# **GENETIC COUNSELING (MS)**

#### Overview

We offer a 21 month (5 semester) program of graduate study leading to the Master of Science (M.S.) degree. The program is fully accredited by the Accreditation Council for Genetic Counseling (ACGC) for the training of master's level genetic counselors.

The Mission of the University of Colorado Graduate Program in Genetic Counseling is to train competent, compassionate and innovative graduates who will effectively integrate professional practice and human genomics to deliver quality, client-centered genetic counseling services, promote informed health policy, and engage in scholarship, advocacy and leadership activities throughout their careers.

The program's curriculum and the instructional objectives of each component of the training reflect and support students' development of the Practice-based Competencies (PBCs) identified by ACGC as necessary for current and evolving genetic counseling practice. Through their training, students will learn to effectively assist patients, health care providers and the public to understand and appropriately utilize genetic information and testing to promote individualized and informed health care choices and wellbeing.

The comprehensive curriculum combines in-depth didactic coursework in the scientific, clinical, psychosocial and professional practice aspects of genetic counseling with extensive, hands-on clinical experience in pediatric, prenatal, adult, oncology and specialty genetics clinics.

Clinical training is provided through:

- · Children's Hospital Colorado
- University of Colorado Hospital in the Anschutz Centers for Advanced Medicine and University of Colorado Cancer Center
- · Telehealth Genetics Clinics serving patients throughout Colorado
- · And other area genetic counseling centers

All students participate in clinical case conferences, genetics seminars, journal club, and clinical research activities.

The program's graduates are in very high demand and typically receive employment offers prior to graduation. They work throughout the U.S. and Canada, and in all areas of genetic counseling practice. Their performance on the American Board of Genetic Counseling (ABGC) board certification examination is excellent, with a first-time passing rate of 94.4% for the past 3 years (2022-2024) and 97.9% for the past 8 years (2017-2024). The program's attrition rate during the same period is zero.

The Genetic Counseling Program at the University of Colorado Anschutz Medical Campus is accredited by the Accreditation Council for Genetic Counseling, Inc., 7918 Jones Branch Drive, Ste. 300, McLean, VA 22102. Telephone: (703) 506 - 7667.

### **Genetic Counseling Admissions Match**

The MS Genetic Counseling Program participates in the Genetic Counseling Admissions Match through National Matching Services (NMS) (https://natmatch.com/gcadmissions/). The GC Admissions Match has been established to enhance the process of placing applicants into positions in masters-level genetic counseling programs that are accredited by the Accreditation Council for Genetic Counseling (ACGC). The Match uses a process that takes into account both applicants' and

programs' preferences. All applicants must first register for the Match with NMS before applying for admission to the genetic counseling program and include their unique NMS registration number in the application. At the conclusion of all program interviews, both applicants and programs will submit ranked lists of preferred placements to NMS according to deadlines posted on the NMS website. The binding results of the Match will be released to both applicants and programs simultaneously in late April. Please visit the NMS website (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. A match fee waiver program (https:// www.cuanschutz.edu/docs/librariesprovider233/genetic-counseling/ agcpd-nms-match-fee-waiver-language-for-program-websites-2023cycle.pdf?sfvrsn=2def60bb\_2) for qualifying prospective students is administered by the Association of Genetic Counseling Program Directors (AGCPD); qualifying individuals should apply for a fee waiver before registering for an NMS number and must do so by the deadline set by AGCPD for the next admissions cycle.

## **Admissions Requirements**

1) Fulfillment of the academic requirements for regular admission to the Graduate School:

- A baccalaureate degree or its equivalent from a college or university of recognized standing in the biological sciences, psychology, social work, nursing or a related field.
- MINIMUM undergraduate grade point average of 3.0 on a 4.0 scale.
- 2) Completion of the online application form and submission of supporting materials. Access the online application website at: https://graduateschool.cuanschutz.edu/admissions/apply
- 3) FOUR letters of recommendation are required. Recommendations should be requested from individuals who know the applicant in an academic or professional context and can directly attest to the applicant's academic performance, professional abilities, and potential for success as a graduate student and genetic counselor. Preferably, at least two of the recommendations should be from academic sources (course professors, major/academic advisor, research mentor, thesis advisor), while others should be from supervisors in volunteer/advocacy or professional contexts. Recommendations from family members and personal/family friends are strongly discouraged.

