Norwood Public Schools

College Anatomy and Physiology Curriculum Overview

Description **(including primary objectives and outcomes):**

The Anatomy and Physiology course is designed for the student with a continuing interest in biological systems. The course is offered to eleventh and twelfth grade students. There is an emphasis on the study of the human body's structure and function. Laboratory experience is provided and includes the study of each of the body systems. Dissection is used as a scientific method to investigate anatomical structures

Learning Experiences:

- Students work collaboratively to complete laboratory experiments: Dissections (Rat, Sheep Brain, Sheep Eyeball, Sheep Heart, Sheep Kidney), Classification of Tissues; Human Reflex Physiology; Blood Pressure and Pulse Determination, etc.

- Students analyze and interpret results of scientific investigations using Microsoft Excel and Vernier Probeware

- Students write informative content specific essays on a variety of topics using appropriate vocabulary: Bone remodeling and Fracture Repair, Burns, Long Bone Anatomy, Reflex Arcs, Chemical Classification of Hormones, Circulation of Blood Throughout the Body , etc.

- Students independently read and interpret scientific text.

- Students complete packets from the Anatomy and Physiology Workbook.

Content Outline:

Term 1:
The Human Body: An Orientation: An Overview of Anatomy and Physiology, The Language of Anatomy
Cells and Tissues: Epithelial Tissue, Connective Tissue, Muscle Tissue, Nervous Tissue
Skin and Body Membranes: Classification of Membranes, Integumentary System
The Skeletal System: Bones, Axial Skeleton, Appendicular Skeleton, Joints

Term 2:
The Muscular System: Muscle Types and Functions, Movements, Microscopic Anatomy, Gross Anatomy
The Nervous System: Organization, Central Nervous System, Peripheral Nervous System
Special Senses: Eye and Vision, Ear, Hearing and Balance, Chemical Senses

Term 3:
The Endocrine System: Overview, Major Endocrine Organs, Other Hormone Producing Tissues
Blood: Composition and Function, Hemostasis, Blood Groups and Transfusions
The Cardiovascular System: Heart, Blood Vessels, Physiology of Circulation
The Respiratory System: Functional Anatomy, Respiratory Physiology

Term 4:
The Digestive System and Body Metabolism: Anatomy, Functions, Nutrition and Metabolism
The Urinary System: Kidneys; Ureters, Urinary Bladder, Urethras; Fluid, Electrolyte, and Acid-Base Balance
The Reproductive System: Anatomy of the Male Reproductive System, Male Reproductive Functions, Anatomy of the Female Reproductive System, Female Reproductive Functions and Cycles, Pregnancy and Embryonic Development

Resources Used:

- Text: Essentials of Human Anatomy/ Elaine N. Marieb. – 7th Edition 2003
- Laboratory Manual: Essentials of Human Anatomy/ Elaine N. Marieb. – 2nd Edition 2002
- Anatomy and Physiology Coloring Workbook: A Complete Study Guide/Elaine N. Marieb – 7th Edition 2003
- Human Physiology with Vernier; Diana Gordon, Stephen L. Gordon M.D.; Vernier Software & Technology; 2008

As of 3/16/2012