

Learning Modules outline the tasks that should be completed to master the biology outcomes from each chapter or group of chapters. Some of the tasks are optional, but highly recommended. Mandatory tasks must be completed by the specified deadlines. Mandatory tasks will consist of a short on-line quiz over the reading, and a short on-line critical thinking question. Sometimes, there will also be group assignments that will be assigned during class.

Learning Module 5 - Cell Membrane Structure and Function

Learning Outcomes for Chapter 7.

1. Correlate the structure of the cell membrane to its many functions.
 - A. Describe the structure, behavior, and function of the phospholipid bilayer.
 - B. Describe the structure, behavior, and function of the different membrane-associated proteins.
2. Distinguish between passive transport and active transport.
3. Distinguish between diffusion and facilitated diffusion.
4. Describe how environmental changes can influence the rate of diffusion.
5. Explain the process of osmosis.
6. Compare the bulk movement of substances across a cell membrane through endocytosis or exocytosis.

Learning Tasks

- 1) Read Chapter 7 in your textbook and **complete the short quiz before class on Tuesday, October 7th**. The quiz is posted on the course's Blackboard site.
- 2) Review **FIG 7.9** and describe the different protein functions that can occur in a cellular membrane.
- 3) Review passive transport as illustrated in figs 7.11, 7.15, 7.17. How are these processes the same and different?
- 4) Review the process of active transport illustrated in figs 7.16, 7.17 and 7.19. How are these process similar and different.
- 5) After reading about cell structures go to your Mastering Biology page and complete the posted activities.
- 6) Define the following, important biological terms.
 - A. Phospholipid bilayer, selective permeability
 - B. Peripheral proteins, integral proteins
 - C. Concentration gradient, diffusion, facilitated diffusion, passive transport
 - D. Osmosis, Hypotonic solution, hypertonic solution, isotonic solution
 - E. Active transport
 - F. Endocytosis, exocytosis, phagocytosis, pinocytosis, receptor-mediated endocytosis
- 7) **Critical Thinking Question # 5** is due on Tuesday, Mar 3rd.