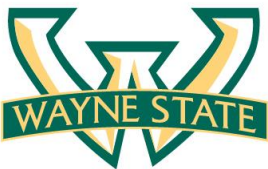
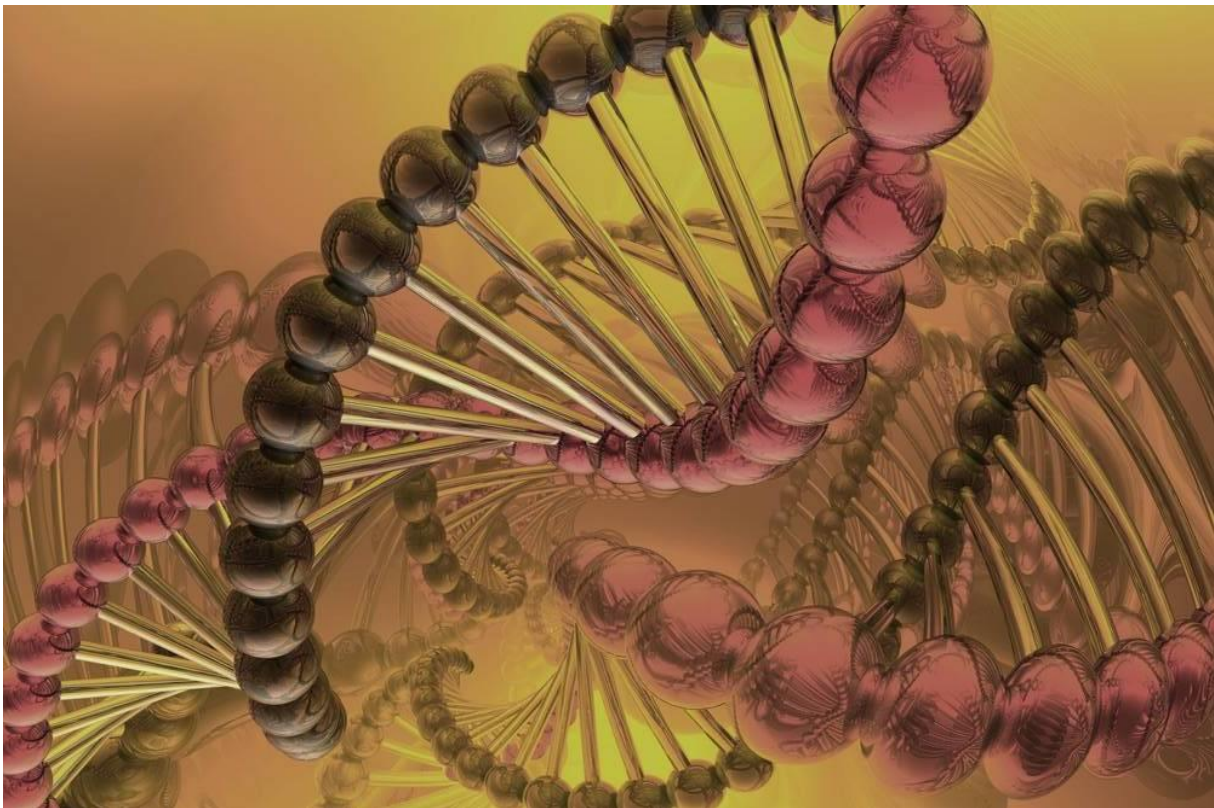


Wayne State University Master's Program in Genetic Counseling Overview & Information for Potential Applicants



School of Medicine

Center for Molecular Medicine and Genetics

Division of Clinical Genetics

Wayne State Genetic Counseling Program Overview Program Overview and Requirements

“Genetic counseling is the process of helping people understand and adapt to the medical, psychological, and familial implications of genetic contributions to disease. The process integrates the following:

- Interpretation of family and medical histories to assess the chance of disease occurrence or recurrence.
- Education about inheritance, testing, management, prevention, resources, and research.
- Counseling to promote informed choices and adaptation to the risk or condition.*”

*National Society of Genetic Counselors Definition Task Force. *Journal of Genetic Counseling* (2006); 15(2):77-83.

Mission

The Wayne State Genetic Counseling Graduate Program mission is, “*to train a highly qualified, competent and culturally diverse genetic counseling workforce to increase access to services for the citizens of Detroit, the State of Michigan and beyond.*”

The program provides students with rich clinical experiences working with diverse patient populations to prepare them for competent practice in a wide-variety of settings. In addition, the program provides students a strong foundation in genomics that prepares them to integrate current and future genomic technologies into evidence-based practice.

The University

The program is housed in the Center for Molecular Medicine and Genetics at the Wayne State School of Medicine. The School of Medicine is the largest single campus medical school in the United States. In addition to undergraduate medical education, the School offers Master’s, PhD, and MD-PhD program in 14 different subject areas. This affords genetic counseling students an opportunity to interact and take courses with a variety of learners and to be instructed by faculty with diverse areas of expertise.

