

**Anatomy & Physiology**  
**Cell Physiology Unit Objectives:**

1. Name the four elements that make up the bulk of living matter and list several trace elements.
2. Define cell, organelle, and inclusion.
3. Identify on a cell diagram the three major cell regions (nucleus, cytoplasm, and cell membrane).
4. List the structures of the nucleus and explain the function of chromatin and nucleoli.
5. Identify the organelles on a diagram. Describe each organelle and state its function.
6. Describe the structure of the cell (plasma) membrane.
7. Define and explain the role of each in controlling what can enter and leave a cell:

selective permeability	exocytosis
diffusion	endocytosis
simple diffusion	phagocytosis
facilitated diffusion	bulk-phase endocytosis
osmosis	hypertonic
active transport	hypotonic
passive transport	isotonic.
solute pumping	
8. Describe briefly the process of DNA replication.
9. Define mitosis and describe briefly the process of cell division.
10. Describe the process of protein synthesis. Be sure to state the location and function of the nucleic acids and enzymes involved.
11. Name some cell types and relate their overall shape and internal function to their special functions.
12. Name the four major tissue types. Explain how they differ structurally and functionally.
13. Give the chief locations of the various tissue types in the body.
14. Describe the process of tissue repair (wound healing).
15. Describe the process of cell respiration
16. Describe the process of fermentation.

**Reading:** Chapter 3

**Unit Schedule**

Day	Topic	Homework
1	Go over exam	Objectives 1-4
2	Cell pre-test	Obj 5
3	Cell structures and organelle functions	Obj 6-7
4	Membrane transport	Obj 8-9
5	DNA replication and cell division	Obj 8-10
6	Protein synthesis	Obj 11-13
7	Cell types and tissues	Obj 14
8	Tissues continued	Obj 15-16
9	Respiration and fermentation	Chapter 3 review questions
10	Microscopy lab	Study
11	Review	Study
12	Exam	TBA