

Prehealth Programs: Genetic Counseling

CU-Boulder Academic Advising Center, PreProfessional Office
<http://advising.colorado.edu>

THE PROFESSION: Genetic counseling is defined by the National Society of Genetic Counseling as “the process of helping people understand and adapt to the medical, psychological and familial implications of genetic contribution to disease. The process integrates: Interpretation of family and medical histories to assess the chance of disease occurrence or reoccurrence; education about inheritance, testing, management, prevention, resources and research; and counseling to promote informed choices and adaptation to risk or condition.” Genetic counselors work in clinical, teaching, administrative, commercial, government, private practice and consulting environments. Many serve as educators and resources for the general public as well as other health care professionals. They may also lead support groups, engage in genetic research and work in health care policy development related to genetic issues.

THE PROGRAMS: To become a genetic counselor requires a master’s degree from a genetic counseling program. There are a number of programs in the United States as well as some in Canada, Australia, England and South Africa. Upon completion of

the master’s degree you can begin practicing as a genetic counselor. However, many individuals also opt to become certified by the American Board of Genetic Counseling. This is a voluntary process and requires successful completion of an exam, clinical experience, and a log book of cases. For more information on certification, go to <http://www.abgc.net/>.

UNDERGRADUATE MAJOR: For some genetic counseling programs, a baccalaureate degree in biology, psychology, social work, nursing or a related field is either required or strongly recommended. However, other programs do not specify a major and instead focus on a set of prerequisite courses. Regardless of the school in which you are interested, you should choose a major that you find interesting, and one in which you will succeed. You may also want to consider a major that will provide a good alternative if you decide not to attend a genetic counseling program. In addition to the courses in your major, you will need to take the necessary prerequisites for genetic counseling programs.

PREREQUISITES FOR GENETIC COUNSELING: There is a good bit of variation in prerequisite

courses for different genetic counseling programs. For this reason you must research information for the specific schools you are interested in to be sure you meet the expectations. The prerequisites for the genetic counseling program at University of Colorado Health Science Center are:

Biological Sciences (two sems. w/labs):

EBIO 1210-1230 and 1220-1240 *or* MCDB 1150-1151 and MCDB 2150-2151.

General Genetics w/lab:
MCDB 2150 and 2151

General Chemistry (two sems w/labs):
CHEM 1111 and CHEM 1131

General Biochemistry:
CHEM 4611 (note: has prerequisite of CHEM 3311)

General Psychology: PSYC 1001

Highly Recommended Courses: Anatomy and Physiology, Molecular/Cellular biology, introductory Statistics

EXTRACURRICULAR AND GENETIC COUNSELING-RELATED EXPERIENCES:

Genetic counseling programs are looking for individuals who have an understanding of

the career and some experience in the area before applying to their program. This type of experience can be in a variety of different capacities. Volunteer or paid positions with a Planned Parenthood or similar center, crisis hotlines, group homes, and peer or community counseling provide a good background for this career. Research positions in laboratories conducting genetic research provide insight into the technical aspects of the career. Additionally, working with or shadowing a genetic counselor will provide a realistic view of the profession, its challenges and rewards. These experiences will enable you to learn about the field and determine your own level of interest and suitability. In addition to activities related to genetic counseling, admissions committees are looking for well rounded individuals who can be involved in a range of activities while still doing well academically. Students should choose extracurricular activities that are of interest and are a good fit for their personality.

GRADUATE RECORD EXAMINATIONS (GRE): All graduate programs in genetic counseling require the GRE for admission. There are two GRE tests, the General and the Subject tests. Most genetic counseling programs require only the general test, but a few also recommend or require the subject test. You must research the individual schools to determine their

requirements. The General GRE consists of three sections; verbal reasoning, quantitative reasoning and analytical writing. The test is computer based and offered at multiple times during the year. For general information about the GRE, go to <http://www.ets.org>. For information on testing services on campus, go to the CU Testing Center website at <http://careerservices.colorado.edu/testing.cs>

APPLICATION PROCESS: Throughout your undergraduate years, you should be taking the necessary prerequisites for the genetic counseling programs where you will apply. During your final year of undergraduate education, you will apply to the various programs. Deadlines differ at each school so be sure to research the specific programs in which you are interested. As a general rule, application deadlines are in December or January and interviews are conducted in March or April. Most schools notify applicants of their status by May for the following fall class.

LETTERS OF RECOMMENDATION: All genetic counseling programs require letters of recommendation and the number of letters as well as the individuals who should write them varies depending on the program. Typically you arrange to send the letters to the school with your application. The PreProfessional office provides a Credentials File service,

which will create a file where your letters of recommendation can be stored. This service will also send your letters to the schools upon request. As many programs now prefer letters to be submitted electronically, this service is quite useful and can save a good bit of aggravation on your part. There is a website for tracking receipt and transmission of your letters. There is a fee associated with this service. For more information, see "Credentials File Service" on the Prehealth Advising website <http://www.colorado.edu/aac/prepro.html>

PREHEALTH STUDENT ORGANIZATIONS:

The Student Association for Prehealth Professionals (SAPP) represents a community of students at CU-Boulder whose goal is to provide an organization in which students interested in all areas of medicine can come together and learn more about the many professions, receive academic or personal guidance, and get detailed advice on applying to health professions programs. Within SAPP there are specialized subgroups for areas such as medicine, nursing, physician assistant, etc. Membership is open to all CU students. SAPP website: www.colorado.edu/student-groups/prehealth.

Alpha Epsilon Delta (AED) is a pre-health honor society for those interested in health careers. AED website:

www.colorado.edu/student-groups/aed

GENETIC COUNSELING

PROGRAMS: Currently there are 29 programs in genetic counseling in the United States. They are:

- University of Arkansas
- California State University at Northridge
- University of California at Irvine
- California State University Stanislaus
- Stanford University
- University of Colorado Health Sciences Center
- Howard University
- Northwestern University
- Indiana University
- Boston University
- Brandeis University
- University of Maryland
- Johns Hopkins University
- University of Michigan
- Wayne State University
- University of Minnesota
- University of North Carolina at Greensboro
- Sara Lawrence College
- Mount Sinai University
- University of Cincinnati
- Case Western Reserve
- University of Oklahoma
- Arcadia University
- University of Pittsburgh
- University of South Carolina

- University of Texas at Houston
- University of Utah
- Medical College of Virginia
- University of Wisconsin

VITAL STATISTICS:

2006 Data

Average Yearly Income:
\$59,000

Percent of individuals
satisfied with their job:
90%

Common Employment
locations: 38% in university
medical centers, 20% in
private hospitals

Most common specialties:
prenatal, cancer genetics,
pediatrics