The Detroit Medical Center, Wayne States’ partner in education, and surrounding metropolitan hospitals offer a variety of clinical sites for hands on experience through which students can apply the knowledge gained from didactic course work to real people and situations. The culturally diverse population found within the Detroit metropolitan community provides a unique opportunity to explore the influence of ethnic and cultural differences on the provision of effective clinical genetic services and the genetic counseling process.

The genetic counseling program has over 70 individuals involved in the education and clinical training of students. The program faculty is a close knit group representing a

wealth of knowledge and experience. As a result, WSU graduates leave the program well positioned to function as entry level genetic counseling professionals and well- prepared to sit for their genetic counseling board certification examination. Evidence of the quality of the program includes the overall graduation rate (96.5%), certification examination pass rate (97% first attempt pass rate in comparison to the national rate of ~80%), and an excellent record of job placement. Graduates also leave the program with a strong network of mentors.

Requirements

Forty-seven credits are required to earn a master's degree in genetic counseling. These credits consist of the following:

- 35 credits from core courses
- 6 credits from the clinical internships
- 6 credits from research project-related coursework and independent study. The genetic counseling program requirements include a clinical research project which is a modified version of the Graduate School's Plan B requirements for a master's degree.

Clinical Internships

Students take part in three different types of clinical internships: observation, introductory, and formal internships. The formal internships include experiences in reproductive, pediatric, adult, metabolic, and cancer genetics clinics, the clinical genetics laboratories (biochemical, cytogenetics, and molecular), and in specialty clinics/settings (e.g., telegenetics, neurogenetics, hemophilia, pediatric neurology). Internships start in the first semester of training and extend into the last semester.

Other Activities

Students are expected to participate in a variety of supplemental activities as part of their training.

Program Attributes

- Accessible faculty with a wealth of clinical and research experience
- A learning environment that values teamwork and collaboration over competition
- Clinical training with a culturally, ethnically, and socio-economically diverse patient population
- Opportunity to take courses with a variety of learners
- Dedicated program leadership (program directors and medical director), each with 15+ years of experience in medical genetics
- Record of high achievement in program completion, graduate certification and job placement

The information contained in this booklet highlights the curriculum, experiences, and expectations for the successful completion of a Master's of Science degree in genetic counseling from Wayne State University. The booklet also contains information about the admission process.

**Wayne State University School of Medicine
Graduate Program in Genetic Counseling Curriculum Overview**

Year 1		Year 2			
	Fall	Winter	Spring/Summer	Fall*	Winter
Course Work	Principles of Genetic Counseling MGG 7640, 4 crs.	Theory & Practice of Genetic Counseling MGG 7740, 3 crs.		Advanced Theory & Practice of Genetic Counseling MGG 7741, 3 crs.	Optional Elective
	Introductory Molecular Biology MGG 7010, 4 crs.	Advanced Human Genetics MGG 7600, 4 crs.		Advanced Medical Genetics MGG 7800, 3crs.	
	Human Development and Teratology MGG 7830, 1 cr.	Genetic Counseling Seminar MGG 7880, 1 cr.			Genetic Counseling Seminar MGG 7880, 1 cr.
	Epidemiology FPH 7240, 3 crs.	Practical Applications of Genetic Counseling, MGG 7660, 3 crs.			Senior Seminar in Genetic Counseling MGG 7881, 2 cr.
		Evaluating the Health Care Literature MGG 7860, 1 cr.			
		Introduction to Medical Genetics MGG 7710, 2 crs.			
Research Project	Research Project Seminar, MGG 7999, Section 003, 1 cr.			Research Project MGG 7999, Section 002, 1 cr.	Research Project MGG 7999, Section 002, 1 cr.
	Biostatistics 1 FPH 7015, 3 crs.				
Clinical Activities	Observational Experiences Observe in various clinical settings	Clinical Internship (Introductory) Participation genetics clinics <i>14 wks.</i> MGG 8998, 1 cr.	Clinical Internship Participation genetics Clinics <i>2 rotations (14 wks.)</i> MGG 8998, 1 cr.	Clinical Internship Participation genetics clinics/laboratories <i>2 rotations (14 wks.)</i> MGG 8998, 2 crs.	Clinical Internship Participation genetics clinics/laboratories <i>2 rotations (14 wks.)</i> MGG 8998, 2 crs.
Other Activities	Attend relevant seminars, conferences, grand rounds, process group, journal clubs, and supplemental activities. * Second year students attend NSGC Annual Education Conference				

