



Genetic Counseling

Career Description

- Genetic counselors combine their knowledge of basic science, medical genetics and counseling theory with their skills in genetic assessment, education, and interpersonal communication to provide services to clients and families.
- Genetic counseling is a process of educating families about their chances of passing on genetic predispositions or disorders to their children or of having inherited disorders themselves.
- By providing information about the implications of genetic conditions, genetic counselors help individuals and families make informed medical and personal decisions.
- They collect extensive family health histories, assist in interpreting information, analyze the chance of recurrence and review the prognosis and available medical management.
- Besides having a strong understanding of the science of genetics and the ability to teach this in an easy to understand way, genetic counselors provide counseling to families during difficult times.
- They form part of a support network for the families and assist in connecting them with further community and state services.
- Genetic counselors serve as resources for other health professionals who may not have a full understanding of the genetics involved or the family issues they are encountering.
- Many genetic counselors are involved in research.
- Genetic counselors may discuss available or experimental gene therapies with clients.

They are not, however, the professionals who implement this kind of treatment.

Becoming a Genetic Counselor

- Genetic counselors are certified through the American Board of Genetic Counselors (ABGC).
- Certification to practice requires a master's degree, clinical experience in an ABGC approved site, a logbook of at least 50 supervised cases, and completion of general and specialty certification exams.
- Coursework during training generally includes genetics, population genetics, cytogenetics, teratogen counseling, molecular genetics as well as psychosocial theory, disability studies, and counseling techniques.
- Entry into a master's program will require a bachelor's degree, certain prerequisite courses, and generally an aptitude test (typically the GRE).
- Programs generally require a minimum of a 3.0 undergraduate GPA, though actual GPA for admission may be considerably higher as there are few programs and each takes only a small number of students.

Prerequisite Courses

- As this field involves both science and counseling skills, students need to take a variety of classes.
- Each graduate program can set its own requirements so students need to research possible programs and learn about their required courses.

Common Prerequisite Courses (pre-reqs determined by each program but similar to this list)

Subject	Course	Purdue Equivalents (specific courses may vary by major)
Biology with lab	General	BIOL 11000-11100 or 13100 & 23100 & 23200 (lab)
	Genetics	BIOL 24100
Chemistry with lab (except for biochem)	General (inorganic)	CHM 11500-11600 or 12901 (11500 credit exam recommended) or 12500-12600 or 12300-12400
	Organic	CHM 25500-25600 or 26100-26200 or 26505-26605 or MCMP 20400-20500
	Biochemistry	BCHM 30700 or 56100 or CHM 33300 or 33900 or 53300 or MCMP 20800
Psychology	Introduction	PSY 12000, developmental psychology courses recommended
Statistics		STAT 30100 or 50300, some schools might accept PSY 20100 or SOC 38200
Recommended Coursework		English composition, Biomedical Ethics, Sociology, Religious Studies and Philosophy courses, *Upper level biology may be required*

Preparation

- Observation in a genetic counseling clinic is highly recommended.
- Strong applicants generally also explore the counseling profession by volunteering as a crisis-counselor and/or interacting with people with disabilities or in bereavement counseling.
- Research experience is a plus. Learning about human subjects review boards is also a good idea.
- The Graduate Record Exam (GRE) general aptitude test is needed to apply to most programs.
- For those from non-English speaking countries, the TOEFL is usually required.

Applying

- Application is made directly with the individual schools of genetic counseling.
- Early application is recommended as many programs take only a handful of students.

Job Outlook

- While most genetic counselors work in university medical centers or private and public hospitals, others do work in a variety of settings including research, diagnostic labs, the pharmaceutical industry, public health, healthcare consulting, marketing and product development, policy development and advocacy.
- As genetic knowledge has increased a number of specialty areas have developed where genetic counselors are working with patients and physicians including:
 - Assisted reproductive technologies and infertility
 - Cardiovascular genetics
 - Familial cancer risk counseling
 - Fetal intervention and therapy
 - Hematology
 - Metabolic genetics
 - Neurogenetics
 - Pediatric counseling
 - Personalized medicine
 - Prenatal counseling and Ultrasound anomalies
 - Psychiatric disorders
- As people become more aware of genetics and as genetic interventions develop, genetic counselors will be well positioned for growth in their field.
- Salaries range from \$58,000-\$150,000 depending on type of position and years of experience. The Bureau of Labor Statistics estimated the average salary in 2015 to be \$72,090. Jobs in the field are projected to grow by 29% through 2024.

More Information

- [American Board of Genetic Counseling](http://www.abgc.net) <http://www.abgc.net>
- [National Society of Genetic Counselors](http://www.nsgc.org) <http://www.nsgc.org>
- [Indiana Network of Genetic Counselors](http://www.ingc.info/site/) <http://www.ingc.info/site/>

Programs

- [IUPUI](http://genetics.medicine.iu.edu/education/master-of-science-genetic-counseling-program/) Indianapolis, IN <http://genetics.medicine.iu.edu/education/master-of-science-genetic-counseling-program/>
- [Indiana State University](http://www.indstate.edu/genetic-counseling) Terre Haute, IN <http://www.indstate.edu/genetic-counseling>
- [Northwestern University](http://www.cgm.northwestern.edu/education/graduate-genetic-medicine/index.html) Chicago, IL <http://www.cgm.northwestern.edu/education/graduate-genetic-medicine/index.html>
- [University of Cincinnati](http://www.geneticcounseling4u.org/about/about.html) Cincinnati, OH <http://www.geneticcounseling4u.org/about/about.html>

Information for this career guide came from the above websites, the [Bureau of Labor Statistics](http://www.bls.gov/ooh/healthcare/genetic-counselors.htm) <http://www.bls.gov/ooh/healthcare/genetic-counselors.htm>, and those of individual schools.

