

GENETIC COUNSELOR STUDIES (GENECSLR)

GENECSLR 713 – INTRODUCTORY PRACTICUM IN GENETIC COUNSELING

3 credits.

Provides opportunities to develop skills in interviewing, data collection, case management and counseling through didactic work and observational and experiential clinical activities. Activities include clinic observation according to a structured format, and fieldwork participation.

Requisites: Declared in Master of Genetic Counselor Studies

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2025

Learning Outcomes: 1. Demonstrate and utilize a depth and breadth of understanding and knowledge of genetics and genomics core concepts and principles.

Audience: Graduate

2. Integrate knowledge of psychosocial aspects of conditions with a genetic component to promote client well-being.

Audience: Graduate

3. Construct relevant, targeted and comprehensive personal and family histories and pedigrees.

Audience: Graduate

4. Identify, assess, order, facilitate, and integrate genetic/genomic testing options in genetic counseling practice (including molecular and non-molecular testing that directly impacts assessment of inherited risk).

Audience: Graduate

5. Assess individuals' and their relatives' probability of conditions with a genetic component or carrier status based on their pedigree, test result(s), and other pertinent information.

Audience: Graduate

6. Demonstrate the skills necessary to successfully manage a genetic counseling case.

Audience: Graduate

7. Critically assess genetic/genomic, medical and social science literature and information.

Audience: Graduate

8. Establish a mutually agreed upon genetic counseling agenda with the client.

Audience: Graduate

9. Employ active listening and interviewing skills to identify, assess, and empathically respond to stated and emerging concerns.

Audience: Graduate

10. Use a range of genetic counseling skills and models to facilitate informed decision-making and adaptation to genetic risks or conditions.

Audience: Graduate

11. Promote client-centered, informed, non-coercive and value-based decision-making

Audience: Graduate

GENECSLR 714 – INTRODUCTORY PRACTICUM IN GENETIC COUNSELING

3 credits.

Provides additional opportunities to develop and improve skills in interviewing, data collection, case management and counseling. Develop skills through didactic work and observational and experiential clinical activities. Activities include clinic observation according to a structured format, and fieldwork participation.

Requisites: GENECSLR 713

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2026

Learning Outcomes: 1. Demonstrate and utilize a depth and breadth of understanding and knowledge of genetics and genomics core concepts and principles.

Audience: Graduate

2. Integrate knowledge of psychosocial aspects of conditions with a genetic component to promote client well-being.

Audience: Graduate

3. Construct relevant, targeted and comprehensive personal and family histories and pedigrees.

Audience: Graduate

4. Identify, assess, order, facilitate, and integrate genetic/genomic testing options in genetic counseling practice (including molecular and non-molecular testing that directly impacts assessment of inherited risk).

Audience: Graduate

5. Assess individuals' and their relatives' probability of conditions with a genetic component or carrier status based on their pedigree, test result(s), and other pertinent information.

Audience: Graduate

6. Demonstrate the skills necessary to successfully manage a genetic counseling case.

Audience: Graduate

7. Critically assess genetic/genomic, medical and social science literature and information.

Audience: Graduate

8. Establish a mutually agreed upon genetic counseling agenda with the client.

Audience: Graduate

9. Employ active listening and interviewing skills to identify, assess, and empathically respond to stated and emerging concerns.

Audience: Graduate

10. Use a range of genetic counseling skills and models to facilitate informed decision-making and adaptation to genetic risks or conditions.

Audience: Graduate

11. Promote client-centered, informed, noncoercive and value-based decision-making.

Audience: Graduate

12. Demonstrate understanding of how to adapt genetic counseling skills for varied service delivery models.

Audience: Graduate

13. Apply genetic counseling skills in a culturally responsive and respectful

GENECSLR 721 – INTRODUCTION TO CLINICAL GENETICS

2 credits.

Integrative introduction to the mechanisms of clinical genetic disease at the molecular, individual and population level.

Requisites: Declared in Master of Genetic Counselor Studies

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2025

Learning Outcomes: 1. Explain mechanisms of genetic disease and how they result in genetic disorders using clinical examples.

