

# Minnesota State University Moorhead

## **BIOL 406: DNA as Destiny: Genetics and Society**

### **A. COURSE DESCRIPTION**

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 09 - Ethical/Civic Resp

This course examines the various ethical, legal and social implications (ELSI) of genetic research and the applications of current and future applications of new genetic technologies. It is designed to provide students in any major, with the necessary background to make informed decisions about these issues in a socially and civically responsible manner. MnTC Goal 9.

### **B. COURSE EFFECTIVE DATES: 05/01/2008 - Present**

### **C. OUTLINE OF MAJOR CONTENT AREAS**

1. Human Genome Project
2. Genetic Determinism
3. Human-centered biology
4. Reproductive Technology
5. Genetics and Race in Humans
6. Genetics and the Gender Spectrum
7. Genome-based Forensics
8. Genetic Discrimination and Protections
9. Gene Ownership by Groups or Individuals
10. Commercialization of Genes
11. Genetically Modified Organisms
12. Reproductive Cloning
13. Therapeutic Cloning & Regenerative Medicine
14. Large Population Assessments & Pharmacogenomics
15. Gene Therapy
16. Behavioral Genetics
17. Epigenetics

#### **D. LEARNING OUTCOMES (General)**

1. Understand and articulate the various ethical, legal, and social issues surrounding the application of new genetic technologies, such as the Human Genome Project, in a non-technical but understandable manner.
2. Understand how the knowledge emerging from these new genetic technologies is being applied and regulated on both a national and global level.
3. Understand the impact that genetic knowledge may have (both currently and in the future) on our concepts of self, ethnic groups and race.
4. Think and write critically about different ELSI topics.
5. Respond to those whose beliefs differ from their own in a manner that is both informed and carefully considered.
6. Demonstrate perspective about how issues involving genetic technologies may have differing affects on various members of society.
7. Understand how genetic information is controlled in our society with respect to current public policy and where their input as citizens can play a role in future policy development, especially as related to race and ethnicity, genetic discrimination, ownership of genes and the use of DNA in the courtroom.
8. Demonstrate effective written communication through formal writing including stages of organization, drafting, and revision, as well as editing the work of others. Students will find, evaluate, and integrate information and ideas from diverse sources while providing appropriate citations of material.

#### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

Goal 09 - Ethical/Civic Resp

1. No Competencies Indicated

#### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

#### **G. SPECIAL INFORMATION**

None noted