HGEN 701 Introduction to Genetic Counseling  
Instructor: Janice G. Edwards, M.S., C.G.C.  
Time: W, 9:00-11:30  
Location: Two Medical Park, Lower Level Conference Center  

Course Objectives:  

1) To provide the student with an historical perspective on the development of genetic counseling as a distinct profession.  
2) To introduce the student to basic skills utilized in all genetic counseling sessions.  
3) To establish an understanding of the genetic counseling process as it applies to primary areas of counseling: prenatal, pediatric and adult  
4) To develop the student’s appreciation for genetic services in the context of healthcare delivery systems and as a component of public health.  
5) To apply skills and knowledge learned during the semester to clinical scenarios.  

Required Materials:  

The following texts are required for this course:  


Supplementary reading will be assigned throughout the semester. Students will be expected to engage in independent research as is necessary to complete their individual projects.  

Course Components:  

Clinical Observation:  
The purpose of the clinical observation is to provide the student with first-hand exposure to the genetic counseling process and the role of the genetic counselor in the clinical arena. Students will observe genetic counseling sessions in prenatal, pediatric, and adult settings and will have the opportunity to observe prenatal diagnosis procedures.  

Grading for this portion of the course will be determined by completion of the “Clinical Observation Checklist” which is attached to this syllabus. Students are expected to log their observation experiences on the checklist and should contact the course instructor prior to the end of the semester if they are concerned about fulfilling all observation requirements. Additionally, students are expected to turn in one shadow pedigree from each of their observation experiences. The checklist and pedigrees should be submitted by the last day of class.
**Service Learning:**
Through collaboration with Family Connection, the Genetic Counseling Master’s Program has arranged for students to interact with families in the community who have a child with a disability. This assignment is designed to develop the student’s perspective of individuals with disabilities as people first and to foster meaningful interaction between medical professionals and families who live with disability on a daily basis. Students will be expected to participate in a service learning activity at least one half-day per month. At the end of the semester, students should submit a typed list of the events they attended.

**Class Presentation:**
A significant component of genetic counseling is the ability to explore the professional literature, synthesize complex information, and present to groups with different backgrounds and training. To foster the development of these skills, students will work in pairs to develop a presentation about one of the following four topics: Ancestry-based carrier screening, newborn screening, genetic discrimination, and licensure for genetic counselors. This assignment requires that the student engage in outside research, develop a teaching agenda, and be prepared to lead class discussion. Presentations should be approximately one hour, typically a 40-45 minute presentation with 15-20 minutes for questions and discussion. The information presented should be clear and comprehensive. Students are strongly encouraged to prepare questions to stimulate discussion and are expected to facilitate the resulting conversation. Additionally, students should prepare a handout to distribute the day of the presentation. The handout should include an annotated bibliography of all sources. A copy of the annotated bibliography should be submitted to the course instructor at least one week prior to the presentation, and the student should identify two outside resources for their classmates to read in preparation for the class presentation. Each student is responsible for reading these materials prior to class and should draw on these resources during class discussion.

**Unit Assignments:**
Throughout the semester, students will be assigned skill-based activities to help expand their understanding of certain genetic disorders and begin to develop their genetic counseling toolbox. These assignments will include, for example, pedigrees, fact sheets, and counseling outlines. Directions for each assignment will be given separately.

**Grading:**

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<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>Grade</th>
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<tbody>
<tr>
<td>Clinical Observations</td>
<td>20</td>
<td>A</td>
</tr>
<tr>
<td>Service Learning</td>
<td>20</td>
<td>B+</td>
</tr>
<tr>
<td>Class Presentation</td>
<td>20</td>
<td>B</td>
</tr>
<tr>
<td>Unit Assignments</td>
<td>15</td>
<td>C+</td>
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<tr>
<td>First Year Reading</td>
<td>15</td>
<td>C</td>
</tr>
<tr>
<td>Class Participation</td>
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TIMELINE

8-27-08  

Course Overview and Assignments

Unit I – The Historical Perspectives/Future Directions

9-3-08  

Historical Perspectives – Exploration of the origins of genetic counseling and historical professional roles

Evolution of the Genetic Counseling Profession – Review of the changes in the genetic counseling profession and possible future directions

Future Directions for Genetic Counselors - Where will you be ten years from now…..or twenty?

Assigned Reading:
1) Baker: Chapter 1
2) Professional Literature on Reserve

Unit II – Introduction to Prenatal Genetic Counseling

9-10-08  

Pedigree Construction Workshop – Introduction to pedigree construction and taking the family history

Bennett: 1-3
Baker: 2
McCarthy Veach: 5

9-17-08  

The Prenatal Clinic – The role of the genetic counselor in the prenatal clinic, description of the patient referral process, and pedigree specifics

Prenatal Screening Tests – Explanation of first trimester screening, targeted ultrasound, and second trimester screening

9-24-08  

Prenatal Diagnostic Tests – CVS versus amniocentesis

Pregnancy Outcomes – Discussion of patient options including termination, adoption, and continuing the pregnancy

10-1-08  

Ancestry-Based Carrier Screening ** Ravin and Margaret

Practicing Prenatal Skills – Review of prenatal counseling outlines
Unit III – Introduction to Pediatric Genetic Counseling

10-8-08  The Pediatrics Clinic – The role of the genetic counselor in the pediatrics setting, explanation of the referral process, and pedigree specifics

Case Preparation – Practicing how to prepare for a case including identification of relevant resources

10-15-08  Developmental and Medical History – Understanding typical developmental and medical progression and learning the necessary questions to ask

Practicing Pediatric Skills – Review of pediatric counseling outlines

10-22-08  Physical Evaluation and Analysis – Interacting with medical geneticists and families and participating in the evaluation and counseling process

10-29-08  Newborn Screening **  Spencer and Stacy

Unit IV – Introduction to Adult Genetic Counseling

11-5-08  Adult Genetics Care – The role of the genetic counselor in adult genetics care and the complexities of the adult referral process

Huntington Disease – The discovery of the HD gene and the development of the counseling model for HD; Guest Ruth Abramson, Ph.D.

Field Trip: Tucker Center, Hall Psychiatric Institute

11-12-08  Hereditary Cancer Syndromes/Other Adult Onset Conditions – Introduction to cancer/adult genetic counseling and the role of the genetic counselor in medical management

11-19-08  Genetic Discrimination**  Alicia and Leigh

Practicing Adult Skills – Review of adult counseling outlines

11-26-08  Thanksgiving Break
Professional Issues in Genetic Counseling – Introduction to the major issues facing the genetic counseling profession

Licensure for Genetic Counselors** Sarah

Evolving Roles for Genetic Counselors – New roles for genetic counselors in the greater healthcare community
- Assisted Reproductive Technologies-Stacy
- Public Health-Ravin
- Research-Leigh
- Industry-Margaret
- Ph.D.-Alicia
- Direct to Consumer Service-Spencer

Portfolio Due

** These classes will be taught by students as part of the “Class Presentation” requirement.