Audience: Graduate

2. Assess available genetic testing and screening technologies; identify the most appropriate method to detect various etiologies of genetic disease.

Audience: Graduate

3. Calculate and assess risk for a patient, family members and population.

Audience: Graduate

4. Identify the benefits and limitations of a molecular diagnosis and result.

Audience: Graduate

5. Relate the mechanisms of gene therapies and/or treatments to the mechanisms of the genetic disorder(s) it addresses.

Audience: Graduate

6. Apply and adapt course information for use in a clinical setting, appreciating the familial and psychosocial implications of genetic disorders.

Audience: Graduate

GENECSLR 724 – CANCER GENETICS RISK ASSESSMENT AND COUNSELING

2 credits.

Provides a background in cancer genetics from a medical, biological, and clinical perspective. Includes: general principles and topics in oncology; familial cancers and cancer syndromes; and management, counseling, social, ethical, and legal issues.

Requisites: GENECSLR 721

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2026

Learning Outcomes: 1. Recognize family histories suggestive of sporadic, multifactorial, and hereditary cancer

Audience: Graduate

2. Demonstrate knowledge of all major inherited cancer susceptibility syndromes and genes, both moderate risk and high risk

Audience: Graduate

3. Demonstrate the ability to assess cancer risk based on personal and family history

Audience: Graduate

4. Identify individuals and families meeting guidelines for cancer susceptibility gene testing

Audience: Graduate

5. Interpret cancer genetic test results in the context of a patient's personal and/or family history

Audience: Graduate

GENECSLR 731 – ADVANCED CLINICAL GENETICS CONCEPTS

3 credits.

An advanced course covering clinical genetic concepts including phenotype, genetic mechanisms, approach to diagnosis (medical, clinical and genetic testing protocols), and natural history (including management approaches).

Requisites: GENECSLR 721

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2025

Learning Outcomes: 1. Discuss/explain the history and basic principles of clinical genetics including evolution of clinical genetics and history of eugenics, comparison of normal and abnormal patterns of growth, and patterns and mechanism of inheritance (Mendelian and non-Mendelian)
Audience: Graduate

2. Describe the phenotype, genetic mechanisms, approach to diagnosis (medical, clinical and genetic testing protocols), and natural history (including management approaches) for genetic disorders.
Audience: Graduate

3. Teach clinical genetic concepts to peers including, writing learning objectives and assessment questions.
Audience: Graduate

GENECSLR 737 – CONTEMPORARY PROFESSIONAL ISSUES IN GENETICS COUNSELING

1 credit.

A series of selected basic issues and topics that are core curricular requirements specific to genetics counseling.

Requisites: Declared in Master of Genetic Counselor Studies

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, for 4 number of completions

Last Taught: Spring 2026

Learning Outcomes: 1. Demonstrate and utilize a depth and breadth of understanding and knowledge of genetics and genomics core concepts and principles

Audience: Graduate

2. Integrate knowledge of psychological aspects of conditions with a genetic component to promote client well-being

Audience: Graduate

3. Critically assess genetic/genomic, medical and social science literature and information

Audience: Graduate

4. Promote client-centered, informed, non-coercive and value-based decision-making

Audience: Graduate

5. Adapt genetic counseling skills for varied service delivery models

Audience: Graduate

6. Apply genetic counseling skills in a culturally responsive and respectful manner to all clients

Audience: Graduate

7. Effectively give a presentation on genetics, genomics and genetic counseling issues.

Audience: Graduate

8. Act in accordance with the ethical, legal and philosophical principles and values of the genetic counseling profession and the policies of one's institution or organization

Audience: Graduate

9. Demonstrate understanding of the research process

Audience: Graduate

10. Advocate for individuals, families, communities and the genetic counseling profession

Audience: Graduate

11. Demonstrate a self-reflective, evidence-based and current approach to genetic counseling practice.

Audience: Graduate

GENECSLR 739 – RESEARCH STRATEGIES AND ANALYSIS IN CLINICAL GENETICS

1 credit.

Introduction to a variety of tools and resources commonly used in clinical genetics. Learn to critique these resources and start thinking about developing their own research projects. Emphasizes developing oral presentation skills through a variety of student presentations.

Requisites: Declared in Master of Genetic Counselor Studies

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2025

Learning Outcomes: 1. Identify and critique a variety of sources of information applicable to clinical genetics/genetic counseling.

Audience: Graduate

2. Demonstrate understanding of the research process.

Audience: Graduate

3. Develop oral communication skills allowing for communication of complex information to a variety of audiences.

Audience: Graduate

4. Apply content in a meaningful way to you and your practice as a genetic counselor.

Audience: Graduate

5. Develop a foundation and skills for lifelong learning.

Audience: Graduate

GENECSLR 740 – LABORATORY GENETICS AND GENOMICS FOR THE GENETIC COUNSELOR

2 credits.

Introduction to clinical laboratory genetics with a particular focus on the relevance of human cytogenetics and molecular genetics to the practice of medical genetics. Covers the fundamental principles of human cytogenetic and molecular genetics including human chromosome structure, function, cytogenetic and molecular nomenclature, and current clinical laboratory testing methods relevant to medical genetic professionals. Apply cytogenetic and molecular genetic understanding to clinical scenarios to help diagnosis and manage individuals with genetic disease.

Requisites: GENECSLR 721

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2026

Learning Outcomes: 1. Distinguish between different types of genomic variants, both molecular and cytogenetic.

Audience: Graduate

2. Compare and contrast currently available genomic testing methods and their ability to detect genetic variation.

Audience: Graduate

3. Illustrate how different genomic variants can lead to human disease.

Audience: Graduate

4. Construct appropriate testing strategies for a variety of clinical scenarios.

Audience: Graduate

5. Analyze genetic test results and interpret their clinical significance.

Audience: Graduate

GENECSLR 741 – INTRODUCTION TO GENETIC COUNSELING

1 credit.

Emphasis will be on the tasks necessary to complete a genetic counseling session including, contracting/goal setting, history gathering, education, psychosocial assessment and support, clinical documentation and session management.

Requisites: Declared in Master of Genetic Counselor Studies

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2025

Learning Outcomes: 1. Integrate knowledge of psychosocial aspects of conditions with a genetic component to promote client well-being.

Audience: Graduate

2. Construct relevant, targeted and comprehensive personal and family histories and pedigrees.

Audience: Graduate

3. Demonstrate the skills necessary to successfully manage a genetic counseling case.

Audience: Graduate

4. Establish a mutually agreed upon genetic counseling agenda with the client.

Audience: Graduate

5. Employ active listening and interviewing skills to identify, assess, and empathically respond to stated and emerging concerns.

Audience: Graduate

6. Apply genetic counseling skills in a culturally responsive and respectful manner to all clients.

Audience: Graduate

7. Educate clients about a wide range of genetics and genomics information based on their needs, their characteristics, and the circumstances of the encounter.

Audience: Graduate

8. Write concise and understandable clinical and scientific information for audiences of varying educational backgrounds.

Audience: Graduate

9. Demonstrate a self-reflective, evidenced-based, and current approach to genetic counseling practice.

Audience: Graduate

GENECSLR 742 – CLINICAL EMBRYOLOGY AND PRENATAL GENETICS

1 credit.

Review human development (normal and abnormal) and the influence of genetic disorders and teratogens, common indications for prenatal genetic counseling as well as available prenatal diagnosis and screening techniques. Prepares the genetic counseling student for the prenatal clinical practicum.

Requisites: GENECSLR 721

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2026

Learning Outcomes: 1. Describe normal human embryological and fetal development.

Audience: Graduate

2. Describe the relationship between genetic disease and teratogens with abnormal embryologic and fetal development.

Audience: Graduate

3. Compare benefits and risks of available testing and screening strategies used to assess for birth defects and genetic disease.