Please remind recommenders that providing specific narrative discussion about the candidate's performance and qualifications is extremely helpful, in addition to the ratings requested on the recommendation form.

Please allow your recommenders adequate time to write and submit your recommendations. Recommendations submitted after our January 1 deadline will not be accepted. All recommendations are subject to verification of authenticity.

• The application site provides instructions for sending requests to your recommenders and for sending follow-up reminders to them, if needed, prior to the application deadline. This online system enables the recommender to complete a secure, online recommendation and submit it directly to the online system. Please plan ahead! If you wait until too close to the deadline to request your recommendations, your recommenders may not have adequate time to submit their materials prior to the deadline and your application cannot be reviewed. It is the responsibility of the applicant to ensure that these materials have been submitted prior to the deadline.

- An official set of recommendation letters submitted directly from a school career center is acceptable.
- Recommendations that have been in the possession of the applicant cannot be accepted.
- 4) ONE official copy of each transcript must be sent directly from all colleges and universities attended (degree and non-degree), regardless of the number of courses taken. Electronic submission of official transcripts by the registrar's office of each institution attended is preferred and should be emailed to Graduate.School@cuanschutz.edu (graduate.school@cuanschutz.edu). If the applicant has completed a study abroad program and the courses and final grades earned for them are reported on the main undergraduate transcript, then original transcripts from the host institution overseas do not need to be submitted. Transcripts marked "issued to student" will only be accepted if they are in their original sealed (unopened) envelopes as issued by the registrar. All transcripts are subject to verification of authenticity.
- 5) PREREQUISITE COURSES outlined below MUST be completed or in progress at the time of application to the program. Final grades received in fall term courses should be included in the application and an updated transcript sent as soon as final fall course grades are posted. If any courses will be taken during spring term, please submit a current transcript verifying enrollment in the course(s) or a proof of enrollment letter from the school's registrar. Prerequisites cannot be waived, taken during the summer term immediately prior to starting the program, or taken concurrently during enrollment in the genetic counseling program.
  - General/Introductory Biology (a full year first-year level course sequence).
  - General/Inorganic Chemistry (a full year first-year level course sequence).
  - General Biochemistry (comprehensive upper-level course). This may either be fulfilled by completion of both semesters of a full year upper-level course sequence (e.g., Biochemistry I and Biochemistry II) or by completion of a comprehensive/accelerated one semester upper-level biochemistry course. Completion of just the first semester of a full year course sequence does not fulfill the prerequisite. Organic Chemistry is typically a prerequisite for upper-level Biochemistry courses. If the biochemistry course you are considering does not have an organic chemistry prerequisite, it likely is not taught at a high enough level to adequately prepare you for this program. A combined one semester Organic/Biochemistry course does not satisfy this prerequisite.
  - General Genetics (upper-level course including fundamentals of genetics of prokaryotes and eukaryotes, Mendelian principles, molecular genetics principles, gene expression, recombinant DNA technology, population & quantitative genetics, laboratory techniques). Completion of an accompanying genetics laboratory component is strongly recommended if not already integrated into the core genetics course. Please note that an upper division "Human Genetics" or "Molecular Genetics" course does not fulfill this prerequisite on its own, though such higher-level courses are encouraged as useful supplements to the prerequisite general genetics course to gain a strong genetics background as a basis for graduate studies in genetic counseling.
  - General/Introductory Psychology. Students seeking to enhance their preparation may find various upper division psychology and introductory counseling courses beneficial following completion of the prerequisite.

 Also highly recommended: Introductory Statistics, Anatomy & Physiology, Molecular/Cellular Biology.

International students must meet ALL of the requirements above and those required by International Admissions.

## **Degree Requirements**

Code

**GENC 6201** 

**GENC 6210** 

**GENC 6250** 

**GENC 6940** 

Code

program advisor.

