BIOL 449

Term: FALL 2016

Course No. & Section: BIOL 449-01

Course Title: IMMUNOLOGY

Professor: DR. CHERYL HERTZ

Course Description:

Objectives:

- To introduce the student to the field of immunology
- To provide a comprehensive overview of the workings of the human immune system
- To examine the role of the immune system in health and disease

Content:

Aspects of innate immunity (physical barriers, recognition of pathogens, complement, phagocytic cells, antimicrobial peptides; structure and function of immune receptors (pattern recognition receptors, T-cell receptors, immunoglobulins); development and function of cells of the immune system (granulocytes, B & T lymphocytes, antigen presenting cells); effector mechanisms of acquired immune responses (T-cells and B-cells); interactions between immune cells involving cytokines and cell surface receptors; mechanisms of protective immunity and principles of vaccination; immune dysfunctions including HIV, autoimmune diseases and allergies; the role of the immune system in cancer therapies and organ transplantation.

Prerequisites/Recommended Background:

- Upper division standing in Biology or Biochemistry
- Courses completed: Organic Chemistry (both semesters) and BIOL 202 (Genetics)
- BIOL 361 (General Microbiology) is helpful

Required Texts/References:


Course Work/Expectations:

- Attendance at three weekly lectures
- Weekly quizzes & occasional homework assignments
- Three midterm exams
- Comprehensive Final Examination

Comments:

This course fulfills immunology requirements for students planning a career in Clinical Laboratory Science (Medical Technology), and is very useful for pre-medical and pre-dental students.