Human Anatomy and Physiology Course Outline

Course Description:

This course provides a detailed study of the human body's structure and function. It introduces students to the organization of the body, the major organ systems, and their physiological processes that maintain homeostasis. The course emphasizes the interrelationship between systems and their roles in sustaining life.

Learning Outcomes:

By the end of this course, students should be able to:

1. Describe the structural organization of the human body.
2. Identify the major organs and their functions in each body system.
3. Explain the physiological mechanisms that regulate body functions.
4. Understand how different systems interact to maintain homeostasis.
5. Apply anatomical and physiological knowledge to real-life health and disease situations.

Module Breakdown

Module 1: Introduction to Human Anatomy and Physiology

Lessons:

1. **Introduction** – Overview of anatomy and physiology, levels of organization, and basic terminology.
2. **Organization of the Human Body** – Structural levels, body cavities, planes, and anatomical positions.
3. **Components and Functions of the Human Body** – Major components and how body systems work together.

Module 2: Support and Movement Systems

Lessons:

4. **The Integumentary System** – Structure and functions of the skin, hair, and nails; skin disorders.
5. **The Skeletal System** – Functions, bone classification, and structure of the human skeleton.
6. **The Appendicular Skeleton** – Bones of the limbs and girdles and their roles in movement.
7. **The Muscular System** – Types of muscles, their anatomy, and mechanisms of muscle contraction.

Module 3: Control and Coordination Systems

Lessons:

8. **The Nervous System** – Structure and functions of the central and peripheral nervous systems.
9. **Special Senses** – Vision, hearing, taste, smell, and touch mechanisms.
10. **The Endocrine System** – Hormones, endocrine glands, and their role in body regulation.

Module 4: Circulatory and Defense Systems

Lessons:

11. **The Cardiovascular System (Part 1)** – Structure of the heart and cardiac cycle.
12. **The Cardiovascular System (Part 2)** – Blood vessels and circulation pathways.
13. **The Cardiovascular System (Part 3)** – Composition and functions of blood.
14. **The Lymphatic System** – Lymph, lymph nodes, and the immune response.

Module 5: Energy and Exchange Systems

Lessons:

15. **The Respiratory System** – Structure, breathing mechanism, and gas exchange process.
16. **The Digestive System** – Anatomy and functions of digestive organs.
17. **Absorption** – Nutrient absorption and transport in the body.
18. **Nutrition and Metabolism** – Nutrient functions, metabolism, and energy balance.

Module 6: Reproductive Systems

Lessons:

19. **The Male Reproductive System** – Structure, functions, and role in reproduction.
20. **The Female Reproductive System** – Anatomy, menstrual cycle, fertilization, and pregnancy overview.