Alabama CTE

Human Body Structures and Functions: High School

Foundational Standards	1	**Incorporate safety procedures in handling, operating, and maintaining tools and machinery; handling materials; utilizing personal protective equipment; maintaining a safe work area; and handling hazardous materials and forces.** F.1
	2	**Demonstrate effective workplace and employability skills, including communication, awareness of diversity, positive work ethic, problem-solving, time management, and teamwork.** F.2
	3	**Explore the range of careers available in the field and investigate their educational requirements and demonstrate job-seeking skills including resume-writing and interviewing.** F.3
	4	**Advocate and practice safe, legal, responsible, and ethical use of information and technology tools specific to the industry pathway.** F.4
	5	**Participate in a Career and Technical Student Organization (CTSO) to increase knowledge and skills and to enhance leadership and teamwork.** F.
	6	**Demonstrate effective infection control techniques as defined by the Centers for Disease Control and Prevention (CDC) and The Joint Commission guidelines.** F.6
Body Planes and Directional Terms	1	**Model and describe positions of the human body, using directional terms.** 1
	2	**Identify body planes, body cavities, quadrants, and abdominopelvic regions of the human body, using correct medical terminology.** 2
Cells and Body Tissues	3	**Identify the four principal types of tissues (epithelial, connective, muscle, and nervous) and describe their characteristics, functions, and locations.** 3
	4	**Describe and differentiate among the structures, functions, and organization of cells and tissues in the human body.** 4
Integumentary System	5	**Identify and describe structures and functions of the integumentary system, including accessory organs, using correct medical terminology.** 5
		Describe diseases and disorders of the integumentary system and the associated pathophysiological changes that lead to them, using medical terminology. 5.A

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Skeletal System	**6 Identify the axial and appendicular subdivisions of the skeletal system and explain their functions.** 6 a Classify joints as ball-and-socket, hinge, pivot, ellipsoidal, condyloid, or gliding according to their structure and movement. 6.A b Identify the four main bone types and explain where they are found. 6.B c Describe various skeletal system disorders and the associated pathophysiological changes that lead to them, using medical terminology. 6.C
Muscular System	**7 Identify structures of the muscular system, including major muscles, origins, and insertions, and explain the functions of the muscular system, including types of body movements.** 7 a Compare the cellular structures of skeletal, smooth, and cardiac muscles. 7.A b Classify muscles as prime movers, antagonists, synergists, or fixators, based on their functions in the body. 7.B
	8 Describe the steps of the sliding filament theory of muscle contraction and pathophysiological changes that lead to muscular disease. 8
Nervous System	**9 Identify structures of the nervous system and explain their functions.** 9 a Compare and contrast the functions of the peripheral and central nervous systems. 9.A b Explain the functions of the sensory organs, including the eye, ear, tongue, and skin receptors. 9.B c Describe diseases and disorders of the nervous system and the associated pathophysiological changes that lead to disease. 9.C
Cardiovascular System	**10 Identify and describe structures of the cardiovascular system and trace the flow of blood through the body.** 10 a Describe blood cell formation, identify components of the blood, and distinguish among human blood groups. 10.A b Describe common cardiovascular diseases and disorders and the associated pathophysiological changes that lead to disease. 10.B
Digestive System	**11 Identify and describe the structures of the digestive system and explain their functions.** 11 a Explain the role of nutrition in maintaining homeostasis in the body. 11.A b Describe disorders affecting the digestive system and the associated pathophysiological changes that lead to disease. 11.B
Re	**Identify and describe the structures of the respiratory system and explain their functions.** 12

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a Identify common disorders of the respiratory system and the associated pathophysiological changes that lead to disease. 12.A

Reproductive System

13 Describe structures and functions of the male and female reproductive systems. 13

a Describe disorders of the reproductive system and the associated pathophysiological changes that lead to disease or affect fertility. 13.A

Urinary System

14 Identify and describe the structures of the urinary system and explain their functions, including the filtration of blood, the production of urinary filtrate, and the path of elimination of urine. 14

a Describe diseases and the disorders of the urinary system and the associated pathophysiological changes that lead to disease. 14.A

Endocrine System

15 Identify endocrine glands and explain their functions, including the effects of hormones on the body. 15

a Identify common disorders of the endocrine system and the associated pathophysiological changes that lead to disease. 15.A

Immune and Lymphatic Systems

16 Identify and describe the structures and functions of the immune and lymphatic systems, including the first, second, and third lines of defense against infection, and trace the response of the immune system when a pathogen enters the body. 16

a Compare and contrast active and passive immunity and explain their relationship to vaccination. 16.A

b Describe disorders and diseases of the immune system and the associated pathophysiological changes that lead to disease. 16.B