

## Pacing Guide for 9th Curriculum

Course Title: Anatomy & Physiology

Length of Course: 36 weeks

Week Number	Chapter	COS	Objectives	Strategies / Materials Needed
<i>Week 1</i>	Introduction to Class & Lab Safety	<p><b><i>Biology COS Objective 1</i></b></p> <p>Select appropriate laboratory glassware, balances, time measuring equipment, and optical instruments to conduct an experiment.</p> <p>Identifying safe laboratory procedures when handling chemicals and using Bunsen burners, and laboratory glassware.</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. Select appropriate glassware, balances, time measuring equipment, and optical instruments to conduct an experiment.</li> </ol>	<ol style="list-style-type: none"> <li>1. Go over syllabus class rules, and procedures</li> <li>2. Review lab safety rules, symbols and equipment.</li> </ol>
<i>Week 2</i>	Ch. 1: Introduction to Anatomy & Physiology	<p><b><i>Anatomy &amp; Physiology COS Objectives 1 &amp; 2</i></b></p> <p>Use appropriate anatomical terminology.</p> <p>Examples: proximal, superficial, medial, supine, superior, inferior, anterior, posterior</p> <p>Identify anatomical body planes, body cavities, and abdominopelvic regions of the human body.</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. Define the terms anatomy and physiology, and explain their relationship, using an example of a human structure with its corresponding function.</li> <li>2. Name the 10 characteristics that distinguish living from non-living things.</li> <li>3. List the five major requirements of life and why each is needed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture/PowerPoint</li> <li>2. Chapter Review Questions</li> <li>3. Human Body Corporation Project</li> </ol>

			<ol style="list-style-type: none"><li><b>4. Define the term homeostasis, and explain how a homeostatic mechanism is regulated (i.e. negative feedback) by using an example we discussed in class.</b></li><li><b>5. Differentiate between negative feedback control and positive feedback control.</b></li><li><b>6. List, in order from least to most complex, the levels of structural organization, discuss the relationship between the levels, and name an example at each level.</b></li><li><b>7. Designate the five major human body cavities and name major organs located within each on a human diagram. Distinguish which belongs to the dorsal cavity and which to the ventral cavity.</b></li><li><b>8. Distinguish between visceral and parietal serous membranes, differentiate between pericardium, pleura, and peritoneum, and explain the function of serous fluid.</b></li><li><b>9. List the 11 organ systems of the human organism, name the major organs within each, and give general functions for each system.</b></li></ol>	
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			<p><b>10. Demonstrate what is meant by "anatomical position".</b></p> <p><b>11. Define various directional terms (i.e. superior, inferior, etc.), and compare different body parts using these terms (i.e. the elbow is proximal to the wrist).</b></p> <p><b>12. Name the major body sections (planes, cuts), and describe how each would be accomplished.</b></p> <p><b>13. Describe the nine regions of the abdominopelvic cavity and the four quadrants of the abdominopelvic cavity and list the major organs found within each.</b></p> <p><b>14. Master the new terminology covered in this chapter.</b></p>	
<b>Week 3</b>	<b>Ch. 1: Introduction to Anatomy &amp; Physiology</b>	<p><b><i>Anatomy &amp; Physiology COS Objectives 1 &amp; 2</i></b></p> <p><b>Use appropriate anatomical terminology.</b></p> <p><b>Examples: proximal, superficial, medial, supine, superior, inferior, anterior, posterior</b></p> <p><b>Identify anatomical body planes, body cavities, and abdominopelvic regions of the human body.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Define the terms anatomy and physiology, and explain their relationship, using an example of a human structure with its corresponding function.</b></li> <li><b>2. Name the 10 characteristics that distinguish living from non-living things.</b></li> <li><b>3. List the five major requirements of life and why each is needed.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Anatomical Terms Project</b></li> </ol>

