



Precision Science

Precision science aims to predict symptom susceptibility, disease occurrence and progression, and develop tailored interventions. Precision science maximizes effectiveness by taking into account individual personal and environmental characteristics (e.g., how an individual's type of lifestyle, co-existing diseases, biomarkers of risk, cognitive and emotional factors, and genetic and environmental factors) are associated with disease risk and progression. Precision science spans basic science through implementation science methodologies.

Number	Units	Title	Term Offered
613a	3	Palliative Care I: Fundamentals of Palliative Care	Summer – Alternating with 613b
613b	3	Palliative Care II: Advanced Concepts in Palliative Care	Summer – Alternating with 613a
721	3	Psychoneuroimmunology Foundations and Clinical Implications	Fall
726	3	Theories of Health Promotion and Risk Reduction in Nursing	Spring
727	3	Managing the Consequences of Chronic Illness	Fall
744	3	Topics in Integrative Health Research	Fall
747	4	Cellular & Molecular Physiology and Pathophysiology for Biobehavioral Research	Fall
749	3	Injury Mechanisms in Biobehavioral Research	Planned
796A	3	Synthesis Seminar	Summer

Health Determinants Science

Determinants of health are multiple and complex, and fall into five broad categories. These are 1) social and economic environment (e.g., education, employment, social networks); 2) physical environment (e.g., natural and built environment); 3) health care behaviors (e.g., individual lifestyles, cultural practice, family/community beliefs); 4) genetics (e.g., genetics and epigenetics); and 5) the health care system (e.g., access, cost, quantity, and quality of health care services).

Number	Units	Title	Term Offered
600D	3	Perspectives on Current Research in Gerontological Nursing Science	Fall
726	3	Theories of Health Promotion and Risk Reduction in Nursing	Spring
727	3	Managing the Consequences of Chronic Illness	Fall
740	3	Theories in Complex Systems Science and Integrative Health	Spring
744	3	Topics in Integrative Health Research	Fall
753*	2	Population Health	Fall
773	3	Rural Health Systems	Summer
774	3	Rural Community Health	Summer
787	3	Diverse Populations: Theories and Methods for Examining Health Disparities	Fall
796A	3	Synthesis Seminar	Summer

*NURS753 is available for Dual Degree students only

Data and Systems Science

Data and systems science research includes, but is not limited to informatics, use and development of technologies, digital health, and data elements. Data science is the application of computational inquiries into large data sets to uncover data-driven decisions and solutions. Data analytics can include data mining, machine learning and other predictive analytic approaches. Systems scientists identify and test factors for modifying complex systems (e.g., health care settings, populations). The intentions are to achieve higher quality (safer) care, better patient experiences and population health outcomes at less cost, and improved healthcare provider work life.

Number	Units	Title	Term Offered
634	3	Data Management in Healthcare Systems	Spring
647	3	Human Factors in Health Information Technology	Fall
650	3	Theories of Leadership & Organizational Management	Fall
736	3	Technology for Expanding Healthcare Capacity	Spring
740	3	Theories in Complex Systems Science and Integrative Health	Spring
796A	3	Synthesis Seminar	Summer