Graduate Program in Genetic Counseling Course List Required/Core Courses

Course	Credits
MGG 7010 Introductory Molecular Biology <i>Basic aspects of molecular biology and genetics.</i>	4
MGG 7640 Principles of Genetic Counseling <i>History and evolution of profession as it relates to the provision of clinical services within the healthcare delivery system; introduction to basic genetic counseling skills including case preparation, the interview, family history, risk assessment, and adult education. Introduction to ethical decision making.</i>	4
MGG 7740 Theory and Practice of Genetic Counseling <i>Overview of the counseling models currently utilized in genetic counseling. Introduction to and preliminary development of the communication, interpersonal, and psychosocial assessment skills needed to conduct a comprehensive genetic consultation. Ethical, legal and social issues.</i>	3
MGG 7660 Practical Applications of Genetic Counseling <i>Through a variety of instructional methods, students gain a foundation for understanding and applying the practical aspects of genetic counseling to clinical settings in reproductive, pediatric, adult, and cancer genetics.</i>	3
MGG 7600 Advanced Human Genetics <i>Concepts, problems and methods of human genetics including population genetics.</i>	4
MGG 7830 Human Development and Teratology <i>Through lecture, self-study, exam, and oral presentation, students learn key aspects of fetal development, the embryological basis of birth defects and genetic dysmorphism syndromes, clinical teratology, and the associated medical terminology.</i>	1
MGG 7860 Evaluating the Health Research Literature <i>Reading and analysis of health care literature with focus on research articles. Principles of health research design and analysis; skills for critical assessment of medical literature.</i>	1
MGG 7710 Introduction to Medical Genetics <i>Introduction to key principles of genetics and genomics as they relate to medical genetics.</i>	2
MGG 7741 Advanced Genetic Counseling Theory and Practice <i>Further examination of the major theories of human behavior and how they can be applied to evaluate psychosocial responses to genetic information and</i>	3

<i>how they guide short-term client centered counseling in clinical practice. Ethical, legal, and social issues of practice.</i>	
MGG 7800 Advanced Medical Genetics <i>A comprehensive review of advanced topics in medical genetics geared towards those who will be specialists in the field.</i>	3
MGG 7880 Genetic Counseling Seminar <i>A lecture/discussion format seminar for first and second year students combined focusing on issues relevant to medical genetics and the genetic counseling profession. Includes emerging issues, personal genomics and public health genomics. Presentations by students, faculty, and invited speakers. (1 credit per semester, 2 semesters)</i>	2
MGG 7881 Senior Seminar in Genetic Counseling <i>Through lecture, small group discussion, self-study, and oral presentation, students hone the skills needed to successfully make the transition to practicing professional.</i>	2
FPH 7240 Epidemiology <i>Epidemiologist's task list; research of problems without known etiology; infectious and noninfectious disease models; examination of current problems. Previously an elective but now strongly recommended/required for genetic counseling students.</i>	3
FPH 7015 Biostatistics 1 <i>Descriptive statistics; elementary probability; measures of central tendency and of dispersion; random samples; probability distributions including the binomial, the Poisson, the normal, the t, the chi-square, and the F; introduction to estimation and hypothesis testing; rates and vital statistics. Computer laboratory included.</i>	3
MGG 7999 Research Project <i>Student Plan B research project. Includes one semester of research project seminar. Students must also take Biostatistics. Students who do not complete their research project by the end of the Winter 2 semester may have to register for a 4th credit in Spring/Summer 2.</i>	3
MGG 8998 Genetic Counseling Internship <i>Students work under the supervision of a genetic counselor/geneticist in a variety of genetic and subspecialty clinics and laboratories.</i> Clinical Internship 1 - Winter Semester, First Year (1 credit) Introductory Rotations – attend various clinics (genetics, non-genetics) Clinical Internship 2 – Beginning Spring/Summer Semester Y2 (5 credits) (4 -seven week traditional internships, 1-seven week specialty clinic internship + laboratory internship at a combination of the following sites)*	6

Metropolitan Detroit Internship Sites

- *Cancer Genetic Counseling Service-Karmanos Cancer Institute*
- *Division of Genetic, Genomic and Metabolic Disorders-Children's Hospital of Michigan (Pediatric Genetics, Adult Genetics, Huntington Disease Pre-symptomatic Testing and Metabolic Clinic)*
- *Women's Health-Henry Ford Hospital (Reproductive and Cancer)*
- *Department of Cytogenetics, Beaumont Hospital-Dearborn (Reproductive, Cancer, and some Adult Genetics)*
- *Cancer Genetics Service at Beaumont Hospital-Royal Oak*
- *Pediatric and Adult Genetics, Beaumont Hospital-Royal Oak*
- *Reproductive Genetics Service at Beaumont Hospital-Royal Oak*
- *Windsor Regional Hospital-Cancer Genetics (Canadian students only)*
- *Clinical Genetics Laboratories- Cytogenetics, Molecular Diagnostic, Biochemical Genetics service laboratories at the Detroit Medical Center*

*Additional Internship Sites Available**

- *Michigan State University Genetics*
- *Sparrow Hospital Cancer Genetics, Lansing, Michigan*
- *Spectrum Health Medical Genetics-Grand Rapids, Michigan*
- *University of W. Ontario/London Health Sciences Genetics*
- *St. Joseph Ypsilanti Cancer Genetic Counseling Service*
- *University of Louisville Genetics*
- *Mount Sinai Hospital, Toronto*