**Year 2 Spring Courses** 

Offered even years:

Offered odd years:

**GENC 6140** 

**Year 2 Fall Courses** 

Title

Title

GENC 6105 Basic Interviewing Skills GENC 6110 Topics in Medical Genetics I GENC 6120 Clinical Cytogenetics and Molecular Genetics GENC 6121 Laboratory in Clinical Cytogenetics and Molecular Genetics GENC 6170 Introduction to Clinical Research for Genetic Counseling Students  Code Title Ho Year 1 Spring Courses Offered Even Years: GENC 6140 Human Inborn Errors of Metabolism Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	Code	Title	Hours
GENC 6105 Basic Interviewing Skills GENC 6110 Topics in Medical Genetics I GENC 6120 Clinical Cytogenetics and Molecular Genetics GENC 6121 Laboratory in Clinical Cytogenetics and Molecular Genetics GENC 6170 Introduction to Clinical Research for Genetic Counseling Students  Code Title Ho Year 1 Spring Courses Offered Even Years: GENC 6140 Human Inborn Errors of Metabolism Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn  Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6111 Topics in Medical Genetics II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling Take 1 Required Applied Clinical Rotation course as assigned by program advisor.	Year 1 Fall Cou	rses	
GENC 6120 Clinical Cytogenetics and Molecular Genetics GENC 6121 Laboratory in Clinical Cytogenetics and Molecular Genetics GENC 6121 Laboratory in Clinical Cytogenetics and Molecular Genetics GENC 6170 Introduction to Clinical Research for Genetic Counseling Students  Code Title Ho Year 1 Spring Courses Offered Even Years: GENC 6140 Human Inborn Errors of Metabolism Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6101	Psychosocial Aspects of Genetic Counseling 1	2
GENC 6120 Clinical Cytogenetics and Molecular Genetics GENC 6121 Laboratory in Clinical Cytogenetics and Molecular Genetics GENC 6170 Introduction to Clinical Research for Genetic Counseling Students  Code Title Ho Year 1 Spring Courses  Offered Even Years: GENC 6140 Human Inborn Errors of Metabolism  Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn  Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6111 Topics in Medical Genetics II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6105	Basic Interviewing Skills	1
GENC 6121 Laboratory in Clinical Cytogenetics and Molecular Genetics GENC 6170 Introduction to Clinical Research for Genetic Counseling Students  Code Title Ho Year 1 Spring Courses  Offered Even Years: GENC 6140 Human Inborn Errors of Metabolism  Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn  Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6111 Topics in Medical Genetics II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling  Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6110	Topics in Medical Genetics I	3
Genetics  GENC 6170 Introduction to Clinical Research for Genetic Counseling Students  Code Title Ho  Year 1 Spring Courses  Offered Even Years: GENC 6140 Human Inborn Errors of Metabolism  Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn  Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II  GENC 6111 Topics in Medical Genetics II  GENC 6123 Applied Laboratory Genetic Counseling  GENC 6130 Cancer Genetics and Genetic Counseling  Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6120	Clinical Cytogenetics and Molecular Genetics	3
Code Title Ho Year 1 Spring Courses  Offered Even Years: GENC 6140 Human Inborn Errors of Metabolism  Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn  Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6111 Topics in Medical Genetics II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling  Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6121		ar 2
Year 1 Spring Courses  Offered Even Years: GENC 6140 Human Inborn Errors of Metabolism  Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn  Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6111 Topics in Medical Genetics II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling  Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6170		1
Offered Even Years: GENC 6140 Human Inborn Errors of Metabolism Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6111 Topics in Medical Genetics II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	Code	Title	Hours
GENC 6140 Human Inborn Errors of Metabolism  Offered Odd Years:  GENC 6150 Congenital Malformations and Disorders of the Newborn  Offered Every Year:  GENC 6102 Psychosocial Aspects of Genetic Counseling II  GENC 6111 Topics in Medical Genetics II  GENC 6123 Applied Laboratory Genetic Counseling  GENC 6130 Cancer Genetics and Genetic Counseling  Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	Year 1 Spring C	Courses	
Offered Odd Years: GENC 6150 Congenital Malformations and Disorders of the Newborn  Offered Every Year: GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6111 Topics in Medical Genetics II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	Offered Even Ye	ars:	
GENC 6150 Congenital Malformations and Disorders of the Newborn  Offered Every Year:  GENC 6102 Psychosocial Aspects of Genetic Counseling II  GENC 6111 Topics in Medical Genetics II  GENC 6123 Applied Laboratory Genetic Counseling  GENC 6130 Cancer Genetics and Genetic Counseling  Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6140	Human Inborn Errors of Metabolism	2
Newborn  Offered Every Year:  GENC 6102 Psychosocial Aspects of Genetic Counseling II  GENC 6111 Topics in Medical Genetics II  GENC 6123 Applied Laboratory Genetic Counseling  GENC 6130 Cancer Genetics and Genetic Counseling  Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	Offered Odd Yea	ars:	
GENC 6102 Psychosocial Aspects of Genetic Counseling II GENC 6111 Topics in Medical Genetics II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6150	_	1
GENC 6111 Topics in Medical Genetics II GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	Offered Every Ye	ear:	
GENC 6123 Applied Laboratory Genetic Counseling GENC 6130 Cancer Genetics and Genetic Counseling Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6102	Psychosocial Aspects of Genetic Counseling II	2
GENC 6130 Cancer Genetics and Genetic Counseling  Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6111	Topics in Medical Genetics II	2
Take 1 Required Applied Clinical Rotation course as assigned by program advisor.  Code Title Ho	GENC 6123	Applied Laboratory Genetic Counseling	1
advisor.  Code Title Ho	GENC 6130	Cancer Genetics and Genetic Counseling	2
		I Applied Clinical Rotation course as assigned by progr	am
Year 1 Summer Courses	Code	Title	Hours
	Year 1 Summer	r Courses	
GENC 6940 Capstone in Genetic Counseling	GENC 6940	Capstone in Genetic Counseling	1

