

# Bemidji State University

## **BIOL 3580: Immunology**

### **A. COURSE DESCRIPTION**

Credits: 4

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

The study of disease fighting mechanisms of the body. Lecture and laboratory. Prerequisites: BIOL 2360 or BIOL 3380, and one year of chemistry.

### **B. COURSE EFFECTIVE DATES: 08/26/2013 - Present**

## **C. OUTLINE OF MAJOR CONTENT AREAS**

1. AIDA
2. Activation & Migration
3. Antigen/Antibody Applications
4. Antigens & Antibodies
5. B-Cell Development
6. Blood Smears, WBC Identification
7. Cancer & Immunology
8. Cells/Organs of the Immune System
9. Complement Activation
10. Conjugates
11. Cytokines
12. Cytotoxicity
13. ELISA Plates
14. Hypersensitivity
15. IL-2 Expression
16. Immunity & Infections
17. Immunoelectrophoresis
18. Immunoglobulin Genes
19. Innate Immunity
20. MHC
21. Neutrophil Activation
22. T-Cell Development
23. T-Cell Receptors
24. T-Cell Rosettes
25. Transplant Immunology
26. Vaccines
27. Western Blotting

## **D. LEARNING OUTCOMES (General)**

1. understand tissues/organs involved with the immune response.
2. identify points of intersection between the innate and adaptive immune systems.
3. gain an overall understanding of the cells of the innate and adaptive immune systems and their functions in the immune response.
4. learn mechanisms of diversity generation in B and T cells.
5. understand molecules and cellular signaling events that contribute to the immune response.
6. learn disorders of the immune system, pathogen evasion mechanisms, and techniques used to manipulate immune responses.
7. be exposed to several important lab techniques important for immunology research and clinical lab.

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

None

## **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted