

Minnesota State College Southeast

MEDL 1116: Immunology

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course provides an overview of the immune system, immunology concepts, autoimmunity and the immunodiagnosis of infectious diseases. Students will apply the principles of immunology to immunologic techniques utilized in the clinical laboratory. (Prerequisite: Must be a Medical Laboratory Technician accepted student) (3 credits: 2 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 01/04/2018 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Describe the basic immunological principles
2. Demonstrate comprehension of the technical and procedural aspects of immunological laboratory tests
3. Correlate immunological test results to disease processed
4. Describe molecular diagnostic assays used to aid in diagnosis and monitoring of disease
5. Perform procedures based on immunological principles
6. Utilize effective oral and written communication skills

D. LEARNING OUTCOMES (General)

1. Distinguish natural immunity from acquired immunity
2. Describe the type of white blood cells involved in immunity
3. Describe the process of inflammation
4. Differentiate between primary and secondary lymphoid organs
5. Apply the knowledge of T and B-cell function to immunologically based disease states
6. Describe and characterize the nature of immunogens/antigens and antibodies
7. Describe the nature of the complement components including conditions associated with complement deficiencies
8. Differentiate between the complement classical and the alternative pathways
9. Explain how an antibody titer is determined
10. Differentiate and characterize the various types of reactions used in immunological testing
11. Identify the key immunologic components involved in immediate and delayed hypersensitivity
12. Characterize the various autoimmune and immunodeficiency diseases and identify laboratory assays used to diagnose them
13. Compare and contrast the normal cell and the tumor cell
14. Identify serological techniques used to detect bacterial, parasitic, fungal, spirochete and viral infections
15. Review the structure of deoxyribonucleic acid (DNA) and ribonucleic acid (RNA)
16. Describe, compare and contrast nucleic acid probes, nucleic acid amplification techniques, strain typing methodologies and sequence techniques
17. Perform immunological testing
18. Adhere to and practice safety and regulatory requirements in the immunology laboratory
19. Participate in simulation laboratory experience

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted