

Human Function and Dysfunction

NSCI-1030 section L11

Lecture and Lab T, Wed, Thurs : 6-9 PM

Office hours: Wed 5PM-6PM, Room 305

**Instructor: Dr. Joan E. Roberts
Professor of Chemistry
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Designed to introduce the non-science major to basic and applied life sciences impacting human health. Topics to include: diseases associated with genetic, pathogenic, immunologic and neurologic dysfunction and current and future treatments of these disorders.

I. Genetics: Genetic Disease (including the basis of heredity and genetic disorders, evolution; genetic engineering and stem cells to modify these disorder, genetic testing)

II. Pathogenic Diseases : Disease induced by virus, bacteria, fungus and other pathogens)

III Immunology - Normal protection against infectious disease and cancer; Abnormal - allergies; autoimmune responses

IV. Current and Future Treatments of Disease

**Text: Instead of a text book the following websites will be used:
Selective readings of original research papers from**

PubMed (NIH medical data bank): <https://ncbi.nlm.nih.gov/pubmed>

**Medline for information about drugs and supplements.
<https://medlineplus.gov/druginformation.html>**

Laboratories:

- 1. Forensics DNA on June 6, 6 pm Room 826**
- 2. Bacteriology on June 13, 6 pm Room 826**

Assignments

- 1. Weekly Homework**
- 2. Be prepared to discuss the topics included in the newspapers and web sites above**

Grades: 2 written exams including the Final Exam

Scientific Literacy: 10% - 20 % of the questions on all exams will be from very recent science sources discussed in class. The ethical implications of all new and existing scientific discoveries will be examined.

Laboratory Work. In addition to completing the experiments in the laboratory section, the exams may contain questions concerning the laboratory experiments.

Classroom Etiquette:

You are to arrive on time for this class. If you arrive late because of an emergency, you are to quietly enter the classroom sit along the side by the door to insure that you do not disrupt other students attending the class. Once you are seated in class you are not to leave (unless there is a real medical emergency) until the break or the end of the class. You must turn off all cell phones, iPads, computers and recording devices on entering the classroom and keep them off until the end of class. You may not record or photograph any of this class.

Class Participation:

The class is taught using the Socratic Method (i.e. interactive) that is you will be continually asked to respond to questions either as an individual or as a group. Verbal response is part of *the requirements* of the course. The purpose of this method is to train you to think logically. After a few weeks, logical thinking will become automatic. It also serves to teach you to speak about science as well as write and critically think about science.

There are NO make-up exams

Attendance Policy:

You are required to attend all classes. Should you miss a class due to severe illness or emergency or a business meeting the following steps should be taken.

- 1. Get the phone number of one of your fellow students RIGHT NOW.**
- 2. Ask the student to give you their notes from the missed class**
- 3. Do all of the homework that was assigned during the missed class**
- 4. Listen to the answers for the assigned homework and listen to the review of previous material during the next class.**
- 5. As me to clarify the few remaining points you do not understand *after* you have completed the first 4 steps not before.**