

Review Sheet for Anatomy & Physiology (Bio 160 Exam 1)

Chapters 1 - 5

Chapter 1 – An Introduction to the Human Body

Define Anatomy & Physiology and be familiar with their subdivisions

Know the structural organization of the human body (chemical organism)

Know the principle systems of the human body – this includes being familiar with the organs within the systems, and functions pertaining to maintaining homeostasis

Know the characteristics of life

Understand homeostasis, the different ways to maintain homeostasis and the effects of stress on maintaining homeostasis

Be familiar with standard anatomical position, anatomical terms (regional & directional), planes and sections, regions, and quadrants

Know what defines a body cavity, the general names for the two membranes and the two main body cavity divisions and their subdivisions

The Chemical level of Organization

Know the basic structural make-up of an atom

Know how to determine an atom's number of electrons in its outer shell (and its corresponding reactivity level)

Know the types of bonding, allowing atoms to form molecules & compounds

Be familiar with the term metabolism and the two types of general metabolic reactions that make up metabolism

Understand the difference between organic and inorganic compounds

Understand the differences between polar and non-polar molecules (and their importance).

Chapter 3 – The Cellular Level of Organization

Know the basic components of the cell

Be able to discuss in detail each component as to its structure(s) and function(s) and determine how each participates in maintaining the homeostatic state of the cell

Know the steps involved in protein synthesis (transcription & translation is not sufficient)

Know the cell cycle stages (G₁, G₂, S, M)

Be familiar with the stages of Mitosis and the processes in each.

Be able to compare and contrast Mitosis and Meiosis and know what each is used for.

Chapter 4 – The Tissue Level of Organization

Understand that cells must be attached to form tissues

Know the different means by which cells are able to attach to each other and the basement membrane, also know the uses for these different attachments

Know the four tissue types and be able to explain the differences not only between them, but also know the differences within the same category (i.e. – know the difference in structure and function of simple squamous vs. simple cuboidal, or areolar vs. dense regular connective tissue)

Be familiar with the different membranes (and locations) in the body

Understand how inflammation aids in tissue regeneration and repair (allows for homeostasis to be maintained)

This is just a basic guideline (not all inclusive) to get you pointed in the right direction, exams will be mainly from lecture notes, but may also include material from the text.