chosen research project led by the non-nursing mentor and work with his/her research team. In courses III and IV, under the supervision of both nursing and non-nursing mentors, students will identify a scientific challenge that is significant to nursing. Students will then develop a research plan integrating methods from a non-nursing discipline to address the challenges. In course V, students will work closely with the nursing and non-nursing mentors in developing their dissertation research proposal.

Credit 1 unit.

Typical periods offered: Fall, Spring, Summer

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### **NRSSCI 5045 Mentored Research Experience III**

This course is the third in a five serial mentored research course series designed to provide one-to-one mentoring for students to have hands-on research experiences and gain skills necessary to conduct interdisciplinary research. Students will be paired with a nursing mentor and a non-nursing mentor. In courses I and II, students will

learn about a chosen research project led by the non-nursing mentor and work with his/her research team. In courses III and IV, under the supervision of both nursing and non-nursing mentors, students will identify a scientific challenge that is significant to nursing. Students will then develop a research plan integrating methods from a non-nursing discipline to address the challenges. In course V, students will work closely with the nursing and non-nursing mentors in developing their dissertation research proposal.

Credit 1 unit.

Typical periods offered: Fall, Spring, Summer

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#### **NRSSCI 5050 Mentored Research Experience IV**

This course is the fourth in a five serial mentored research course series designed to provide one-to-one mentoring for students to have hands-on research experiences and gain skills necessary to conduct interdisciplinary research. Students will be paired with a nursing mentor and a non-nursing mentor. In courses I and II, students will learn about a chosen research project led by the non-nursing mentor and work with his/her research team. In courses III and IV, under the supervision of both nursing and non-nursing mentors, students will identify a scientific challenge that is significant to nursing. Students will then develop a research plan integrating methods from a non-nursing discipline to address the challenges. In course V, students will work closely with the nursing and non-nursing mentors in developing their dissertation research proposal.

Credit 1 unit.

Typical periods offered: Fall, Spring, Summer

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#### **NRSSCI 5055 Mentored Research Experience V**

This course is the final in a five serial mentored research course series designed to provide one-to-one mentoring for students to have hands-on research experiences and gain skills necessary to conduct interdisciplinary research. Students will be paired with a nursing mentor and a non-nursing mentor. In courses I and II, students will learn about a chosen research project led by the non-nursing mentor and work with his/her research team. In courses III and IV, under the supervision of both nursing and non-nursing mentors, students will identify a scientific challenge that is significant to nursing. Students will then develop a research plan integrating methods from a non-nursing discipline to address the challenges. In course V, students will work closely with the nursing and non-nursing mentors in developing their dissertation research proposal.

Credit 1 unit.

Typical periods offered: Fall, Spring, Summer

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#### **NRSSCI 5060 Research I: Research Designs and Measurement for Scientific Inquiry: Quantitative Methods**

The goal of this course is to deepen the understanding of scientific inquiry pertaining to quantitative methods in nursing research. This course emphasizes research questions/hypotheses, frameworks, designs, methodology, and analysis. Methods of dissemination of research findings in symptom science are examined.

Credit 3 units.

Typical periods offered: Fall, Spring, Summer

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#### **NRSSCI 5065 Research II: Research Design and Measurement for Scientific Inquiry: Qualitative Methods**

This is an introductory course in qualitative research with particular focus on the health sciences. The course focuses on study of traditions and methods, scientific issues, techniques of data collection, analysis and interpretation. Emphasis is given to the contribution of qualitative research in expanding nursing knowledge

Credit 3 units.

Typical periods offered: Fall, Spring, Summer

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#### **NRSSCI 5070 Research III: Research Designs and Measurement for Scientific Inquiry: Psychometrics**

This course offers information on psychometric theories. The application of these theories in constructing and evaluating measurements in nursing research is presented. Relevant course content includes statistical techniques to evaluate measurements, such as reliability and validity tests. This course also provides an introduction to the issues that arise when writing/selecting questions for the psychosocial instruments. The focus is on examining the logic of measurement in standardized survey administration and selected techniques for testing scale items.

Credit 3 units.

Typical periods offered: Fall, Spring, Summer

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#### **NRSSCI 5100 Dissertation**

Original investigation research experience designed by student to prepare for completing proposed research, public defense, and publication of dissertation as based on student's substantive areas of interest and program of research.

Credit 3 units.

Typical periods offered: Fall, Spring, Summer

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#### **NRSSCI 6000 Mentored Teaching Experience**

Mentored teaching experience

Credit 0 units.

Typical periods offered: Fall, Spring, Summer

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#### **NRSSCI 9000 Full-Time Graduate Research/Study**

Full-Time Graduate Research

Credit 0 units.

Typical periods offered: Fall, Spring, Summer

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