

HGEN 6800: GC Fieldwork and Myriad Genetics

Credit Hours: 2

Contact Information

Name	Position	Phone	Email
TBD			UUGPGC@utah.edu

Course Information

Brief Description of Course

The purpose of this fieldwork course is to familiarize students with the teratogenicity of common drugs, chemicals, maternal states, and illnesses; the assessment of exposures; and the prevention of birth defects. Additional goals include enhancing literature retrieval, writing, and communication skills; and identifying web searches for reputable drug information for counseling; understand the role of counseling for teratogens including how to interact with medical staff; determine if an exposure is teratogenic; and understand what constitutes an exposure.

This rotation also exposes students to varied genetic counselors' roles in a commercial laboratory setting. Emphasis will be on hereditary cancer and prenatal testing, variant classification, and different delivery models of Genetics education.

Teaching strategies include lectures, shadowing, discussions, readings, reflections, and creating a presentation on a genetic testing technology.

Course Objectives

At the conclusion of this course students will be able to:

1. Identify the role of a teratogen information service.
2. Define teratogens and principles of teratology.
3. Have an appreciation for the principles of pharmacology and their relationship to teratogen risk assessment.
4. Identify and define the known teratogenic effects of specific agents.
5. Evaluate the effects of a maternal or paternal exposure prior to pregnancy and during pregnancy or lactation to determine the effects on a pregnancy outcome or breast fed infant.
6. Incorporate psychological and supportive counseling around teratogenic risk information as appropriate.
7. Effectively communicate clinical teratology and client information to faculty.
8. Identify discrepancies and controversies in the teratology literature and develop a rational plan for dealing with any controversies.
9. Given an information request, demonstrate the ability to properly respond to the request.
10. Recognize different models for the delivery of genetic services.
11. Evaluate methods used in variant classification.
12. Explain the meaning, significance, and implications of a positive, negative, and uncertain genetic test result.
13. Analyze how to provide appropriate verbal and written responses to questions from healthcare providers and patients via telephone and e-mail.
14. Understand genetic testing technology of prenatal and hereditary cancer tests.
15. Describe the varied roles genetic counselors can assume in a commercial genetic testing laboratory.

The ACGC Practice-Based Competencies Addressed in this course:

- Genetics and Genomics Expertise: 1; 1.a, 1.b, 1.c.
- Risk Assessment: 2; 2.a., 2.b., 2.c.

- Counseling: 3; 3.a., 3.b.
- Communication: 4; 4.a., 4.b.
- Research: 5; 5.a., 5.b.
- Healthcare Systems: 6; 6.a., 6.d.
- Professional Identity: 7; 7.a, 7.b, 7.c, 7.d.

Course Format & Schedule

Timeline

Three weeks

Educational and Instructional Modalities

The first week of this course is held in-person for four 7.5-hour sessions. The second two weeks are hybrid with virtual and in-person instruction, including a lab tour of Myriad's Salt Lake City facilities.

Role of the Student in this Course

Students will be expected to engage in a variety of learning activities including lectures, viewing videos, shadowing, discussions, readings, reflections, sharing with peers, writing, and creating educational presentations.

Required Textbooks/Readings

- Bennett RL, French KS, Resta RG, Austin J. Practice resource-focused revision: Standardized pedigree nomenclature update centered on sex and gender inclusivity: A practice resource of the National Society of Genetic Counselors. *J Genet Couns.* 2022 Dec;31(6):1238-1248. PMID: 36106433.
- Brent RL. 2009. Saving lives and changing family histories: appropriate counseling of pregnant women and men and women of reproductive age, concerning the risk of diagnostic radiation exposures during and before pregnancy. *American Journal of Obstetrics and Gynecology*, 200(1):4-24.
- Friedman JM. 2009. Big risks in small groups: The difference between epidemiology & counseling. *Birth Defects Research (Part A)*, 85:720-724. •Lagoy CT, et al. 2005. Medication use during pregnancy & lactation: An urgent call for public health action. *Journal of Women's Health*, 14(2):104-109.
- Goodenberger ML, et al. "The Utilization of Counseling Skills by the Laboratory Genetic Counselor." *Journal of Genetic Counseling*. 2015 Feb; 24(1): 6-17. PMID: 25138081
- Groepper D, et al. "Ethical and professional challenges encountered by laboratory genetic counselors." *Journal of Genetic Counseling*. 2015 Aug; 24(4): 580-596. PMID: 25398381
- Rasmussen SA, et al. 2016. Zika virus and birth defects – reviewing the evidence for causality. *New England Journal of Medicine*, 374(20):1981-1987
- Sacca RE, Koeller DR, Rana HQ, Garber JE, Morganstern DE. Trans-counseling: A case series of transgender individuals at high risk for BRCA1 pathogenic variants. *J Genet Couns.* 2019 Jun;28(3):708-716. PMID: 30680866.
- Additional reading assignments and sources will be found in Canvas under each individual class.

Prior knowledge of cancer and prenatal Genetics is required from completion of previous university courses. It is strongly encouraged to review class notes prior to the rotation.



Assessment & Grading

Evaluation Methods

Students will be evaluated and graded on their assignments and participation. Students are required to come prepared and participate in group discussions when meeting with various staff members. They are also required to complete the written and reading assignments.

Participation is crucial in this rotation. Comments, questions, and active discussion let your supervisors know that you are learning the material. Sharing your own perspective can also help your classmates in their own learning process.

Attendance is expected at all scheduled activities. Please contact the course organizer with any scheduling conflicts and/or questions.

Grading System

Students will receive a Pass/Fail grade.

Standard Policies

The Americans with Disabilities Act.

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 801-581-5020. CDS will work with you and the instructor to make arrangements for accommodation. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

Addressing Sexual Misconduct.

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677 (COPS).

Campus Safety.

The University of Utah values the safety of all campus community members. To report suspicious activity, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

Alternate Name and/or Personal Pronoun

Class rosters are provided to the instructor with the student's legal name as well as 'Preferred' first name (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, we will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise us of any name or pronoun changes (and please update CIS) so we can help create a learning environment in which you, your name, and your pronoun will be respected.

Current COVID-19 Campus Guidelines

COVID-19 Guidelines change rapidly. Please access the most current information COVID-19 Central @ The U. coronavirus.utah.edu