Advanced Psychosocial Genetic Counseling

Professional Issues in Genetic Counseling I

Risk Calculation in Genetic Counseling

Capstone in Genetic Counseling

Human Inborn Errors of Metabolism

Take 2-4 Required Applied Clinical Rotation courses as assigned by

Hours

2

2

1

1

Hours

2

GENC 6150	Congenital Malformations and Disorders of the Newborn	1
Offered all years:		
GENC 6211	Professional Issues in Genetic Counseling II	2
GENC 6940	Capstone in Genetic Counseling	1
Take 2-4 Required	Applied Clinical Rotation courses as assigned by	

Take 2-4 Required Applied Clinical Rotation courses as assigned by
program advisor.

Code	Title	Hours		
Required Applied Clinical Rotation Courses				
GENC 6910	Applied General Genetics Clinic	3		
GENC 6911	Applied Prenatal Genetics Clinic	3		
GENC 6912	Applied Metabolic Genetics Clinic	3		
GENC 6913	Applied Regional & Specialties Genetics Clinics	1-2		
GENC 6914	Applied Hereditary Cancer Clinic	1		
GENC 6915	Applied Adult Medical Genetics Clinic	1		
Optional Elective Rotation Courses				
GENC 6919	Applied Medical Genetics Clinic - Clinical Electiv	e 1-3		
GENC 6920	Applied Medical Genetics-Laboratory Genetic Counseling Elective	1		

### **Learning Objectives**

The Genetic Counseling M.S. Program trains graduate students to become competent and effective health professionals. The Accreditation Council for Genetic Counseling (ACGC) accredits genetic counseling graduate programs in North America. ACGC defines the following Practice-Based Competencies (PBCs; ACGC, 2023) that an entry level genetic counselor must demonstrate:

The didactic and experiential components of a genetic counseling training curriculum must support the development of proficiency in the following 7 competences: 1) Genetics and Genomics Expertise, 2) Risk Assessment, 3) Counseling, 4) Communication, 5) Research, 6) Healthcare Systems, and 7) Professional Identity. These competencies and skills, as defined by the 25 sub-competencies listed below, describe the minimal skillset of a genetic counselor which should be applicable across practice settings.

- **1. Genetics and Genomics Expertise:** Apply knowledge of genetics and genomics principles, genetic conditions, and testing technologies to the practice of genetic counseling.
  - 1.a. Demonstrate knowledge of genetics and genomics principles and concepts.
  - 1.b. Apply knowledge of genetic conditions to the delivery of genetics services.
  - 1.c. Demonstrate knowledge of genetic testing methodologies and variant interpretation.
- 2. Risk Assessment: Evaluate personalized genetic risk.
  - 2.a. Analyze family history to estimate genetic risk.
  - 2.b. Calculate risk using probability methods and risk models.
  - 2.c. Integrate clinical and laboratory data into risk assessment.
  - 2.d. Order genetic tests guided by client-centered risk assessment.