**With the consent of the program directors, students may arrange to do a rotation at another site during the first and/or second half of the summer semester*

Specialty Clinic Sites (Not all inclusive, subject to availability)

- *Adult Charcot Marie Tooth Clinic (WSU Department of Neurology)*
- *Cystic Fibrosis Clinic (Adult at Harper University Hospital; Pediatric at Children's Hospital of Michigan)*
- *Cystic Fibrosis Newborn Screening Follow Up Clinic (Children's Hospital of Michigan)*
- *Hemophilia Multidisciplinary Clinic (Children's Hospital of Michigan)*
- *Karmanos Cancer Telegenetics*
- *Multidisciplinary Colon Cancer Clinic (Beaumont Hospital-Royal Oak)*
- *Muscular Dystrophy Clinic (Children's Hospital of Michigan; Beaumont Hospital)*
- *Pediatric Cancer Genetics Clinic (Children's Hospital of Michigan)*
- *Pediatric Cardiology and Neurology (Children's Hospital of Michigan)*
- *Pediatric Neurology (Beaumont Hospital-Royal Oak)*
- *Pediatric Genetics Satellite Clinic (Children's Hospital of Michigan)*
- *St. Mary's Livonia Cancer Genetics Clinic*
- *Progenity (genetic testing laboratory)*

First Year Clinical Experiences

First Year Observational Experiences- Fall

Beginning in October of the first semester, students are scheduled to attend a variety of clinics, many of them which are multidisciplinary clinics, to begin to observe how genetics is integrated into healthcare. Some of these clinics do not have genetics professionals staffing them but are an excellent opportunity to observe a team approach to the care of an individual with a chronic condition and to learn about the psychosocial aspects of the various conditions.

Observational Experiences for Fall 2018:

Autism Center Clinic, Craniofacial Clinic, Cystic Fibrosis Clinic, Oncology Clinic, Genetics Hospital Rounds

First Year Introductory Internship-Winter

The purpose of the internship during the first year is for students to begin to apply what they have learned during their course work to the clinical setting. Students will be required to spend approximately 8 hours each week at a variety of clinical sites. Students will spend approximately 5-6 weeks at one genetics clinic (reproductive, pediatric or cancer site). During this experience, students will typically be assigned certain case preparation duties as well as begin practicing some aspects of face to face genetic counseling. Students will also observe other clinical experiences such as telephone genetic counseling and multidisciplinary clinics in pediatrics and cancer. Students will also share and discuss the medical, genetics and genetic counseling issues surrounding the cases they have observed in clinic through case presentations in MGG 7880, Genetic Counseling Seminar and in discussions in MGG 7740, Theory and Practice of Genetic Counseling.

During the Introductory Internship, each student will also gain experience in a research rotation. The objectives of this rotation are to describe the role of genetic counselors in research, to recognize how to use and develop a database, to define informed consent in a research setting, and to recognize the importance of responsible conduct in research. Finally, each student will gain experience in a laboratory genetic counseling workshop where they will meet and work with genetic counselors working in variant classification and interpretation.

Introductory Internships for Winter 2019:

- Beaumont-Dearborn Cancer and Reproductive Genetics
- Beaumont-Royal Oak/Troy Cancer Genetics and Reproductive Genetics
- Beaumont-Royal Oak Multidisciplinary Breast Cancer Clinic
- Center for Exceptional Families
- Children's Hospital of Michigan
- Cooper Genomics (Preimplantation Genetic Diagnosis/Telegenetics Clinic)
- John McGiveny Children's Centre
- Karmanos Cancer Institute
- Pediatric Cardiology, Children's Hospital of Michigan

Second Year Clinical Internships

The purpose of the internship during the second year is for students to function, with supervision, as the primary genetic counselor in a variety of clinical settings. During this second year internship, students acquire cases for their logbooks for program accreditation purposes.

For all students regardless of which clinical internship track they follow:

- Students are required to complete 6 seven-week rotations (2 during the spring/summer semester, 2 during the fall and 2 during the winter semester). All students must complete one reproductive genetics, cancer genetics and pediatric genetics rotation. Students also must see some adult genetics cases.
- One of 6 rotations is the laboratory rotation (in the fall). Students will rotate through three clinical genetics service laboratories (cytogenetics, molecular genetics, and biochemical genetics) to learn test indications, methodology & limitations. The goals and objectives of the laboratory rotations are described below.
- One of the 6 rotations is a specialty internship (in the winter). Students will have the opportunity to attend a variety of clinical settings to expand their knowledge of genetic conditions and non-traditional service delivery models. See below for more information.
- With the permission of the program directors, students may elect to do one or two rotations as an elected away rotation during the summer between their first and second years.
- Students will spend at least 24 hours/week at the clinical site during the fall and winter semesters and 40 hours/week at the clinical site during the spring/summer semester.

