CLS 404 Immunology Unit Twelve
Allergy and Hypersensitivities

Objectives
Upon completing the assignments for this module, the student will be able to:

1. Define the following terms:
   a. Hypersensitivity
   b. Allergen
   c. Anaphylaxis
   d. Atopy (atopic)
   e. Allergy

2. Differentiate immediate hypersensitivity from delayed-type hypersensitivity.

3. Define the four types of hypersensitivity reactions.

4. Compare and contrast the four types of hypersensitivity reactions based on:
   a. Cells involved
   b. Antibodies implicated
   c. Chemical mediators
   d. Response time
   e. Mechanism of cell damage

5. Discuss the four types of hypersensitivity reactions based on:
   a. Cells involved
   b. Antibodies implicated
   c. Chemical mediators (including effects)
   d. Response time
   e. Mechanism of cell damage

6. Explain the mechanism that causes the hypersensitivity in the four types of hypersensitivity reactions.

7. Describe the typical clinical manifestations of the four types of hypersensitivity reactions.

8. List common allergens associated with type 1 hypersensitivity.

9. Summarize the immune basis for food allergies based on:
   a. Disorder
   b. Symptoms
   c. Common trigger(s)
   d. Mechanism

10. List three examples of type II hypersensitivity.
11. List examples diseases resulting from type III hypersensitivity.

12. List pathogens and contact antigens associated with type IV hypersensitivity.

13. Describe the granule release process of mast cells.

14. Discuss diagnostic testing performed to evaluate hypersensitivity.

15. Categorize the type of hypersensitivity reaction, when given the patient’s symptoms.

16. Propose treatment strategies for each type of hypersensitivity reaction.

17. Define chronic inflammation.

18. List the causes and consequences of chronic inflammation.

19. Explain the how infections can cause chronic inflammation.

20. Explain how obesity is associated chronic inflammation.

21. Discuss the consequences of chronic inflammation.

Assignments
1. Read Chapter 15, Kuby Immunology, 7th Ed.
2. Complete the optional UNGRADED self-assessment
3. Complete the GRADED Unit 12 quiz

OPTIONAL:
For additional information regarding hypersensitivity reactions, visit the following websites:

- Type I Hypersensitivity: http://www.youtube.com/watch?v=IGDXNHMcwVs
- Type II Hypersensitivity Animation: https://highered.mcgraw-hill.com/sites/0072495855/student_view0/chapter21/animation__cytotoxic__type_ii_hypersensitivity_.html
- Type III Hypersensitivity: http://faculty.ccbcmd.edu/courses/bio141/lecguide/unit5/hypersensitivity/type3/typeiii.html
- Type VI Hypersensitivity: http://highered.mcgraw-hill.com/sites/0072507470/student_view0/chapter22/animation__delayed__type_iv__hypersensitivity.html