- **3. Counseling:** Promote integration of psychosocial needs and client-centered decision-making into genetic counseling interactions.
  - 3.a. Use applicable counseling skills and theories.
  - 3.b. Establish a working alliance with client.
  - 3.c. Promote psychosocial adaptation.
  - 3.d. Facilitate client's decision-making process.
- **4. Communication:** Communicate genetics and genomics information to clients, colleagues, and other community partners.
  - 4.a. Tailor communication to specific individuals and audiences.
  - 4.b. Use a variety of approaches to communicate genetics and genomic information.
  - 4.c. Convey probabilities based on client's risk perception and numeracy.
- **5. Research:** Synthesize the evidence base relevant to genetic counseling.
  - 5.a. Critically interpret data and literature.
  - 5.b. Apply data and literature considering its strengths, weaknesses, and limitations.
  - 5.c. Demonstrate knowledge of how genetic counselors engage and contribute to the research process.
- **6. Healthcare Systems:** Demonstrate how genetic counselors fit within the larger healthcare system.
  - 6.a. Demonstrate how disparities, inequities, and systemic bias affect access to healthcare for diverse populations.
  - 6.b. Describe the financial considerations in the delivery of genetic services.
  - 6.c. Advocate for continuity of care.
  - 6.d. Collaborate with members of the Care Team, clients, and other Community Partners.
- 7. **Professional Identity:** Embody the values of the genetic counseling profession.
  - 7.a. Adhere to the genetic counselor scope of practice.
  - 7.b. Follow applicable professional ethical codes.
  - 7.c. Exhibit behaviors that promote an inclusive, just, equitable, and safe environment for all individuals and communities.
  - 7.d. Engage in self-reflective practice to promote ongoing growth and development.

#### **Courses**

GENC 6101 - Psychosocial Aspects of Genetic Counseling 1 (2 Credits) This is the first course in a two-semester sequence addressing basic psychosocial and counseling theories, approaches, and resources necessary for the provision of genetic counseling to clients and their families in prenatal, pediatric and adult clinical settings.Coreq: GENC 6105, GENC 6110. Restrictions: Matriculated students in Genetic Counseling MS Program.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

GENC 6102 - Psychosocial Aspects of Genetic Counseling II (2 Credits) This is the second course in a two-semester sequence addressing basic psychosocial and counseling theories, approaches, and resources necessary for the provision of genetic counseling to clients and their families in prenatal pediatric and adult clinical settings. Prereq: GENC 6101. Co-Req: GENC 6105, GENC 6110. Restrictions: matriculated student in Genetic Counseling M.S. Program.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Spring.

GENC 6105 - Basic Interviewing Skills (1 Credit)

This course covers fundamental theories and principles of effective patient/client interviewing in genetic counseling practice. Lectures are combined with hands-on role plays and interviews so that students may gain applied experience and receive feedback to foster skills development throughout course. Coreq: GENC 6101, GENC 6110. Restriction: Matriculated student in Genetic Counseling M.S. Program Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

GENC 6110 - Topics in Medical Genetics I (3 Credits)

First course in a two-part course sequence regarding principles of clinical genetics and genetic counseling and development of clinical skills used in various medical genetics settings. Fall semester focuses on principles important in pediatric and general genetics settings. Restriction: Matriculated student in Genetic Counseling M.S. Program. Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

GENC 6111 - Topics in Medical Genetics II (2 Credits)

Second course in two-course sequence regarding principles of clinical genetics and genetic counseling used in various medical genetics settings, and development of critical skills. Spring semester focuses on prenatal and adult genetics clinic settings. Prereq: GENC 6110. Restrictions: Matriculated student in Genetic Counseling M.S. Program. Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Spring.

GENC 6120 - Clinical Cytogenetics and Molecular Genetics (3 Credits) This course provides integrated instruction regarding human cytogenetic and molecular genetic principles, techniques, and diagnostic testing approaches used in clinical evaluation and risk assessment for genetic disorders/predispositions in prenatal and postnatal patient populations. Coreq: GENC 6121. Restrictions: Matriculated student in Genetic

Counseling M.S. Program. Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

GENC 6121 - Laboratory in Clinical Cytogenetics and Molecular Genetics (2 Credits)

Course provides introduction to specific methodologies and interpretation of studies used in diagnostic cytogenetics and molecular genetics laboratories. Principles discussed in the co-requisite clinical cytogenetics and molecular genetics course will be applied through demonstrations, hands-on experiments, discussion of illustrative cases. Coreq: GENC 6120. Restrictions: Matriculated student in Genetic Counseling

M.S. Program.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

GENC 6123 - Applied Laboratory Genetic Counseling (1 Credit)
A required rotation in genetic testing laboratories. Genetic counseling students learn about the professional practice of laboratory-based genetic counselors and specific skills such as test ordering, variant interpretation, results report writing, communication with clients, and collaboration with other members of laboratory teams. Prereq: GENC 6120, GENC 6121. Restriction: Matriculated student in M.S. Genetic

Counseling Program. Grading Basis: Letter Grade Typically Offered: Spring.