Genetics Service Laboratory Internship

Genetic counseling students will spend approximately 3 weeks each in a cytogenetics laboratory and a molecular genetics laboratory and 1 week in a biochemical genetics laboratory. During each rotation, the student is expected to perform relevant background reading, work through a case book containing typical examples of normal and abnormal test results, participate in ongoing laboratory testing, participate in laboratory meetings, and assist in interpreting laboratory results under the supervision of the laboratory director. Students also gain valuable exposure to the following:

- The role of the laboratory genetic counselor including utilization management of genetic testing.
- Clinical next generation sequencing technologies and results interpretation during the molecular laboratory experience.

Specialty Internship

Genetic counseling students will attend a variety of specialty clinics for 6 weeks and one week doing additional clinic-related activities. Students will attend two 3-week mini clinical rotations focused on a particular specialty area of genetics with a variety of

clinical opportunities depending on the specialty. Student will have some patient-related genetic counseling responsibilities as well as some observational experiences. In addition, students will be expected to present a synthesis of medical literature to make evidence-based recommendations for practice on a topic relevant to one of their specialty internship experiences.

Specialty clinic opportunities include the following (subject to availability):

- *Neurology-DMC*: Pediatric Neurology; Tuberous Sclerosis Clinic; Muscular Dystrophy Association Clinic; Inpatient Genetics Consultations; Adult Charcot Marie Tooth Clinic
- *Neurology-Beaumont*: Pediatric Neurology; Muscular Dystrophy Association Clinic/Neuromuscular Clinic; Tuberous Sclerosis Clinic; Neurofibromatosis Clinic
- *Pediatric Specialty*: Satellite Clinics; Hemophilia Clinic; Pediatric Cancer Genetics Clinic; Pediatric Cardiology; Cystic Fibrosis Newborn Screening; Sweat Test observation; Adult Cystic Fibrosis Clinic
- *Women's Health/Cancer*: Karmanos Cancer Telegenetics, Laboratory Counseling at Progenity, St. Mary's Livonia Cancer Genetics with a genetics nurse, Colon Cancer Multidisciplinary Clinic

SAMPLE WAYNE STATE CLINICAL INTERNSHIP SCHEDULE

	Summer I May-mid June	Summer II July-mid August	Fall I Late August- mid October	Fall II Mid-October- early December	Winter I January-third week of February	Winter II Fourth week of February- April
Student A	St. John Hospital (Cancer)	Away (Repro)	Laboratory Internship	CHM-Peds and Metabolic (Peds/Adult)	Specialty Rotation	Beaumont Cancer (Cancer)
Student B	Spectrum Health (Repro)	Spectrum Health (Peds/Adult)	Laboratory Internship	Karmanos (Cancer)	Specialty Rotation	Henry Ford Hospital (Repro and Cancer)
Student C	Karmanos (Cancer)	CHM-Peds and Metabolic (Peds/Adult)	St. Joseph- Pontiac (Repro)	Laboratory Internship	Beaumont- Oakwood (Repro and Cancer)	Specialty Rotation
Student D	Henry Ford Hospital (Repro)	Away (Cancer)	CHM-Peds and Metabolic (Peds/Adult)	Laboratory Internship	St. Joseph- Pontiac (Repro and Cancer)	Specialty Rotation
Student E	Beaumont Peds (Peds/Adult)	Beaumont Cancer (Cancer)	Laboratory Internship	Beaumont- Oakwood (Repro)	Specialty Rotation	CHM- Metabolic (Peds/Adult)
Student F	CHM-Peds and Metabolic (Peds/Adult)	Away (Cancer)	Laboratory Internship	Henry Ford Hospital (Repro and Cancer)	Specialty Rotation	St. Joseph- Pontiac (Repro)
Student G	St. Joseph Mercy- Ypsilanti (Cancer)	Away (Repro)	Henry Ford Hospital (Repro and Cancer)	Laboratory Internship	CHM-Peds and Metabolic (Peds/Adult)	Specialty Rotation

RESEARCH PROJECT

The purpose of the research requirement is for students to gain experience in study design, research methods, professional writing, and self-directed education in order to promote their personal professional growth. This requirement is meant to be an introduction to the area of research in genetic counseling and is not a formal Master's thesis requirement. Students are required to complete a research project, develop a manuscript, and present their project results at Medical Genetics Grand Rounds. It is also expected that students will submit an abstract of their research project to a national meeting (e.g., NSGC, ASHG, ACMG, other) and submit the manuscript for publication when appropriate.

The research project falls under the University's Plan B for Master's students. The genetic counseling program stipulates that the project should involve formulating and testing a research question or hypothesis (modified Plan B). Examples of student projects might include the following: a report on a small series of cases which illustrates a novel concept or answers a specific question; the evaluation of an innovative educational tool, screening tool, or counseling strategy; analysis and interpretation of data from an existing research project or database to answer a new question; or generation of new data followed by analysis and interpretation to answer an original question. A comprehensive literature review might also be appropriate if it hypothesis driven (such as a meta-analysis of existing research on a topic).

