

BMD 330 and 334: Human Physiology
Chapter 2 Objectives

The Cell: Structure and Function

1. Describe the four classes of organic molecules critical in physiology (carbohydrates, proteins, lipids, and nucleic acids).
 - a. Structure
 - b. Properties in water
 - c. General functions in body
2. Describe the structure and major functions of each of the following cellular components: plasma membrane, nucleus, ribosomes, rough endoplasmic reticulum, smooth endoplasmic reticulum, Golgi apparatus, mitochondria, lysosomes, peroxisomes, and cytoskeleton.
3. Define transcription and translation, and describe the role of each of the following in protein synthesis: DNA, genes, codons, genetic code, messenger RNA, transfer RNA, ribosomes, anticodons, and rough endoplasmic reticulum.
4. Explain how genetic information is stored in DNA, and how this information is passed on to other cells during mitosis.
5. Describe what happens to proteins following their synthesis, taking into account the different fates of membrane proteins, secreted proteins, and cytoplasmic proteins.
6. Describe the different phases of cell division.