

GENETIC COUNSELING

Degree Types: MS

The Graduate Program in Genetic Counseling (<https://www.feinberg.northwestern.edu/sites/genetic-counseling/>) is a six-quarter (18-month) program leading to a master's in Genetic Counseling and accredited by the Accreditation Council for Genetic Counseling (ACGC). The curriculum is designed to emphasize the scientific and medical aspects of the profession, along with the counseling and psychosocial aspects. Students have extensive course work their first year and also begin their clinical rotations during the winter quarter. Early clinical placements allow the students to quickly apply and reinforce the concepts they learn in the classroom. In addition, Northwestern has a strong research component, requiring a written thesis and oral defense (<https://www.feinberg.northwestern.edu/sites/genetic-counseling/curriculum/thesis-project.html>).

Graduates are prepared for employment as genetic counselors in multiple settings including:

- Multidisciplinary medical settings including pediatrics, prenatal, adult, cancer and other subspecialties.
- Laboratories, government agencies, research, public health and industry.

Students are prepared for the ABGC certification examination through coursework, thesis and clinical experiences supervised by certified genetic counselors and clinical geneticists.

Additional resources:

- Department website (<https://www.feinberg.northwestern.edu/sites/genetic-counseling/>)
- Program handbook(s)

Degree Offered

- Genetic Counseling MS (<https://catalogs.northwestern.edu/tgs/genetic-counseling/genetic-counseling-ms/>)

Curricular Goals of the Graduate Program in Genetic Counseling

The primary focus of the graduate program is to develop the competencies necessary to practice genetic counseling in a variety of different settings. Overall academic goals of the graduate program in genetic counseling include:

- Prepare students to be effective genetic counselors with all populations and cultures in a variety of workplace settings.
- Provide students coursework that includes a balance of psychosocial, medical, genomic, scientific and research components.
- Develop students' independent critical thinking skills and professional ethics.
- Develop students' teamwork, professionalism (both inter- and intra-disciplinary), self-motivation, and self-evaluation skills. Prepare students for the ever-changing landscape of genetics, genomics, and genetic counseling by continuing to evaluate and change the program
- Engage with the field of genetic counseling, including direct and non-direct patient care, teaching, research, and leadership components.

- Ensure students' development of the core skills of a genetic counselor in order to prepare for multiple work settings.
- Develop students' oral and written communication skills across digital and in-person platforms.
- Prepare students for ABGC examination and post-graduate learning practices.

Specifically, the program will provide each student with the appropriate knowledge and experience to become a compassionate, independent, and competent genetic counselor. Upon graduation, each student is expected to demonstrate:

- Knowledge of genetics and genomics, including the molecular basis of inheritance, molecular technologies, quantitative genetics, principles of risk assessment, and an understanding of the etiology and natural history of common genetic disorders.
- Ability to conduct a genetic counseling session by assessing the client's/family's needs, concerns, and genetic risks; communicating appropriate genetic and medical information; facilitate informed decision-making; providing psychosocial support and assisting the family in obtaining necessary services and support.
- Skills in case management, including communication to clients and referring health professionals.
- Awareness of local, state, and national resources designed to assist patients and professionals.
- Familiarity with sources of information including the medical and genetic literature, and the ability to obtain new information through databases, and other sources, critically evaluate journal articles, and assist in/perform research.
- Knowledge of the entire research process through initiation of a thesis project to successful completion of an oral defense and publishable manuscript.
- Knowledge of genetic counseling principles and the related ethical and legal issues.
- Psychosocial and cultural sensitivity to families or individuals with genetic disorders and other clients.
- Awareness of their strengths and weaknesses as a genetic counselor.
- Ability to apply genetic counseling skill set to a variety of work settings and professional roles

These goals will be evaluated through consideration of the genetic counseling competencies using specific evaluation forms developed by the program. Students will also be evaluated on the required ACGC Practice-Based Competencies for Genetic Counselors that an entry level provider must demonstrate to successfully practice as a genetic counselor.

Genetic Counseling Courses

GENET_CN 401-0 Introduction to Genetic Counseling (1 Unit)
Introduction to the practice of genetic counseling and the genetic counseling profession.

GENET_CN 403-0 Professional Issues in Genetic Counseling (1 Unit)
Ethical, legal and social issues in the genetic counseling field, and professional development of entry level genetic counselors.

GENET_CN 411-0 Psychosocial Aspects of Genetic Counseling I (1 Unit)
An introductory course to human psychological development and counseling/interviewing skills as applied to genetic counseling.

GENET_CN 412-0 Psychosocial Aspects of Genetic Counseling II (1 Unit)

Advanced topics in counseling skills and theory as applied to genetic counseling.

GENET_CN 413-0 Advanced Genetic Counseling (1 Unit)

Second-year seminar focusing on advanced counseling principles and skills.

GENET_CN 420-1 Principles of Medical Genetics I (1 Unit)

Basic and complex principles of human heredity, including an introduction to cytogenetics, molecular technique and mathematical genetics.

GENET_CN 420-2 Principles of Medical Genetics II (1 Unit)

Approaches to clinical genetics, embryology, and a variety of genetic diseases; application of medical and genetic information to genetic counseling.

GENET_CN 420-3 Principles of Medical Genetics III (1 Unit)

Biochemical genetics, immunology, and treatment of genetic disease.

GENET_CN 421-0 Research Methods (1 Unit)

Planning research projects, questionnaire development, research design, and approaches to clinical research.

GENET_CN 422-0 Genetics Journal Club (0 Unit)

Regular meetings to review current genetics journals and present articles of interest relevant to clinical genetics.

GENET_CN 423-0 Genetic Counseling Laboratory Techniques and Interpretation (1 Unit)

The application of principles of human and medical genetics and genomics, testing technologies, and genetic counseling in laboratories.

GENET_CN 425-0 Adult Genetics (1 Unit)

This class will consider the various adult onset complex disorders, ways to obtain and interpret family history for complex adult conditions, specific genetic risk assessment approaches, and ways to communicate risk to families.

GENET_CN 499-0 Research Project (1 Unit)

Development and presentation of a research project or case report in consultation with an advisory committee. Students will present a seminar on the project and prepare a paper that is expected to be submitted for publication and for presentation at a professional meeting.

GENET_CN 520-0 Observational Rotation (0 Unit)

Genetic Counseling fieldwork rotation in which student observes but does not actively participate in sessions.

GENET_CN 525-0 Clinical Rotations (1 Unit)

Genetic counseling fieldwork rotations during the fall, winter and spring quarters.

GENET_CN 530-0 Summer Clinical Rotation (3 Units)

Two six-week, full-time summer fieldwork rotations.