

# GENETIC COUNSELING (GEN)

## **GEN 101 DNA and the Countless Ways Genetics Influence Your Daily Life 3**

DNA and genetics are everywhere. Review of the impact of genetics on sociocultural and healthcare systems. Emphasis on influence of genetics in daily life beyond a doctor's office.

## **GEN 201 The Best Career You Never Heard Of: How to Think Like a Genetic Counselor 3**

Introduction to the genetic counseling profession. Emphasis on factors influencing genetic counseling sessions. Focus on skill-building applicable to healthcare encounters.

## **GEN 321 Introduction to Clinical Genetics 3**

Applying molecular genetics to the impact on human development, process and disease. Introduction to clinical presentation and diagnostic management.

**Prerequisites:** BIO 392. Recommend either GEN 101 or GEN 201.

## **GEN 499 Undergraduate Research in Genetic Counseling 1-3**

Genetic counseling research under the direction of a faculty member, culminating in a written report. Research will include laboratory and/or field work and/or directed readings of the literature. Times by arrangement.

**Prerequisites:** BIO 392. either GEN 101 or GEN 201; Permission of instructor; Junior or senior standing;

**Notes:** May be repeated for credit. Grade: Pass/Not Pass (P/NP).

## **GEN 601 Principles of Genetic Counseling 3**

Introduction to techniques used in genetic evaluation and counseling. Issues in preconception and prenatal genetic counseling. Skill development including basic interviewing techniques, psychosocial assessment, pedigree construction, searching on-line resources.

**Prerequisites:** Enrollment in MS genetic counseling program.

## **GEN 602 Principles of Genetic Counseling II 3**

Issues in genetic counseling for pediatric and adult-onset genetic disorders including cancer genetics. Skill development, including working with special populations, decision-making, elements of informed consent.

**Prerequisites:** Matriculation to second semester of MS genetic counseling program.

## **GEN 603 Introduction to Fieldwork in Genetic Counseling I 1**

Structured observation across diverse genetic counseling settings. Analysis of professional practice, communication strategies, counseling techniques, and healthcare system roles through guided reflection and competency-based assignments.

**Prerequisites:** Enrollment in M.S. in Genetic Counseling program.

## **GEN 604 Introduction to Fieldwork in Genetic Counseling II 1**

Active participation in genetic counseling activities including pedigree construction, risk assessment, and counseling skills development through patient interactions, role-play scenarios, and standardized patient encounters.

**Prerequisites:** Enrollment in the M.S. in Genetic Counseling program and GEN 603.

## **GEN 610 Genetic Counseling and the Community 2**

Impact of genetic disorders on patients and families, structure and function of support groups, and role of allied health professionals in evaluation, treatment and referral of patients with genetic disorders.

**Prerequisites:** Enrollment in MS genetic counseling program.

## **GEN 614 Prenatal Development: Embryology and Teratology 2**

Human embryological development with emphasis on normal and abnormal development. Issues in teratology and birth defects, clinical problems associated with birth defects and their means of prevention.

**Prerequisites:** Enrollment in M.S. in Genetic Counseling program or permission of instructor.

## **GEN 615 Introduction to Oncology and Genetic Counseling 1**

Principles of oncology, cancer genetics, inherited syndromes, assessment, therapies and management in cancer care. Application to genetic counseling with an emphasis on familial and inherited risks.

## **GEN 617 Advanced Topics in Oncology and Genetic Counseling 2**

Advanced study of hereditary cancer syndromes, risk assessment models, genetic testing interpretation, and counseling strategies. Emphasis on evidence-based management, multidisciplinary care coordination, and multifaceted aspects of cancer genetic counseling.

**Prerequisites:** Enrollment in the M.S. in Genetic Counseling program and GEN 615.

## **GEN 618 Genetic Counseling Seminar 1**

Application of concepts related to genetic and genomic medicine with an emphasis on genetic counseling and the general public. Implementation of activities, discussion and peer learning for development of person and professional.

## **GEN 620 Introduction to Peer Supervision and Professional Development in Fieldwork 1**

Introduction to peer supervision concepts and reflective practice for genetic counseling students. Students analyze cases, apply counseling theories, and develop collaborative feedback skills during initial fieldwork rotations.

**Prerequisites:** Enrollment in the M.S. Genetic Counseling program.

**Corequisites:** GEN 698.

## **GEN 625 Introduction to Research Methods and Genetic Counseling Literature 2**

Introduction to literature in genetic counseling including dissection of literature for critical assessment and application in clinical and research settings. Review of research methodology for preparation to be both consumers and producers of research.

## **GEN 630 Medical/Clinical Genetics and Genomics I 3**

Introduction to clinical/medical genetics and genomics for genetic counseling students. Topics include cytogenetics, dysmorphology, metabolism and study of genetic conditions by body systems such as nervous, cardiovascular, musculoskeletal, and integumentary.

