

**BMD 330 and 335: Human Physiology**  
**Chapter 23 Objectives**

**The Immune System**

1. Identify the lymphoid organs and briefly describe their functions.
  - a. Name the central lymphoid tissues and state their functions.
  - b. Describe the role of peripheral lymphoid tissues.
2. Describe nonspecific defense mechanisms.
  - a. Explain events that occur during inflammation and how each contributes to nonspecific defense.
  - b. Describe how the skin and mucous membranes, interferons, natural killer cells, and the complement system contribute to nonspecific defense.
3. Explain the basic features of specific defenses: specificity, diversity, memory, and self-tolerance.
4. Describe humoral immunity, or how B cells, through the production of antibodies, contribute to immune responses.
  - a. Describe the mechanism of actions of the different classes of antibodies.
5. Describe cell-mediated immunity, or how helper T cells and cytotoxic T cells contribute to immune responses.
  - a. Describe MHC molecules and explain their importance in T cell maturation, antigen presentation, and T cell activation.
  - b. Describe helper T cell activation.
  - c. Describe cytotoxic T cell activation.
6. Explain how immunization can lead to protection from infectious disease.
7. Discuss the major immunological issues regarding blood transfusion and organ transplantation.
8. Explain how immune dysfunction can result in allergy, autoimmunity, or immunodeficiency.