Audience: Graduate

4. Discuss factors that influence patients' perception about information related to their child/baby/pregnancy presented during prenatal genetic counseling.

Audience: Graduate

5. Identify appropriate patient-centered prenatal resources about genetic diseases, birth defects and teratogens.

Audience: Graduate

GENECSLR 743 – ADVANCED INTERVIEWING AND COUNSELING FOR THE GC I

1 credit.

Advanced topics in clinical communication skills for the genetic counselor. Emphasis on different counseling strategies and approaches including counselor self-reference, facilitating family communication, shared decision-making, crisis counseling and, applying techniques from select counseling models to GC practice (e.g., cognitive behavioral therapy, solution-focused therapy).

Requisites: GENECSLR 741

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2026

Learning Outcomes: 1. Use a range of genetic counseling skills and models to facilitate informed decision-making and adaptation to genetic risks or conditions.

Audience: Graduate

2. Promote client-centered, informed, non-coercive and value-based decision-making.

Audience: Graduate

3. Adapt genetic counseling skills for varied service delivery models.

Audience: Graduate

4. Apply genetic counseling skills in a culturally responsive and respectful manner

Audience: Graduate

5. Effectively give a presentation on genetic counseling issues.

Audience: Graduate

GENECSLR 744 – APPLICATIONS OF BIOCHEMICAL GENETICS FOR GENETIC COUNSELORS

2 credits.

Comprehensive overview of clinical biochemical genetics through a systematic review of classic and rare inborn errors of metabolism (IEM). Psychosocial issues are discussed as related to care of patients, and their families, with metabolic disorders.

Requisites: Declared in Master of Genetic Counselor Studies

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2025

Learning Outcomes: 1. Develop a framework for understanding the natural history, disease mechanism, inheritance, testing sequence and therapies for specific biochemical genetic diseases.

Audience: Graduate

2. Explain newborn screening, including the historical perspective, testing methodologies used and ethical considerations.

Audience: Graduate

3. Describe the role of the genetic counselor as part of a multidisciplinary Biochemical Genetics Clinic

Audience: Graduate

GENECSLR 745 – SEMINAR IN MEDICAL GENETIC COUNSELING RESEARCH

1 credit.

Practice qualitative and quantitative research methods in genetic counseling. Develop research question, prepare research proposal including internal review board application.

Requisites: GENECSLR 739

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2026

Learning Outcomes: 1. Describe qualitative and quantitative research methods used in genetic counseling

Audience: Graduate

2. Explain the ARROW IRB proposal process

Audience: Graduate

3. Identify research questions relevant to the discipline of genetic counseling

Audience: Graduate

GENECSLR 748 – SPECIAL TOPICS IN GENETIC COUNSELING

1 credit.

Advanced topics in the discipline of genetic counseling. Emphasis will be on advanced practice topics including setting boundaries, delivering life altering news, developing a socially responsible practice, moving from a novice to master counselor, and the job search.

Requisites: GENECSLR 743

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2025

Learning Outcomes: 1. Identify how the genetic counselor's personal cultural characteristics and biases may impact encounters and use this knowledge to maintain effective client-focused services.

Audience: Graduate

2. Recognize the potential tension between the values of clients, families, communities and the genetic counseling profession.

Audience: Graduate

3. Demonstrate knowledge of psychological defenses, family dynamics, family systems theory, coping models, the grief process, and reactions to illness.

Audience: Graduate

4. Maintain professional boundaries by ensuring directive statements, self-disclosure, and self-involving responses are in the best interest of the client. Recognize and respond to client-counselor relationship dynamics, such as transference and countertransference, which may affect the genetic counseling interaction.

Audience: Graduate

GENECSLR 813 – ADVANCED PRACTICUM IN GENETICS COUNSELING

4-5 credits.

Advanced practicum experience for second year genetic counseling students, consisting of participatory fieldwork experiences in a diversity of clinic specialties and service delivery methods.

Requisites: GENECSLR 714

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2025

Learning Outcomes: 1. Demonstrate and utilize a depth and breadth of understanding and knowledge of genetics and genomics core concepts and principles.

