

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY MDL 215 - IMMUNOLOGY (2 CR.)

Course Description

Presents the physiological basis of humoral and cell mediated immunity, including the medical and clinical laboratory application of immunological principles. Lecture 2 hours per week.

General Course Purpose

To provide students with basic theory in immunology relating to clinical laboratory testing and disease processes. It also provides a foundation for the immunohematology (blood banking) course, which is one of the four major disciplines in clinical laboratory science.

Course Prerequisites/Corequisites

Students should be enrolled in the first year of the Medical Laboratory Technology AAS degree program.

Corequisite: MDL 101 with a minimum grade of "C" or program director approval.

Course Objectives

Upon completing the course, the student will be able to:

- Discuss the history of immunology, including the development of vaccines.
- Describe the cells involved in cellular and humoral immunity and contrast their roles.
- List the five types of immunoglobulins.
- Characterize host-parasite relationships in infectious disease.
- Discuss immunodeficiency and its effect on the immune system.
- List the five types of hypersensitivity reactions and give examples of each.
- Describe and interpret laboratory results for immunologic testing for hepatitis viruses
- Discuss the classical and alternative pathways of complement activation.
- Give examples of the application of the importance of the MHC system in tissue transplantation.
- Discuss the regulatory mechanisms of the immune system.

Major Topics to be Included

Characteristics of antigens
Structure and production of immunoglobulins
Macrophages
B and T lymphocytes
Immune response
Complement system
Immunity
Antigen-antibody reactions
Agglutination and Precipitation
Hypersensitivity reactions
Cell mediated immunity
Autoimmunity
Immunodeficiency
Transplant and tumor immunity