

GENETIC COUNSELING, M.S.

Genetic counselors are specialized health professionals who evaluate and counsel individuals and families about genetic conditions. Genetic counselors work with patients from varied sociocultural and educational backgrounds to obtain family history, assess psychosocial status, explain the ramifications of disorders, initiate appropriate genetic testing, explain genetic test results and provide support to assist in adjustment to the physical and emotional challenges of genetic diagnosis. Additionally, genetic counselors provide education to practicing health care professionals, health care students, and lay groups. Program administration, the development of new services, and roles in industry, laboratory, education and research are often encompassed within the career.

The USC Genetic Counseling Program began in 1985 as the tenth program in the country and the first established in the southeast. In 1991 and 1998, the program received rare Commendations for Excellence from South Carolina Commission of Higher Education, citing program strengths including our enthusiastic faculty, Master of Science thesis research, and students who have proven to be professionally active after graduation. The Program was accredited by the American Board of Genetic Counseling (ABGC) in 2000, and reaccredited in 2006 for maximum terms. Accreditation Council for Genetic Counseling granted reaccreditation for maximum terms for 2014-2021, and most recently 2022-2029.

Nine students are accepted each year from an applicant pool of over 150. More than 250 genetic counselors have graduated from the program and many alumni have ascended to leadership in the profession today.

Learning Outcomes

1. The Genetic Counseling Program's Learning Outcomes are based on the Accreditation Council for Genetic Counseling Practice Based Competencies, expected of entry level genetic counselors.
2. Graduates will be able to demonstrate and utilize a depth and breadth of understanding and knowledge of genetics and genomics core concepts and principles.
3. Graduates will be able to integrate knowledge of psychosocial aspects of conditions with a genetic component to promote client well-being.
4. Graduates will be able to construct relevant, targeted and comprehensive personal and family histories and pedigrees.
5. Graduates will be able to identify, assess, order, facilitate, and integrate genetic/genomic testing options in genetic counseling practice (including molecular and non-molecular testing that directly impacts assessment of inherited risk).
6. Graduates will be able to assess individuals' and their relatives' probability of conditions with a genetic component or carrier status based on their pedigree, test result(s), and other pertinent information.
7. Graduates will be able to demonstrate the skills necessary to successfully manage a genetic counseling case.
8. Graduates will be able to critically assess genetic/genomic, medical and social science literature and information.
9. Graduates will be able to establish a mutually agreed upon genetic counseling agenda with the client.

10. Graduates will be able to employ active listening and interviewing skills to identify, assess, and empathically respond to stated and emerging concerns.
11. Graduates will be able to use a range of genetic counseling skills and models to facilitate informed decision-making and adaptation to genetic risks or conditions.
12. Graduates will be able to promote client-centered, informed, noncoercive and value-based decision-making.
13. Graduates will be able to understand how to adapt genetic counseling skills for varied service delivery models.
14. Graduates will be able to apply genetic counseling skills in a culturally responsive and respectful manner to all clients.
15. Graduates will be able to effectively educate clients about a wide range of genetics and genomics information based on their needs, their characteristics and the circumstances of the encounter.
16. Graduates will be able to write concise and understandable clinical and scientific information for audiences of varying educational backgrounds.
17. Graduates will be able to effectively give a presentation on genetics, genomics and genetic counseling issues.
18. Graduates will be able to act in accordance with the ethical, legal and philosophical principles and values of the genetic counseling profession and the policies of one's institution or organization.
19. Graduates will be able to demonstrate understanding of the research process.
20. Graduates will be able to advocate for individuals, families, communities and the genetic counseling profession.
21. Graduates will be able to demonstrate a self-reflective, evidenced-based and current approach to genetic counseling practice.
22. Graduates will be able to understand the methods, roles and responsibilities of the process of clinical supervision of trainees.
23. Graduates will be able to establish and maintain professional interdisciplinary relationships in both team and one-on-one settings, and recognize one's role in the larger healthcare system.

Clinical Fieldwork

The clinical fieldwork portion of the Genetic Counseling Program provides a range of prenatal, pediatric, adult, and specialty clinical experiences required for the American Board of Genetic Counseling (ABGC) certification. The student observes throughout the first year and transitions from theory to practice during a summer clinical placement. During the senior year, each student has the opportunity to rotate through four of the following sites, in addition to two mini-rotations in niche areas of genetic counseling.

