Prepared: Leslie Dafoe Approved: Bob Chapman

Course Code: Title	BIO131: INTRODUCTORY HUMAN GENETICS
Program Number: Name	3400: COLLAB BSCN
Department:	BSCN - NURSING
Semester/Term:	18W
Course Description:	This course is designed to introduce students to the fundamental concepts of genetics and to the application of those concepts to an understanding of human genetics. The role of both genes and the environment in the determination of human traits and diseases will be discussed. Emphasis will be placed on the development of analytical thinking and problem solving skills and will be facilitated by the discussion of human case studies.
Total Credits:	3
Hours/Week:	3
Total Hours:	42
Course Evaluation:	Passing Grade: 50%,
Evaluation Process and Grading System:	<table><tr><th>Evaluation Type</th><th>Evaluation Weight</th></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Term Assignment</td><td>20%</td></tr><tr><td>Term Test #1</td><td>25%</td></tr><tr><td>Term Test #2</td><td>25%</td></tr></table>
Books and Required Resources:	Human Genetics Concepts and Applications by Lewis, Ricki Publisher: McGraw Hill Education Edition: 11 ISBN: 978-0-07-352536-5
Course Outcomes and Learning Objectives:	**Course Outcome 1.** 1. Students will be familiar with the structure and function of DNA. 2. Students will understand how genetic information is passed from parents to offspring. 3. Students will understand how to construct and interpret human pedigree data.

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	4. Students will understand the various ways in which genes behave, and how they interact with one another and the environment to influence/determine human traits in both health and disease. 5. Students will know the various ways in which genetic testing is done and used to further knowledge of and treatment for genetic disease states in humans.Students will also understand the ethical considerations of these new technologies. 6. Students will comprehend the contributions that the research community and especially the human genome project is making towards expansion of knowledge about human genetics. **Learning Objectives 1.** 1. Be able to decribe the structure of DNA, and how this structure provides an explanation for the reliable reproduction, function and transmission of genetic information between cell and organism generations. 2. Be able to follow the fate of a particular allele through meiosis. Show the significance of Mendel`s two laws. 3. Construct a human pedigree chart, detailing inheritance patterns of human traits using the correct conventions for symbols and organization, for one or more traits. Be able to predict the risk of acquiring a particular trait/allele for future members of the family. 4. Be able to determine whether a trait is inherited through a dominant/recessive, co-dominant, or sex-linked inheritance pattern. Describe the outcomes of various forms of polyploidy/euploidy. Describe various multi-factorial traits, and be able to estimate the relative contributions/modifications made by both genes and the environment to these traits. Analyze data from pedigree and/or case study sources in order to ascertain, when possible, the inheritance patterns of human traits. 5. Geginning with a case study from the literature, suggest a particular testing technique to use in order to provide a family with the information required for an informed decision about treatment modalities to be used for their family member. Outline the various ethical concerns/considerations for various types of testing, and for how the results of this tessting is or can be shared. 6. Using information from scholarly sources, provide a brief summary of the current knowledge aabout a particular genetically-influenced or genetically-determined human trait.
Date:	Wednesday, August 30, 2017
	Please refer to the course outline addendum on the Learning Management System for further information.