General Syllabus for Survey of Anatomy and Physiology - Conneaut School District

Text Information: Introduction to the Human Body by Tortora & Grabowski 7th edition

Online Text Book:

Course Description:

This is a project- and laboratory-based course where you will be allowed to generate knowledge about anatomy and physiology with your peers.

- **Your teacher will be a guide for the journey, a facilitator, an events planner, and occasionally a source of information.**
- **Other sources of information will be the textbook, the coloring book, charts and diagrams, videos, and many internet sources selected by the guide and by yourself.**
- **The anatomy/physiology guide (aka teacher) will provide you some of the ways and means of acquiring knowledge about the human body but you will also actively construct and generate your own knowledge by interaction with each other, written text (books, magazines, newspapers, pamphlets, internet "stuff"), graphs and data charts, numbers, drawings yours and those of others), pictures and movies, sound, microscopes, test tubes, stethoscopes, blood pressure monitors, computers, specimens (aka body parts),**

Objectives:

- **Students will develop an understanding of each of the body systems.**
- **Students will be able to identify all major organs and their functions**
- **Students will be able to relate one system to another in terms of both anatomy and physiology.**

Topics Covered:

Chapter One: Organization of the Human Body (7 days @ 45 min./day)

1. **Anatomy and Physiology Defined**
2. **Body Systems**
3. **Homeostasis**
4. **Body Cavities/Anatomical Terms**

S11.A.1.3, S11.B.1.1

Chapter Two: Introductory Chemistry (3 days)

1. **Introduction**
2. **Chemical Compounds and Life Processes**

S11.A.3.2, S11.B.1.1.1

Chapter Three: Cells (4 days)

1. **Generalized View**
2. **Plasma Membrane**
3. **Cell Structure**
4. **Somatic Cell Division**

S11.A.1.1.5, S11.B.1.1.1, S11.B.1.1.3

Chapter Four: Tissues (4 days)

1. **Types of Tissues**
2. **Membranes**
3. **Tissue Repair/Aging**

S11.B.1.2.1, S11.B.1.1.1

Chapter Five: The Integumentary System (2 days)

1. **Skin**
2. **Skin Accessory Structure**

S11.B.1.1, S11.B.1.1.2

Chapter Six: The Skeletal System (12 days)

1. **Bone Type and Function**
2. **Bone Structure and Formation**
3. **Divisions of the Skeletal System**
4. **Skeletal Aging**

S11.A.2.1.5, S11.B.1.1.1, S11.B.1.1.3

Chapter Seven: Joints (3 days)

1. **Types of Joints**
2. **Joint Movement**
3. **Aging and Joints**

S11.B.1.1.1

Chapter Eight: The Muscular System 12 days)

1. **Overview**
2. **Skeletal Muscle Tissue Structure and Function**
3. **Muscle Tension**
4. **Cardiac and Smooth Muscle Tissue**
5. **Skeletal Muscles Structure and Function**

S11.A.3.2.2, S11.B.1.1.1, S11.B.1.1.3

Chapter Nine: Nervous Tissue (5 days)

1. **Overview and Histology**
2. **Action Potential and Synapses**

S11.A.3.2, S11.B.1.1.3

Chapter Ten: Central Nervous System, Spinal Nerves, and Cranial Nerves (7 days)

1. **Spinal Cord**
2. **Spinal Nerves**
3. **Brain**
4. **Aging and the Nervous System**

S11.A.3.1, S11.A.2.2.2, S11.B.1.1.1, S11.B.1.1.3

Chapter Eleven: Autonomic Nervous System (2 days)

1. **Structure**
2. **Functions**

S11.B.1.1.3

Chapter Twelve: Somatic Senses and Special Senses (5 days)

1. **Overview**
2. **Somatic Senses**
3. **Special Senses**

S11.A.3.1, S11.A.2.1.5

Chapter Thirteen: The Endocrine System (11 days)