Students get instruction on how to conduct research in MGG 7999 (Genetic Counseling Research Project Seminar) and FPH 7015 Biostatistics in the Fall Y1 semester. Students select their topic and identify project mentors (with guidance from the program directors) in the fall of Y1, begin to develop their specific aims and methods in Winter Y1, and work on various aspects of implementation from Spring Summer Y1 through Winter Y2. Students who are unable to complete their research project by the end of W2 can stay for the Spring Summer semester of Y2. Below is a sample list of completed projects.

Select Plan B Project Titles	Outcomes
<i>Genetic Counselor Interactions with Genetic Testing Industry: Prevalence and Perceptions</i>	Poster Presentation NSGC Meeting 2018.
<i>Parent Perceptions of Genetic Counseling Encounters for Prenatal Diagnoses of Down Syndrome</i>	Poster Presentation NSGC Meeting 2018.
<i>Assessing the Need and Desire for Cancer Genetics Education among Rural Healthcare Providers</i>	Poster Presentation NSGC Meeting 2018.
<i>Exploring the Role of the Genetic Counselor in Cascade Screening</i>	Poster Presentation NSGC Meeting 2018

<i>Comparing the quality of Spanish and English genetics resources on the internet</i>	Poster Presentation NSGC Annual Conference 2017.
<i>Introducing genetic counseling as a career option: practices of college professors.</i>	Poster Presentation NSGC Annual Conference 2017.
<i>Genetic counselor workflow study: The times are they a-changin'?</i>	Published Journal of Genetic Counseling, 2018. Poster Presentation NSGC Meeting 2016.
<i>Referrals to Mental Health Services: Exploring the Referral Process in Genetic Counseling</i>	Published Journal of Genetic Counseling, 2017. Poster Presentation NSGC Meeting 2016.
<i>Utilizing State Registry Data to Increase Cancer Genetic Access & Evaluation of an Interactive Educational Tool: HBOC: Is your Patient at High Risk?</i>	Published in Healthcare, 2016.
<i>Assessment of current practices in post-visit patient communication amongst genetic counselors</i>	Published Journal of Genetic Counseling, 2017. Poster Presentation NSGC Meeting 2015.
<i>Genetic Counseling Clients' Views on Religious and Spiritual Assessment in Genetic Counseling</i>	Published Journal of Genetic Counseling, 2016. Poster Presentation NSGC Meeting 2014.
<i>What are the differences between telephone and in person genetic counseling from the genetic counselors' perspective?</i>	Published, Journal of Genetic Counseling 2016. Platform Presentation, NSGC Meeting 2014.
<i>Information preferences regarding informed consent models for genetic carrier screening</i>	Published Journal of Genetic Counseling, 2015. Platform Presentation, NSGC Meeting 2012.
<i>Reaching the next generation of scientists and consumers: What do high school textbooks say about genomics and genetic counseling?</i>	Published in American Biology Teacher 2014. Platform Presentation, NSGC, 2011.
<i>Investigation of How Parents Help Their Child with PKU Cope With Feeling Different</i>	Published, American Journal of Medical Genetics, 2015.
<i>Genetic testing practices for Charcot Marie Tooth Disease Type 1A</i>	Published, Muscle and Nerve, 2014.

Examples of Supplemental Activities

Genetic Counseling Journal Club – As scheduled

The Genetic Counseling Journal Club is designed to introduce students to new topics in the literature related to clinical genetic services and genetic counseling. Students also gain experience in critical thinking, organizing and presenting a presentation, and facilitating discussion. They also gain exposure to new applications of genomic medicine. All genetic counseling students are required to attend and present at journal club.

Genetic Counseling Process Group – As scheduled, every 3-4 weeks

Throughout both years of training, first and second year students will participate in a peer process group. This group is meant to be a forum for discussion of issues related to being a graduate student in a professional training program and to developing professionalism. Group discussions are confidential. Information discussed in the process group is not shared with the program directors or program faculty without the consent of the group members. The process group meets for 30-45 minutes. We will set the ground rules for the group the first time a new group of 1st and 2nd year students meets. A facilitator is available for consultation if concerns or questions arise. Special topic presentations are scheduled on occasion and as requested.

Cancer Genetic Counseling Seminar Series – 4th Monday

The Cancer Genetic Counseling Seminar Series is a monthly seminar series that covers topics related to cancer genetic counseling and risk assessment, cancer biology, and the treatment and management of patients with inherited cancer syndromes. Invited speakers typically include WSU/DMC/KCI faculty, faculty from neighboring institutions such as the University of Michigan, and nationally recognized experts. This is a requirement for genetic counseling students unless there is a conflict with a course or other clinical responsibility.

