

The Human Body and Healthy Aging Part 1

Fall 2019

Eileen Augente, RN. NP, MA, MS Retired

eileenaugente@AOL.com

This class will study the anatomy and physiology of the healthy adult body and the typical changes in cells, organs and systems that accompany healthy aging. There are 11 organ systems, those that are not studied during the fall will be studied in part 2 of this class in the spring semester.

Handouts will be used as a guide to weekly content. Lecture, class discussion and youtube videos will be utilized during presentation of the material. Questions are always welcome.

Topics for this semester:

9/17- Introduction to the course. Levels of organization - chemical, cellular, tissue, organ, system and organism.

9/24- Fluid compartments and fluid movement in the body - cell membrane. Diffusion, osmosis, filtration, facilitated diffusion, ATP, pumps. Isotonic, hypertonic and hypotonic solutions. Homeostasis

10/1- Cell structure: Organelles - ribosomes, mitochondria, endoplasmic reticulum Golgi apparatus, vacuoles, lysosome, peroxisomes, microfilaments and microtubules. The nucleus, nucleolus, RNA, DNA. Cell aging

10/8 - Nervous system: brain, spinal cord, autonomic nervous system,

10/15 - Peripheral nervous system, central nervous system, sensory

10/22- Nervous system. Effects of aging on nervous system.

10/29- Cardiovascular system: Heart structure and function, cardiac

11/5- Conduction, and ECG, blood vessels and circulation, maintenance of blood pressure, blood components, lymphatic system. Aging.

11/12 -Respiratory system: Upper tract – nose, nasal cavity, oral

11/19- Cavity, pharynx, Lower tract- thorax, larynx, trachea, lungs, bronchi, alveoli, muscles of respiration, pulmonary ventilation, transportation of gases, cellular respiration, homeostatic control medulla, pneumotaxic center, vagus nerve. Effects of aging.