GENC 6130 - Cancer Genetics and Genetic Counseling (2 Credits)
Course in providing genetic counseling services to clients with or
at risk for hereditary cancer predisposition. Topics include clinical
oncology, epidemiology, molecular biology of cancer, risk assessment,
genetic testing, ethical/legal issues, clinical research considerations,
psychosocial impact/support, specific genetic counseling approaches.
Prereq: GENC 6110, GENC 6120. Restrictions: Matriculated student in

Genetic Counseling M.S.Program Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Spring.

GENC 6140 - Human Inborn Errors of Metabolism (2 Credits)
Course provides systematic review of major metabolic disorders,
including their clinical phenotypes, diagnosis, and management.
Physiological and laboratory testing principles important to
understanding these disorders will be reviewed. Psychosocial impact
of metabolic disorders and genetic counseling approaches will be
discussed. Restrictions: Matriculated student in Genetic Counseling M.S.
Program.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Spring.

GENC 6150 - Congenital Malformations and Disorders of the Newborn (1 Credit)

This survey course covers common major malformations and non-metabolic genetic disorders identified by newborn screening programs. Clinical phenotypes, diagnosis, management and etiology are addressed. Psychosocial impact of these conditions and genetic counseling approaches will be discussed. Prereq: GENC 6110. Co-Req: GENC 6111. Restrictions: Matriculated student in Genetic Counseling M.S. Program. Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Spring.

GENC 6170 - Introduction to Clinical Research for Genetic Counseling Students (1 Credit)

An introduction to clinical research including an overview of ethical principles, study methods and designs, practical execution, data analysis and presentation of results. Possible roles of a genetic counselor in the conduct of clinical research will be a course focus. Restrictions: Matriculated student in MS Genetic Counseling Program.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

GENC 6201 - Advanced Psychosocial Genetic Counseling (2 Credits) This course examines advanced genetic counseling techniques as they relate to psychosocial theories, specific client characteristics and the client/counselor dynamic. Critical discussion of core topics and readings and case analysis will be used for instruction. Prereq: GENC 6101 and GENC 6102. Restrictions: Matriculated second year student in Genetic Counseling M.S. Program.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

GENC 6210 - Professional Issues in Genetic Counseling I (2 Credits) First course in a two course sequence regarding professional practice issues of master's level genetic counselors. The Fall semester course focuses on professional standards, professional ethics, legal principles and health systems and policy issues relevant to genetic counselors. Prereq: GENC 6101, GENC 6105, GENC 6110. Restrictions: Second year student in Genetic Counseling M.S. Program.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

GENC 6211 - Professional Issues in Genetic Counseling II (2 Credits) Second course in a two course sequence regarding professional practice issues of master's level genetic counselors. The Spring semester course focuses on disability issues, cultural competency, public health genetics, research methods in genetic counseling, and professional roles. Prereq: GENC 6210. Restrictions: Second year student in Genetic Counseling M.S. Program.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Spring.

GENC 6250 - Risk Calculation in Genetic Counseling (1 Credit) This course covers pedigree analysis and risk calculation principles used by genetic counselors in clinical practice. Prereq: GENC 6110, GENC 6120. Restrictions: Matriculated student in Genetic Counseling M.S. Program.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

GENC 6910 - Applied General Genetics Clinic (3 Credits)

This is a clinical rotation for Genetic Counseling M.S. students through a general genetics clinic serving a variety of referral indications. Students will learn and practice case management, history taking, risk assessment, counseling and client advocacy skills. Prereq: GENC 6101, GENC 6105, GENC 6110. Restrictions: Matriculated in Genetic Counseling M.S. Program.

