George Mason University
Graduate Course Approval/Inventory Form

Please complete this form and attach a copy of the syllabus for new courses. Forward it as an email attachment to the Secretary of the Graduate Council. A printed copy of the form with signatures should be brought to the Graduate Council Meeting. Complete the Coordinator Form on page 2, if changes in this course will affect other units.

Please indicate:  ____ NEW  ____ MODIFY  ____ DELETE

Local Unit:  College of Nursing and Health Science

Graduate Council Approval

Date:

Course Abbreviation: NURS/HSCI

Course Number: 557

Full Course Title: Introduction to Clinical Genetics in Healthcare

Abbreviated Course Title (24 characters max.): Clinical Genetics in HC

Credit hours: 3 credits

Program of Record:

Repeatable for Credit?  ____ D=Yes, not within same term  Up to hours

____ T=Yes, within the same term  Up to  hours

____ N=Cannot be repeated for credit

Activity Code (please indicate):  ____ Lecture (LEC)  ____ Lab (LAB)  ____ Recitation (RCT)

____ Studio (STU)  ____ Internship (INT)  ____ Independent Study (IND)  ____ Seminar (SEM)

Catalog Credit Format  3 :0 :0

Course Level:  GF(500-600)  ____  GA(700+)  ____

Maximum Enrollment: 20

For NEW courses, first term to be offered: Fall, 2004

For MODIFIED or DELETED courses as appropriate:

Last term offered:  Previous Course Abbreviation:  Previous number:

Description of modification:

Catalog Description (35 words or less)  Please use catalog format and attach a copy of the syllabus for new courses.: Focuses on human clinical genetics including basic Mendel genetics, cytogenetics, molecular genetics, genetic diseases, genetic diagnosis, genetic testing, and screening. Discusses the central principles of genetics (DNA, RNA, Protein) and the impact of the Human Genome Project on healthcare practice in terms of the ethical and legal issues, including genetic testing and genetic counseling. The course emphasizes healthcare assessment and intervention with clients and families who are experiencing or at risk of experiencing a genetic disease.

APPROVAL SIGNATURES:

Submitted by:  ________________________________ email: ________________

Department/Program:  ________________________________ Date: ________________

College Committee:  ________________________________ Date: ________________

Graduate Council Representative:  ________________________________ Date: ________________
GEORGE MASON UNIVERSITY
Course Coordination Form

Approval from other units:

Please list those units outside of your own who may be affected by this new, modified, or deleted course. Each of these units must approve this change prior to its being submitted to the Graduate Council for approval.

<table>
<thead>
<tr>
<th>Unit:</th>
<th>Head of Unit’s Signature:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Graduate Council approval: ____________________________ Date: __________

Graduate Council representative: ____________________________ Date: __________

Provost Office representative: ____________________________ Date: __________
Course Number: NURS/HSCI 557 (3:3:0)

Course Title: Introduction to Clinical Genetics in Healthcare

Course Description: Focuses on human clinical genetics including basic Mendel genetics, cytogenetics, molecular genetics, genetic diseases, genetic diagnosis, genetic testing, and screening. Discusses the central principles of genetics (DNA, RNA, Protein) and the impact of the Human Genome Project on healthcare practice in terms of the ethical and legal implications, including genetic testing and genetic counseling. Emphasizes healthcare assessment and intervention with clients and families who are experiencing or at risk of experiencing a genetic disease.

Course Objectives:
1. Discuss the revolution (and evolution) of human genetics and its technology applications in healthcare.
2. Discuss Mendelian genetics in terms of gene structure and function.
3. Explore the genetic pathway of some of the most common inherited diseases (such as Down Syndrome, PKU, and Sickle Cell Anemia) using the cell structure and function.
4. Examine the genetic diseases classification based on DNA replication, transcription, and translation processes.
5. Discuss ethical and legal issues involved in the practice of clinical genetics.
6. Analyze the role of nursing and health care professionals in managing issues related to genetic testing and counseling.
7. Explore the relevant research literature on genetics related to counseling and its impact on healthcare practice.

Teaching Strategies:
Lecture, guest speakers, audiovisuals, group presentations, and case studies.

Course Content:
1. Introduction to the cell biology and basic genetic terms
2. Human genetics
   a. Human Genome Project
   b. Mendel Laws
   c. Family history and pedigree
   d. Classification of genetic diseases
3. Molecular genetics
   a. DNA replication, transcription, translation
   b. Genetic Technology and diagnosis
   c. Gene mutation
4. Cytogenetics
   a. Chromosome structure
   b. Genetic testing and screening
5. Ethical and Legal Issues
   a. Ethical principles in health care
6. Principles of Genetic Counseling
   a. Genetic counseling process
   b. Ethical dilemmas with counseling
   c. Implications in the workplace and insurance ramifications

**Required Texts:**


**Recommended Tests:**