- Prisma Health Midlands, Columbia SC
- Prisma Health Upstate, Greenville SC
- Greenwood Genetic Center, Greenwood, Greenville, and Columbia and Charleston SC
- Medical University of South Carolina, Charleston SC
- Atrium Health, Charlotte NC
- Novant Health, Charlotte NC
- University Health Care System, Augusta SC
- Fullerton Genetics Center, Asheville NC
- Duke University Medical Center, Durham NC
- University of North Carolina, Chapel Hill NC

Thesis Research

Genetic counseling is a professional discipline of its own. As such, the capabilities of genetic counselors include scientific evaluation of the tenets of genetic counseling and professional reporting of these studies. The student in genetic counseling is required to write a thesis based on original research. The resulting work is of publishable quality and is often presented at a national genetics society meeting.

Comprehensive Assessment Description

The Master of Science Genetic Counseling Program supports the development of practice based competencies as defined by the Accreditation Council for Genetic Counseling. These competencies are required of an entry level genetic counselor and define the Learning Outcomes of the Genetic Counseling Program.

The Genetic Counseling Program Comprehensive Assessment evaluates the Program Learning Outcomes through assessment of the following curricular areas that require the student to synthesize and integrate knowledge acquired in coursework and other learning experiences and to apply theory and principles to their professional development.

1. First Year Learning Portfolio: in the first year of graduate study, students maintain an electronic portfolio of clinical observation and reflection papers, first year annotated open reading assignment, family interview paper, service-learning activities, education outreach, etc. Each Portfolio is reviewed with application of a rubric that documents first year progress toward the Learning Outcomes.
2. Clinical Fieldwork Evaluation: second year students are assigned five clinical rotations in prenatal, pediatric, adult and specialty clinic settings. Clinical fieldwork evaluation is performed by certified genetic counselors centered on the Learning Outcomes. Students meet with the Program Director or Assistant Director, Fieldwork each semester at which time the clinical fieldwork evaluations and case logbooks are reviewed, documenting progress/attainment of the learning outcomes.
3. Master of Science Thesis: students develop an original research project on a current aspect of genetic counseling/medical genetics and conduct, analyze and report on the findings, guided by their thesis committee. The thesis is presented at the final academic meeting to the full Program faculty. The student's Thesis Advisor and Readers, the Program Director and Assistant Director, Thesis Research provide data on student achievement of Learning Outcomes applicable to thesis research.

Admission Standards

Applicants for the Master of Science in Genetic Counseling Program must have earned a baccalaureate degree at an accredited institution. Prerequisite course work includes: one year of general biology, one year of general chemistry, one semester of biochemistry, one semester of genetics, and one semester of statistics. Supporting material must include: undergraduate transcripts, three letters of recommendation, and a statement reflecting the student's interest and experience in the field. A personal interview with the admissions committee is required.

Application Information

The application deadline is December 1. Extensive information for applicants is on the School of Medicine Web page (<http://geneticcounseling.med.sc.edu>).

Degree Requirements (53 Hours)

This is a two-year program that includes course work, clinical fieldwork, and a research-based thesis. The program is one of several health professional degrees offered by the School of Medicine. The curriculum includes 53 credit hours. Of these, 39 hours are devoted to classroom study, the majority of which are designed specifically for the genetic counseling program. Clinical rotations in regional genetic centers provide 8 credit hours, while 6 hours of credit are awarded for Master of Science thesis research.

Core Courses

Course	Title	Credits
HGEN 701	Introduction to Genetic Counseling	3
HGEN 702	Psychosocial Aspects of Genetic Counseling	3
HGEN 703	Approaches to Ethical Challenges in Genetic Counseling	1
HGEN 704	The Genetic Counseling Process	3
HGEN 705	Clinical Skills Seminar	1
HGEN 710	Genetic Counseling Methods	3
HGEN 715	Contemporary Issues in Genetic Counseling (repeated 4 times for a total of 4 credits)	4
HGEN 720	Medical Genetics	4
HGEN 725	Human Developmental Biology I	4
HGEN 726	Human Developmental Biology II	4
HGEN 730	Advanced Medical Genetics I	3
HGEN 731	Advanced Medical Genetics II	3
HGEN 735	Cancer Genetics and Genetic Counseling	3
HGEN 750	Summer Clinical Rotation	2
HGEN 760	Clinical Rotation I	3
HGEN 761	Clinical Rotation II	3
HGEN 799	Thesis Preparation	6
Total Credit Hours		53