



Course Description

MLT1500 | Clinical Immunology/Serology | 2.00 credits

Theoretical concepts of the human immune system in health and disease. Relationships to immunohematology, infection, and serological procedures are analyzed. Pre/corequisite: BSC2085; prerequisite: BSC2086; corequisite: MLT1500L.

Course Competencies:

Competency 1: The student will demonstrate understanding of Immune Mechanisms by:

1. Comprehending the laboratory correlation of antigens, including superantigens and determinants
2. Comprehending the laboratory correlation of antigen presentation and histocompatibility
3. Comprehending the laboratory correlation of Immunoregulation and tolerance
4. Comprehending the laboratory correlation of Immunogenetics and molecular biology
5. Comprehending the laboratory correlation of Immunoglobulins (Ig)

Competency 2: The student will demonstrate knowledge of identification and principals involved with Immediate type hypersensitivity (IgE-mediated) reactions by:

1. Comprehending of IgG, IgA, IgM, and Fc receptor-mediated reactions, including antibody-dependent cellular cytotoxicity, immune complex, and opsonization
2. Identifying T and B cell ligand-receptor interactions, signal transduction, cell activation, and energy
3. Identifying Cytokines and chemokines, and their receptors
4. Identifying with examples delayed-type hypersensitivity and cell-mediated immunity and its
5. relationship to Innate immunity

Competency 3: The student will demonstrate knowledge of cells involved in immune responses, including differentiation, origin, reception, interactions and secretion by:

1. Applying knowledge of Lymphocytes
2. Recognizing T cells and receptors and B cells and receptors
3. Describing the role of other lymphocytes, including natural killer (NK), natural killer T cells (NKT), and innate lymphocyte cells
4. Explaining the role of Antigen-presenting cells, including monocytes, macrophages, and dendritic cells, Mast cells, Basophils, Eosinophils, Neutrophils, and platelets

Competency 4: The student will demonstrate knowledge of advances in the area of Immunology and its principles to make appropriate and effective on the job professional decisions by:

1. Exploring areas in Transplant immunology
2. Comprehending the newer principles involved in the Immunology of reproduction and pregnancy
3. Researching areas in Neonatal immunology

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Demonstrate knowledge of diverse cultures, including global and historical perspectives
- Use computer and emerging technologies effectively