Grading Basis: Letter Grade with IP

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

GENC 6911 - Applied Prenatal Genetics Clinic (3 Credits)

This is a clinical rotation for genetic counseling students through a prenatal diagnosis and genetics clinic. Students will learn/practice history taking, risk assessment, patient education and genetic counseling, case management, as well as observe prenatal diagnosis procedures. Prerequisites: GENC 6101, GENC 6105, GENC 6110.

Restriction: Matriculated student in Genetic Counseling M.S. Program.

Grading Basis: Letter Grade with IP

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

GENC 6912 - Applied Metabolic Genetics Clinic (3 Credits)

This is a clinical rotation for genetic counseling students through a genetics clinic for inborn errors of metabolism. Students will work with patients referred for diagnostic evaluation, medical/nutritional management of specific conditions, and follow-up of positive newborn metabolic screening results. Prereq: GENC 6101, GENC 6105, GENC 6110. Restrictions: Matriculated student in Genetic Counseling M.S. Program.

Grading Basis: Letter Grade with IP

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

GENC 6913 - Applied Regional & Specialties Genetics Clinics (1-2 Credits)

This is a clinical rotation for genetic counseling students through regional outreach (telehealth) genetics clinics and specialty/multidisciplinary clinics serving patients with various genetic conditions. Prereq: GENC 6101, GENC 6105, GENC 6110. Restrictions: Matriculated student

in Genetic Counseling M.S. Program. Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 2.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

GENC 6914 - Applied Hereditary Cancer Clinic (1 Credit)

This is a clinical rotation for genetic counseling students through adult and pediatric hereditary cancer clinics for individuals seeking genetic counseling and testing for genetic cancer predisposition syndromes. Section 01 - Adult I, Section 02 - Adult II, Section 05 - Pediatric. Program.

Prereq: GENC 6105, GENC 6110, GENC 6120, GENC 6130

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 3.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

GENC 6915 - Applied Adult Medical Genetics Clinic (1 Credit) This is a clinical rotation for genetic counseling students through a

medical genetics clinic and clinical research settings providing diagnosis, management, risk assessment and genetic counseling for adults. Prereq: GENC 6101, GENC 6105, GENC 6110. Restrictions: Matriculated student

in Genetic Counseling M.S. Program. Grading Basis: Letter Grade with IP

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

GENC 6919 - Applied Medical Genetics Clinic - Clinical Elective (1-3 Credits)

This is an elective clinical rotation for genetic counseling students desiring to arrange training in outside of core required clinical rotations or an additional, advanced rotation. Prereq: GENC 6101, GENC 6105, GENC 6110. Restrictions: Matriculated student in Genetic Counseling M.S. Program.

Grading Basis: Letter Grade Repeatable. Max Credits: 9.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

GENC 6920 - Applied Medical Genetics-Laboratory Genetic Counseling Elective (1 Credit)

An elective rotation for students desiring an advanced, applied training experience with genetic counselors based in a genetics diagnostic laboratory. Restrictions: Matriculated student in GENC program who has completed required prerequisite courses listed; Permission of instructor.

Prereq: GENC 6120; GENC 6121; GENC 6122

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

GENC 6940 - Capstone in Genetic Counseling (1 Credit)
Students will develop a proposal and complete an individualized scholarly project that contributes to the knowledge and/or practice of genetic counseling. GENC matriculated student with 2 semesters required coursework completed. Permission of instructor.

Grading Basis: Letter Grade with IP Repeatable. Max Credits: 3.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

#### **Policies**

Admissions Match Process: The M.S. Genetic Counseling Program participates in the Genetic Counseling Admissions Match through National Matching Services (NMS) (https://natmatch.com/gcadmissions/). All student positions will be filled via the Match. All applicants must first register for the Match with NMS before applying to the genetic counseling program. At the conclusion of program interviews, all interviewed applicants and all programs will submit ranked lists of preferred placements to NMS according to deadlines posted on the NMS website. The binding results of the Match will be released to applicants and programs simultaneously. Please refer to the Admissions page for more details.

*Graduate School Policies:* Please visit the Graduate School (https://graduateschool.cuanschutz.edu/) to view policies for prospective and current graduate students.

### **Contact Us**

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Genetic Counseling Program website: cuanschutz.edu/graduate-programs/genetic-counseling/home (https://www.cuanschutz.edu/graduate-programs/genetic-counseling/home/)