**Prerequisites:** GEN 614, enrollment in M.S. in Genetic Counseling program.

## **GEN 646 Advanced Clinical Genomics 2**

Advanced principles and topics in genetics, genomics and clinical care in a genetic counseling setting.

## **GEN 648 Capstone Preparation Seminar 1**

Introduction to research methods for genetic counselors. Knowledge and skills basic to critical analysis, interpretation of research findings, and proposal preparation.

**Prerequisites:** Enrollment in MS genetic counseling program or permission of instructor.

## **GEN 649 Independent Research Study 1**

Guided and individualized mentorship for navigation of capstone project. First course in individual capstone plan.

**GEN 650 Personalized Research Topic 1-3**

Tailored independent study to develop or expand skillset in genetic counseling research. May be used as research elective per approval of program.

**GEN 658 Molecular Diagnostics 3**

Survey of human molecular genetics and current clinical methods used for the diagnosis of human genetic disorders. Special emphasis given to the molecular principles, interpretations, and limitations of these tests.

**GEN 668 Introduction to Clinical Encounters 2**

Transition to clinical setting with integration of risk assessment. Experiential learning through simulated patient encounters, full case workups, clinical documentation and case management. Emphasis on skills used in patient care.

**GEN 697 Clinical Intensive in Genetic Counseling 1**

Intensive workshop series providing hands-on exposure to genetic counseling specialties including prenatal, pediatric, adult, cancer, and laboratory settings. Students develop foundational skills in risk assessment, counseling, and evidence-based practice across clinical contexts.

**Prerequisites:** Enrollment in the M.S. in Genetic Counseling program.

**GEN 698 Summer Fieldwork Rotations 3**

Supervised initiation of comprehensive fieldwork experiences. Skill development and application within a fieldwork setting.

**Prerequisites:** Matriculation to Summer Session II of the M.S. in Genetic Counseling program.

**Notes:** Grading method is Satisfactory/Unsatisfactory (S/U).

**GEN 701 Principles of Genetic Counseling III 3**

Issues in professional development, public policy and health care systems. Introduction to legal issues in genetic counseling. Skill development including advanced genetic counseling skills, case management and preparing educational programs.

**Prerequisites:** Matriculation to third semester of MS genetic counseling program.

**GEN 702 Professional Issues in Genetic Counseling: ELSI and Beyond 3**

Engages students with advanced topics in genetic counseling including ethics in genomic healthcare, intersection with public health, advancing technologies and development of the professional throughout a career.

**GEN 718 Fieldwork Rotations I 4-6**

Supervised fieldwork experiences in genetic counseling including but not limited to: case preparation, risk assessment and intervention, psychosocial assessment and support, identification of testing and support resources for patients, skill development and application across subspecialties.

**Prerequisites:** Matriculation to second year of M.S. in Genetic Counseling program.

**Notes:** Grading method is Satisfactory/Unsatisfactory (S/U).

**GEN 719 Fieldwork Rotations II 4-6**

Supervised fieldwork experiences in genetic counseling including but not limited to: case preparation, risk assessment and intervention, psychosocial assessment and support, identification of testing and support resources for patients, skill development and application across subspecialties.

**Prerequisites:** Matriculation to second year of M.S. in Genetic Counseling program.

**Notes:** Grading method is Satisfactory/Unsatisfactory (S/U).

**GEN 720 Peer Supervision in Genetic Counseling 1**

Focus on building reflective practice, with heavy emphasis on retrospective case processing and review. Collaborative processing of cases to consider influential components and integrate awareness into future cases.

**GEN 730 Medical/Clinical Genetics and Genomics II 3**

Advanced study of topics for genetic counseling students such as mitochondrial conditions and pharmacogenomics as well as genetic conditions by body systems such as visual, auditory, craniofacial, reproductive, circulatory, nephrology and pulmonology.

**Prerequisites:** GEN 630.

**GEN 748 Research Project 2**

Research project in genetic counseling.

**Prerequisites:** Matriculation to third semester of the M.S. Genetic Counseling program.

**GEN 749 Research Project 3**

Research project in genetic counseling.

**Prerequisites:** Successful completion of the third semester (GEN 748) of the M.S. Genetic Counseling program. Enrollment in the fourth semester of the M.S. Genetic Counseling program.

**GEN 780 Board Certification Exam Prep 1**

Comprehensive review course preparing students for the genetic counseling board certification examination through integration of practice-based competencies, test-taking strategies, and simulated exam experiences.

**Prerequisites:** GEN 730, enrollment in the M.S. in Genetic Counseling program.

**GEN 803 Research Extension 1-3**

Research Extension.