Audience: Graduate

2. Integrate knowledge of psychosocial aspects of conditions with a genetic component to promote client well-being.

Audience: Graduate

3. Construct relevant, targeted and comprehensive personal and family histories and pedigrees.

Audience: Graduate

4. Identify, assess, order, facilitate, and integrate genetic/genomic testing options in genetic counseling practice.

Audience: Graduate

5. Assess individuals and their relatives probability of conditions with a genetic component or carrier status based on their pedigree, test result(s), and other pertinent information.

Audience: Graduate

6. Demonstrate the skills necessary to successfully manage a genetic counseling case.

Audience: Graduate

7. Critically assess genetic/genomic, medical and social science literature and information.

Audience: Graduate

8. Establish a mutually agreed upon genetic counseling agenda with the client.

Audience: Graduate

9. Employ active listening and interviewing skills to identify, assess, and empathically respond to stated and emerging concerns.

Audience: Graduate

10. Use a range of genetic counseling skills and models to facilitate informed decision-making and adaptation to genetic risks or conditions.

Audience: Graduate

11. Promote client-centered, informed, non-coercive and value-based decision-making.

Audience: Graduate

12. Adapt genetic counseling skills for varied service delivery models.

Audience: Graduate

13. Apply genetic counseling skills in a culturally responsive and respectful manner to all clients.

Audience: Graduate

14. Effectively educate clients about a wide range of genetics and

GENECSLR 814 – ADVANCED PRACTICUM IN GENETICS COUNSELING

4-5 credits.

Advanced practicum experience consisting of participatory fieldwork experiences in a diversity of clinic specialties and service delivery methods.

Requisites: GENECSLR 813

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2026

Learning Outcomes: 1. Demonstrate and utilize a depth and breadth of understanding and knowledge of genetics and genomics core concepts and principles.

Audience: Graduate

2. Integrate knowledge of psychosocial aspects of conditions with a genetic component to promote client well-being.

Audience: Graduate

3. Construct relevant, targeted and comprehensive personal and family histories and pedigrees.

Audience: Graduate

4. Identify, assess, order, facilitate, and integrate genetic/genomic testing options in genetic counseling practice (including molecular and non-molecular testing that directly impacts assessment of inherited risk).

Audience: Graduate

5. Assess individuals' and their relatives' probability of conditions with a genetic component or carrier status based on their pedigree, test result(s), and other pertinent information.

Audience: Graduate

6. Demonstrate the skills necessary to successfully manage a genetic counseling case.

Audience: Graduate

7. Critically assess genetic/genomic, medical and social science literature and information.

Audience: Graduate

8. Establish a mutually agreed upon genetic counseling agenda with the client.

Audience: Graduate

9. Employ active listening and interviewing skills to identify, assess, and empathically respond to stated and emerging concerns.

Audience: Graduate

10. Use a range of genetic counseling skills and models to facilitate informed decision-making and adaptation to genetic risks or conditions.

Audience: Graduate

11. Promote client-centered, informed, noncoercive and value-based decision-making.

Audience: Graduate

12. Demonstrate how to adapt genetic counseling skills for varied service delivery models.

Audience: Graduate

13. Apply genetic counseling skills in a culturally responsive and respectful manner to all clients.

Audience: Graduate

GENECSLR 990 – RESEARCH IN GENETIC COUNSELING

1-8 credits.

Research and/or scholarly work (e.g. quality improvement, clinical case reports) supervised by faculty and/or staff member with appropriate content expertise and/or experience in research mentorship.

Requisites: GENECSLR 739 and 745

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, for 3 number of completions

Last Taught: Spring 2026

Learning Outcomes: 1. Conduct research projects using a variety of approaches under the guidance of the primary mentor

Audience: Graduate

2. Think critically and independently to address research challenges

Audience: Graduate

3. Exhibit and foster professional and ethical conduct in research

Audience: Graduate

4. Collaborate with other investigators

Audience: Graduate