Medical Genetics Grand Rounds – 2nd, 3rd and 4th (and 5th) Fridays

Medical Genetics Grand Rounds is held three times a month and is a forum for presentations on a variety of topics in Medical Genetics many based on clinical cases from the Division of Genetic and Metabolic Disorders. Presenters include attending physicians, genetic counselors, fellows, residents, students and invited outside speakers. Genetic counseling students rotating through the Genetic and Metabolic clinics do a presentation typically based on an interesting clinical case. Attendance is required unless there is a conflict with a course or other clinical responsibility.

CMMG Departmental Seminar Series

This seminar series, which is generally held bimonthly, covers topics related to molecular biology and genetics. The focus of the series is more research based than clinical. Students are expected to attend select seminars as instructed by program directors.

Community Outreach Opportunities – As scheduled

The genetic counseling program recognizes the tremendous value of having students interact with members of genetics advocacy organizations. These interactions promote awareness of the impact of genetic conditions on individuals and families and enhance cultural competency. Interactions can occur by attending support

group meetings or advocacy organization conferences, and meeting with families who have genetic conditions. Students are expected to select an advocacy organization with which to volunteer and then participate in organization activities a minimum of 2-3 times over the course of each year. The student will work with the organization to decide how to best use their volunteer time. The genetic counseling program can provide recommendations of organizations willing to accept genetic counseling student volunteers if desired.

Educational Outreach Opportunities – As scheduled

The genetic counseling program provides opportunities for students to educate lay and professional audiences about genetics in order to help students develop teaching and presentation skills. Students typically take part in the School of Medicine's Future Docs program (for 6-12 year olds) and one or more other opportunities (e.g., secondary school presentations, career days, English language institute presentations). Students are also given opportunities to do formal presentations in class and at Medical Genetics Grand Rounds. Students are expected to do a minimum of 2-3 presentations a year, at least one of which must be to a lay community.

CMMG Departmental Scientific Retreat – Periodic

Periodically CMMG hosts scientific retreats, which included departmental faculty and students (PhD and MS genetic counseling). Local and/or nationally recognized experts in the area of molecular biology and genetics are often invited to attend. All attendees have an opportunity to present either orally or as a poster their research and/or clinical activities. The genetic counseling students are included in this retreat.

Michigan Association of Genetic Counselors (MAGC)– Annual

This is an annual meeting of all the genetic counselors in the State of Michigan. The format of the meeting typically includes a morning educational session and afternoon networking session. Student members of MAGC can also attend professional development activities as scheduled throughout the year.

NSGC Annual Education Conference

This national NSGC meeting is usually attended by second year students. The program covers up to ~\$600 of expenses related to registration, travel, lodging and food expenses (subject to budget approval). It is expected that students will attend this meeting.

Other Grand Rounds/Seminars

Grand round presentations or seminars in other departments often provide excellent educational opportunities. When relevant topics are to be presented in such venues, student attendance may be required or recommended. Students will be given as much notice as possible.

Genetic Counseling Program Admissions

Getting started

The first step is to look at the list of genetic counseling programs available, review their websites, and if you have questions, contact the program directors/staff. Programs should be accredited by the American Board of Genetic Counseling. For a listing of accredited programs, go to <http://www.gceducation.org/Pages/Accredited-Programs.aspx>

Because many qualified applicants apply to each program and each program has a limited number of training slots, it is important to apply to several programs. If you are a qualified applicant, this will improve your chances of admission the first time you apply.

Only apply to those programs that you would consider attending. Keep an open mind when choosing a program. Look at the websites to see what each has to offer. You may want to consider tuition costs.

Preparing a competitive application

On each program's websites, you will probably find a section that details the program's admission requirements. These generally include the following:

- Prerequisite courses
 - Since genetic counseling students will be taking graduate level coursework in molecular biology and human and medical genetics, it is important that applicants have a strong foundation in the biological sciences. Visit each program's site for information about their prerequisites.
 - Students also need coursework in psychology (at least one class).
 - The prerequisites for the WSU program are:
 - 2 semesters of biology
 - 2 semesters of inorganic/general chemistry
 - 1 semester of organic chemistry
 - 1 semester of genetics
 - 1 semester of biochemistry
 - 1 semester of statistics/biostatistics
 - 1 semester of psychology
- Experience shadowing or talking to a genetic counselor (not required but very helpful in strengthening a person's application).
- Advocacy/volunteer work ideally where you are volunteering in a setting helping people cope with an issue or problem (like a social service agency or a crisis intervention organization).
- GRE scores
 - A few programs require subject test scores in addition to the general exam. Wayne State only requires the general.