1. **Hormone Action**
2. **Glands Structure and Function**
3. **Ovaries and Testes**
4. **Other Hormones**
5. **Stress and Aging**

S11.A.1.1.3, S11.A.1.1.4, S11.B.1.1.1

Chapter Fourteen: The Cardiovascular System: Blood (12 days)

1. **Blood Components**
2. **Homeostasis**
3. **Blood Groups and Types**

S11.A.1.1.3, S11.A.2.2.2, S11.B.1.1.3

<u>Chapter Fifteen</u>: The Cardiovascular System: Heart (15 days)

1. **Heart Structure and Organization**
2. **Blood Structure and Function**
3. **Cardiac Cycle and Output**

S11.A.1.1.4, S11.A.2.2.1, S11.B.1.1.1, S11.B.1.1.3

<u>Chapter Sixteen</u>: The Cardiovascular System: Vessels and Circulation (12 days)

1. **Blood Vessel Structure and Function**
2. **Blood Flow and Circulation**

S11.A.1.1.3, S11.B.1.1.1, S11.B.1.1.3

<u>Chapter Seventeen</u>: The Lymphatic System and Immunity (7 days)

1. **Lymphatic System**
2. **Immunities**

S11.A.2.1.5, S11.B.1.1.1

<u>Chapter Eighteen</u>: The Respiratory System (11 days)

1. **Respiratory Organs**
2. **Pulmonary**
3. **Exchange and Transport of Gases**
4. **Respiration Control**
5. **Aging and Respiration**

S11.A.2.1.3, S11.B.1.1.1 S11.B.1.1.3

<u>Chapter Nineteen</u>: The Digestive System (11 days)

1. **Overview**
2. **Digestive System Structure**
3. **Digestive System Function**
4. **Phases of Digestion**

S11.A.2.1.3, S11.B.1.1.1, S11.B.1.1.3

<u>Chapter Twenty</u>: Nutrition and Metabolism (9 days)

1. **Nutrients**
2. **Metabolism**
3. **Metabolism and Body Temperature**

S11.A.1.1.3, S11.A.1.3.1, S11.A.2.2.1, S11.A.3.1.3

Chapter Twenty One: The Urinary System (9 days)

1. **Overview**
2. **Kidney Structure**
3. **Nephron Function**
4. **Transport, Storage, and Elimination**
5. **Aging and the Urinary System**

S11.A.2.1.3, S11.B.1.1.1, S11.B.1.1.3

Chapter Twenty Two: Fluid, Electrolyte, and Acid-Base Balance (4 days)

1. **Fluid Compartment and Balance**
2. **Electrolytes in Fluids**
3. **Acid-Base Balance**

S11.A.1.1.3, S11.A.1.3.1

Chapter Twenty Three: The Reproductive System (11 days)

1. **Male**
2. **Female**
3. **Female Reproductive Cycle and Birth Control**
4. **Aging and the Reproductive Cycle**

S11.A.2.1.3, S11.B.1.1.1, S11.B.1.1.3

Chapter Twenty Four: Development and Inheritance (10 days)

1. **Embryonic and Fetal Period**
2. **Maternal Changes, Pregnancy, and Labor Features**
3. **Genetics and Inheritance**

S11.A.1.1.3, S11.A.1.1.4, S11.A.2.2.2

Instruction:

- **Lecture**
- **Power point presentations**
- **Streaming Media**
- **Demonstrations**
- **Student inquiry labs/Guided labs**
- **Videos**
- **CD-ROM instruction**
- **Cooperative learning**

Assessment:

- **Success Tracker (online testing and remediation)**
- **Projects/independent research (power point presentation, research paper)**
- **Teacher observation**
- **Tests**
- **Quizzes**
- **Lab activities with writing component**

Parent/Student Resources:

- **Online Textbook with audio capabilities**
- **Success Tracker (online assessment tool)**
- **Online Leveled Readers**
- **Edline**