

New information about the impact of human genetics on all aspects of health has created exciting new career opportunities for nurses. The University of Iowa College of Nursing provides a solid foundation in genetics for today's nursing professionals in keeping with national standards for basic and advanced genetic nursing.



*When you think
genetics
Do you think
nursing?*

Opportunities Abound

A partial list of practice areas where knowledge of genetic and genomic competencies is used:

- Newborn screening program and Metabolic disease management nurses
- Obstetrics and prenatal nursing
- Pediatric nursing
- Oncology & hematology nursing
- Movement disorders clinics
- Neuromuscular clinics
- Cystic Fibrosis clinics
- Pulmonary clinics
- Geriatric clinics
- Nurse Practitioners
- Research nurses coordinating projects that include genetic and genomic data and methods

Essential Nursing Competencies and Curricula Guidelines for Genetics and Genomics (2006). Silver Spring MD: American Nurses Association

The University of Iowa College of Nursing offers graduate level courses in clinical genomics and genomic health research. Courses are intended for nursing students, practicing nurses in clinical and research practices, nurse researchers, and nursing faculty. Health care professionals using genetic and genomics in their practice are encouraged to enroll.

The courses can be taken as part of the UI Master's level Genetic Nursing Program, as electives, or for professional development. Courses are offered through an accredited College of Nursing and graduate credit hours may be applied to a transcript or used for continuing education credit. The courses provide educational content appropriate to the credentialing process for MSN- or BSN-prepared nurses through Genetics Nursing Credentialing Commission (GNCC) with the clinical experiences portfolio.

Course content is designed to provide learning experiences sufficient for all registered nurses to be proficient in ANA's essential nursing genetic and genomic competencies, and are prepared to provide care either independently or as members of genetic and/or multidisciplinary healthcare teams.

These courses guide nurse educators in the design and implementation of learning experiences to help their students achieve proficiency in ANA's (2006) essential nursing genetic and genomic competencies. The course content can enhance programs of research when including genetics/genomics.

96:116 Introduction to Human Genetics

This course provides an introduction to the organization of the human genome and basic principles of inheritance in humans. Course content includes an overview of cells and development, organization of the human genome, chromosome structure and function, gene structure and function, genes in pedigrees and populations, and the implications of genetic variation on health. This course is delivered online and is designed for upper level undergraduate and/or graduate students.

dementia, psychiatric disorders, hearing loss, inherited eye disease, connective tissue disorders, cancer genetics (genetic mechanisms & cancer syndromes), common adult onset disorders with complex inheritance (diabetes, heart disease, osteoporosis, etc), public health & population genetics, pharmacogenetics and gene transfer & genetic therapies. This course is designed for graduate students or for professional improvement for health care providers who apply genetic and genomic principles in practice and education.

96:228 Advanced Practice Genetic Nursing I

This course focuses on advanced practice genetic nursing for individuals, families and populations who are at risk for genetic conditions or who have a condition with a genetic component. Genetic concepts include chromosomal variations, Mendelian inheritance, non-traditional inheritance, application of molecular methodology to clinical & research practice, preconception & prenatal healthcare in genetics, newborn screening for genetic conditions, dysmorphology examinations, developmental delay associated with genetic conditions and ethical, legal & social implications of genetic nursing. This course is designed for graduate students or for professional improvement for health care providers who apply genetic and genomic principles in practice and education.

96:415 Genetic Nursing Research

This doctoral level research seminar course addresses concepts in human genetics regarding implications of gene discoveries for understanding of causes of and human responses to conditions with a genetic component. The course focuses on application of this body of knowledge to health promotion, prevention, and nursing interventions throughout the life span. Relevant genetic, nursing, family, molecular, epidemiologic, ethnicity, socio/cultural, health communication, social marketing, and behavioral theories and methods are evaluated for their integration into genetic nursing research. Students analyze current research on selected genetic topics relevant to nursing scholarship.

The course is a seminar format in which participants critique research literature on health care topics, and conduct individual systematic literature reviews or prepare proposals for their own research. Participants not located at The University of Iowa participate in weekly classes through distance learning technology such as Elluminate or Polycom.

All genetics nursing courses complement experiences available through the NINR Summer Genetics Institute.

96:230 Advanced Practice Genetic Nursing II

This course focuses on advanced practice genetic nursing for individuals, families and populations who are at risk for genetic conditions or who have a condition with a genetic component. Clinical genetic concepts include, mitochondrial disorders, non-traditional inheritance, neuromuscular diseases, movement disorders, adult onset

To register for these courses, offered through *The University of Iowa's Center for Credit Programs*, call 1-800-272-6430 or complete the online registration form at <http://www.continuetolearn.uiowa.edu/ccp/de/regform.htm>

To learn more about graduate study in genetics and nursing, call Janet Williams, director of the advanced practice genetics nursing program, at 319-335-7046.