Webster University BSN Program
NURS 4600 Section 30
Contemporary Issues in Genetics for Nurses
Preliminary Syllabus
Summer 2008

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Class: Monday, 5:30pm – 8:30pm

Course Description

This course is designed to provide an overview of issues relating genetics and genomics to nursing. The Internet will be used throughout the course to enhance learning and genetic knowledge. Assignments will be based on readings in the textbook and internet resources, with an emphasis on exploring the implications of genetic/genomic information on health care. Throughout the course students will be encouraged to explore the nurse's role in providing genetic health care.

Course Objectives:
Upon completion of this course, the student will be able to:

1. Describe the basic biological process of human heredity.
2. Discuss how information gained from the Human Genome Project is impacting health care delivery.
3. Create and interpret a three generation family pedigree.
4. Describe the ethical dilemmas present in various healthcare situations in regards to genetics/genomics.
5. Present in-depth information about one genetic disease and its impact on patients and families, and outline how you would assist them in gaining the knowledge and resources they need.
6. Debate the implications of future knowledge and use of genetics/genomics on the health and healthcare of patients and families.
7. Describe essential nursing competencies for genetics and genomics as outlined by ISONG.

Structure

- Two hour elective- No pre-requisites required.

Required texts

- Lea, K. H., Jenkins, J. F.,& Francomano, C. A. (1998). *Genetics in clinical practice: New directions for nursing and health care*. Boston: Jones and Bartlett .
  (This textbook is available "used" on book websites for less than $10. Although it was published several years ago, there is valuable information that has not changed and is easily enhanced with internet resources.)
  - The text has a web-site link:
  http://www.jbpub.com/clinical-genetics/

Class will not meet every week although completion of assignments via the internet outside of the classroom will be expected during those weeks. Attendance is expected for all classes that will meet and points will be deducted from the final grade for class time missed.

Grading Scale				
	95-100%	A	85-86%	B-
	93- 94%	A-	83-84%	C+
	91- 92%	B+	77-82%	C
	87- 90%	B	70-76%	D
			69 and below	F

Week 1 Introduction
History of human/medical genetics
Value of nursing education in genetics
Human Genome Project
Discussion: Risks/Benefits of HGP
Role of Nursing

Reading: Lea et al, Chapter 1 & 2 (visit the links)
http://www.ornl.gov/hgmis/resource/media.html#releases
National Human Genome Research Institute at the National Institutes of Health
http://www.ornl.gov/hgmis/project/timeline.html

http://www.isong.org/
Review the competencies suggested by ISONG
http://www.isong.org/resources/genetics_competencies_092206.pdf
(page 11-13 of the pdf file)

1) **Copy and complete the self-awareness activity in the preface of the Lea text and turn into me.**
2) **Discuss the significant changes that have occurred since the publication of the text in regards to the HGP**
3) **Answer Chapter 2 questions**

Week 2 Cell biology, Meiosis and mitosis, DNA & RNA replication, chromosomes, genes
Lea et al, p. 27-42.
Http://www.accessexcellence.org/AB/GG/
Http://www.pbs.org/wgbh/nova/miracle/divide.html# (This one is really neat!)
Http://www.thinkquest.org/library/lib/site_sum_outside.html?tname=20465&url=20465/peaexp.html
Glossary with case studies
http://www.genetests.org/servlet/access?qry=ALLTERMS&db=genestar&fcn=term&gtreport2=true&id=8888892&key=-wRZEjqvTNmN0
Also see the "Genetics Primer" and 'Genetic Testing" tabs at this site
http://pa.nchpeg.org/
Genetic variation/ mutations
Mendelian Inheritance
Lea et al. P. 42-70

1) **Write up answers to questions #3**
2) **Read; Chapter 2 in Huether and McCance and the notebook. Complete the practice exam in the notebook (pg. 9 &10) and turn into my mail box.**

Week 3

Chapter 4, 5 &6

Integration of genetics in practice, genetic testing, gene therapy
Genetic Counseling
Pre-symptomatic vs. Symptomatic

Complete the three components listed under Family History Exercises at this site – http://pa.nchpeg.org/ --After you finish the exercise – print the screen that reflects you did it.
Complete on-line Quiz (15 points)

Week 4

Chapter 7 - **Answer the questions at the end of the chapter**
Chapter 8- **Answer the questions at the end of the chapter**
Watch the Genetic Video and write a short reflection paper about each case that you see discussing the significant issues presented by the video

Week 5

Time Back for Genetic counseling visit
Write up for the genetic counseling feedback

Week 6

Chapter 9 – Ethics
Issues of insurability
Managing genetic information, Impact of genetic information on families
http://www.ornl.gov/sci/techresources/Human_Genome/elsi/elsi.shtml

Pick a topic under "**Societal Concerns Arising from the New Genetics**" and write about it's implications based on information from this site (refer to where on the site your retrieved the information)

Answer questions at the end for Chapter 9

Week 7

Presentation (30 points)
A Genetics Case Study

Week 8

Chapter 10 -Future of genetics

Watch GATTACA, and write a reflection paper on what you think the feasibility of this scenario occurring in the future and why