

<p>King Saud University Nursing College</p>		<p>جامعة الملك سعود كلية التمريض</p>
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Community and Mental Health Department

Code and No : NURS 410
Course Name : Human Genetics in Nursing Practice
Credit Hours : (Theory + Lab + Clinical) (3+0+0)
Pre-requisite : CLS 323
Co-requisite : None
Study Level : Level Seven

I. Course Description:

This course provides nursing students with basic information about the influences of genetics on human health and illness. Students will become competent practices in applying important tools for effective genetic nursing practices. Students will learn about basic genetic science/ molecular concepts, the ethical and social implications of genetic information, commonly used genetic tests, genetic history taking, and pedigree construction and will become experienced in the use of professional and client-based resources to support evidence based health care and life-long learning in applied human genetics.

II. COURSE OBJECTIVES:

Upon satisfactory completing the course the students will be able to:

1. Examine basic principles of human genetics.
2. Evaluate the various aspects of genetic testing and reporting.
3. Analyze the actual and potential impact of genetic conditions on client systems at various stages of development.
4. Examine the genetic components of selected conditions and the present and potential implications for nursing practice, education, and research.
5. Discuss the ethical, legal, and social questions, and tensions created by advances in genetic knowledge and technology.

III: Course Outline

Week	Inclusive Dates	Topics	No. of Hours
1	September 18-22, 2016	Unit 1: Basic Components and Purposes of Genetics <ul style="list-style-type: none"> - Main Components - Implication - Relationship to other Sciences - Human Genome Project 	3
		Activity #1	
2	September 25-29, 2016	Unit 2: Scientific Basis of Genetics 1. Basic Principles of Human Genetics <ul style="list-style-type: none"> - Cells - DNA <ul style="list-style-type: none"> . DNA Replication . Protein Synthesis . Mutation - Chromosomes and its Karyotype - Phases of Meiosis and Mitosis 2. Relationship between DNA, Chromosomes and genes	3
		Activity # 2	
3	October 2-6, 2016	Quiz 1	
4	October 9-13, 2016	Unit 3: Modes of Inheritance <ul style="list-style-type: none"> - Different Mode of Inheritance - Types of Inheritance - Presentation of Examples 	3
5	October 16-20, 2016	<ul style="list-style-type: none"> - Pedigree <ul style="list-style-type: none"> o Definition and purpose o Presentation of examples o Constructing a family pedigree o Interpreting a pedigree chart 	3
		Activity # 3	
6	October 23-27, 2016	Midterm 1 Examination	
7	October 30-November 3, 2016	Unit 4: Common Genetic Diseases and its Nursing Management <ul style="list-style-type: none"> - Integumentary System (Albinism, Ichthyosis Vulgaris) - Respiratory System (Cystic Fibrosis) - Cardiovascular System (Hypertrophic Cardiomyopathy) 	3
8	November 6-10, 2016	- Break	
9	November 13-	- Neurological System (Alzheimer's Disease)	3

	17, 2016	- Endocrine System (Nephrogenic Diabetes Insipidus)	
10	November 20-24, 2016	Quiz 2	
11	November 27-December 1, 2016	- Digestive System (Inflammatory Bowel Disease) - Lymphatic System (Autoimmune hepatitis) - Reproductive System (Breast CA) - Musculoskeletal System (Myotonic dystrophy)	3
12	December 4-8, 2016	Midterm 2 Examination	
13	December 11-15, 2016	Unit 5: Genetic Testing and Counseling - Definition of Genetic Testing - Types of Genetic Testing - Benefits, Risks, and Limitations - Genetic Counseling - Benefits of Counseling	3
14	December 18-22, 2016	Unit 6: Ethics, Genetics and Nursing Practice - Ethical Issues in Genetics and Genomics - Role of the Nurse in Genetics and Genomic Healthcare - Future Directions	3
		Activity # 4	
15	December 25-29, 2016	Revision	3
16	Jan 14, 2017	Final Examination (Unit 1-6)	

IV: Student's Requirements

Students are expected to comply the following requirements of this course:

1. Participates in the lecture discussion through individual sharing
2. Pass the quizzes and long term examination
3. Submits classroom requirements
4. Attendance

V: Teaching Strategies

- Participative Lecture Discussion
- Brainstorming
- Individual Sharing
- Presentation
- Assignments
- Individual Activity

VI: Methods of Evaluation

		Marks
1. Quizzes	Q1	5
	Q2	5
2. Midterm Examination	M1	20
	M2	20
3. Individual Presentation		5
4. Classroom Activity		5
Total		60%
5. Final Examination		40%
Total		100%

VII: References:

Books:

Michael Conner & Malcolm Ferguson-Smith (1997) *Essential in Medical Genetics*, 5th Edition, Blackwell Science Ltd.

Janice L. Hinkle and Kerry H. Cheever Brunner and Suddarth's Textbook of Medical-Surgical Nursing 13th Edition

Suzzane C. Smeltzer et.al Brunner and Suddarth's Textbook of Medical- Surgical Nursing 12 Edition

Internet:

- Genetic Program Overview <http://genetics.case.edu>
- HMS Department of Genetics <http://genetics.med.harvard.edu>
- Assessing Genetic Risk Implications for Health and Social Policy <http://www.nap.edu>
- What is a Trait <http://learn.genetics.utah.edu>
- <http://www.cdc.gov>
- Environmental Influences www.geneticseducation.nhs.uk
- <http://www.geneticseducation.nhs.uk/for-healthcare-educators/clinical-images>
- http://www.isong.org/ISONG_genetic_nurse.php
- <http://www.nursingtimes.net/clinical-subjects/genetics/understanding-the-role-of-genetics-and-genomics-in-health-2-implications-for-practice/5008736.fullarticle>
- <http://www.eeoc.gov/laws/types/genetic.cfm>
- <https://www.clinicalkey.com/nursing/#!/content/book/3-s2.0-B9780323091787000044>
- <http://www.netwellness.org/healthtopics/idbd/2.cfm>

