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 
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