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## **Human Biology Study Guide - Exam I**

*BIOLOGY OF HUMANS*, fifth edition  
Goodenough and McGuire

### **Chapter 1 – Learning Objectives**

- What are the features of living things?
- How is life organized?
- What is science?
- What are the steps of the scientific process?
- What is a hypothesis?

**Pay special attention to Figures 1,3, 4, 5**

### **Chapter 2 – Learning Objectives**

- What is an atom? What is an element?
- What are the features of the three subatomic particles?
- What is a charged atom? How does it become charged?
- What is a chemical bond? What is a covalent bond?
- What are the four classes of molecules associated with living things?
- What is the function of each of these molecules?
- How are molecular subunits joined together to form larger molecules?

**Pay special attention to Figures 1, 2, 8, 9, 15, 16, 17, 19, 23, 29; Tables 1, 2**

### **Chapter 3 – Learning Objectives**

- What is the cell theory?
- Why are cells so small?
- What are the basic features of cells?
- Why do cells have organelles?
- What is the purpose of the nucleus?
- What is the difference between cytosol and cytoplasm?
- What are the components of the plasma membrane? What is the function of each of these components?
- What is the central metabolic reaction in a cell? Why do cells perform this reaction?
- What is ATP? What is ADP? How are these two molecules related?
- Where in the cell is most of the ATP produced?
- What are enzymes? What are they made of? What are their features? Why are they important?

**Pay special attention to Figures 2, 3, 6, 9, 26**

#### **Chapter 4 – Learning Objectives**

- What is a tissue? What is an organ? What is an organ system?
- What are the four tissue types? Where are they found in the body?
- What are the basic features of epithelial tissue?
- What are examples of epithelial tissue (those discussed in class)?
- What are the basic features of connective tissue?
- What are examples of connective tissue (those discussed in class)?
- What are the basic features of muscular tissue?
- What are examples of muscular tissue (those discussed in class)?
- What are the basic features of nervous tissue?
- What is the structure and function of the skin?
- What is homeostasis?

**Pay special attention to Figures 1, 2, 3, 4, 7, 8; Tables 1, 2, 3**