- To have your GRE scores sent to the genetic counseling program, use the institution code of 1898 and the program code of 0210.
- Applicants whose native language is other than English are required to take the Test of English as a Foreign Language (TOEFL).
- Academic transcripts from all institutions attended.
- An essay describing why you want to be a genetic counselor
 - This is your opportunity to demonstrate your familiarity with the profession and what is driving you to become a part of it.
 - At WSU, the essay should be limited to 750 words describing
 - Your reasons for pursuing a career in genetic counseling
 - Your skills, personal qualities, and professional and personal experiences that you feel will influence your development as a genetic counselor.
- Three letters of recommendation
 - Make sure that you get these from people who know you well and who you think will write a good letter of recommendation.
 - Seek recommendations from those familiar with your academic abilities, work ethic, and/or interpersonal skills such as a professor, research mentor, advisor, volunteer coordinator, or employer. At least one or two should speak to your academic ability.
 - Personal references (from a friend or neighbor) are less helpful in evaluating your application
- Graduate school application
 - At Wayne State, all graduate applications and most application materials must be submitted electronically.
 - Go to <http://www.gradadmissions.wayne.edu/apply.php> to apply the WSU Graduate School.

Applying

- Make sure all materials are completed fully and submitted by the deadline!
 - For the WSU program, the deadline is January 15th.
 - Give those writing your letters of recommendation ample time to get their letters submitted.
 - Sometimes, graduate school admissions offices are slow, so it can be helpful to get your graduate school application in before the deadline date to ensure that the program has access to this information by their deadline date.
 - Make sure when you order your original transcripts you know how long it will take for them to be sent in to the admissions office and plan accordingly.
 - Make sure the University is listed as a recipient on your GRE scores/ that the scores are sent to the University.
 - Review your application for errors and typos.
 - Have someone read your essay to check for typos and to make sure it says what you intended it to say.

- Be truthful! If the admissions committee detects inaccuracies in your application, that reduces your chance of admission.
- There is generally no advantage to applying really early because programs do not do rolling admissions. Genetic Counseling programs participate in a Match program which occurs on one day in mid/late April.

Interviewing

- An interview (by invitation only) is a mandatory part of most programs' admission process. Exceptions to in person interviews *may* be made for international applicants. Most interviews occur in mid-February through early April.
- Dress appropriately (look professional). Do not wear jeans, tennis shoes, or other casual attire. Remember, you are applying for a professional program. Dress the part.
- Prepare for the interview. The career offices of many universities have interview tips on their websites. Some may even offer classes on interviewing. You can also find tips online like those provided at the following URL.
<http://www.petersons.com/graduate-schools/graduate-admission-tips-interview.aspx>
- Don't be late!
- Be courteous to everyone you come in contact with that day. You never know who may be evaluating you or who may provide feedback to the admissions committee
- Come prepared to talk. Admissions committees want to get to know you to determine if you are a good fit for the program.
- Come prepared with questions. The admissions committee wants to know that you are really evaluating whether this is a good program for you.
- Come prepared to talk about your strengths. This is your opportunity to show the admissions committee why you should be offered a position in the program.
- If there are parts of your application that are weaker than others, be prepared to discuss these in a non-defensive way.
- If the program does not give you information about what the interview process will entail, ask, so that you can be adequately prepared.
- Write thank you notes to those who interviewed you, especially if you are interested in attending the program. These can be on note cards or by email.
- Be prepared that no matter how much you like a program on paper, sometimes the in person visit can change your mind. The reverse is true as well. You may actually like some programs that on paper were not as appealing to you.

Genetic Counseling Match Program

- Genetic counseling programs participate in a Match program through an organization called NMS. When you apply for programs, please visit the NMS website at (<https://natmatch.com/gcadmissions>) to register for the match, review detailed information about the matching process, and to view a demonstration of how the matching algorithm works. You must apply to the Match program in order

to be eligible for admission. You only have to sign up for the Match program one time regardless of how many programs you apply to.

- If you interview with at least one program, after all interviews are complete you will rank each program in order preference through the Match service. If there are programs that you would not consider attending, you will not list (rank) them at all. This information is private. Programs will not know how you ranked them or if you ranked them.
- Just as you will rank (or not rank) each program with whom you interviewed, each program will also rank (or not rank) in order of preference each applicant they interview.
- On the designated Match Day (in mid/late April), NMS's computerized algorithm will match each applicant with their preferred program (and program with their top ranked applicants).
 - For example, say you rank Program A as your top choice and Program B as your second choice. The computer will match you with Program A if that program puts you on their accept list and they haven't filled all of their spots before they get to your name on their list. If Program A fills all of their spots before they get to your name, then the computer will try to place you in Program B, as your second choice. If Program B has put you on their accept list and they have a spot open, you would get a position in Program B, and that's where you would go.
- You will receive an email notifying you if you matched to a program and, if so, which one. By participating in the match, you are agreeing to attend the program you matched with. For this reason, it is important that you only rank schools you would be willing and able to attend and make your ranking decisions carefully.
- There is a possibility that an applicant will not match with any programs. If this happens, the applicant would be notified that s/he did not match. If after the Match you were not placed in a program, there will be an Unmatched Applicant process where all unmatched applicants would be able to connect with any programs that did not fill all of their spots.

Good luck with the application and admissions process!