			<ol style="list-style-type: none"><li><b>4. Define the term homeostasis, and explain how a homeostatic mechanism is regulated (i.e. negative feedback) by using an example we discussed in class.</b></li><li><b>5. Differentiate between negative feedback control and positive feedback control.</b></li><li><b>6. List, in order from least to most complex, the levels of structural organization, discuss the relationship between the levels, and name an example at each level.</b></li><li><b>7. Designate the five major human body cavities and name major organs located within each on a human diagram. Distinguish which belongs to the dorsal cavity and which to the ventral cavity.</b></li><li><b>8. Distinguish between visceral and parietal serous membranes, differentiate between pericardium, pleura, and peritoneum, and explain the function of serous fluid.</b></li><li><b>9. List the 11 organ systems of the human organism, name the major organs within each, and give general functions for each system.</b></li><li><b>10. Demonstrate what is meant by "anatomical position".</b></li><li><b>11. Define various directional</b></li></ol>	
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			<p>terms (i.e. superior, inferior, etc.), and compare different body parts using these terms (i.e. the elbow is proximal to the wrist).</p> <p><b>12. Name the major body sections (planes, cuts), and describe how each would be accomplished.</b></p> <p><b>13. Describe the nine regions of the abdominopelvic cavity and the four quadrants of the abdominopelvic cavity and list the major organs found within each.</b></p> <p><b>14. Master the new terminology covered in this chapter.</b></p>	
<b>Week 4</b>	<b>Ch. 3: Cell Review</b>	<p><i>AHSGE Objectives 2, 4, 5, 6</i></p> <p><b>Describe cell processes necessary for achieving homeostasis, including active and passive transport, osmosis, diffusion, exocytosis, and endocytosis.</b></p> <p><b>Describe similarities and differences of cell organelles, using diagrams and tables.</b></p> <p><b>Identify cells, tissues, organs, organ systems, organisms, populations, communities, and ecosystems as levels of organization in the biosphere.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Discuss the basic concepts of the cell theory.</b></li> <li><b>2. List the functions of the cell membrane and the structural features that enable it to perform those functions.</b></li> <li><b>3. Describe the various mechanisms that cells use to transport substances across the cell membrane.</b></li> <li><b>4. Describe the organelles of a typical cell and indicate their specific functions</b></li> <li><b>5. Explain the functions of the cell nucleus.</b></li> <li><b>6. Summarize the process of protein synthesis.</b></li> <li><b>7. Describe the process of mitosis and explain its significance.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> </ol>

		<p><b>Describe the roles of mitotic and meiotic divisions during reproduction, growth, and repair of cells.</b></p>	<p><b>8. Define differentiation and explain its importance.</b></p>	
<b>Week 5</b>	<b>Ch. 4: Histology</b>	<p><b><i>Anatomy &amp; Physiology COS Objectives 3 &amp; 4</i></b></p> <p><b>Classify major types of cells, including squamous, cuboidal, columnar, simple and stratified.</b></p> <p><b>Classify tissues as connective, muscular, nervous, or epithelial.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Identify the four major tissue types of the body and their roles.</b></li> <li><b>2. Discuss the types and functions of epithelial cells.</b></li> <li><b>3. Describe the relationship between form and function for each epithelial type.</b></li> <li><b>4. Compare the structures and functions of various types of connective tissues.</b></li> <li><b>5. Explain how epithelial and connective tissue combines to form four different types of membranes, and specify the functions of each.</b></li> <li><b>6. Describe the three types of muscle and the special structural features of each.</b></li> <li><b>7. Discuss the basic structure and role of neural tissue.</b></li> <li><b>8. Discuss how tissues respond in a coordinated manner to maintain homeostasis.</b></li> <li><b>9. Describe how aging affects the tissues of the body.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>

<b>Week 6</b>	<b>Ch. 4: Histology</b>	<p><b><i>Anatomy &amp; Physiology COS Objectives 3 &amp; 4</i></b></p> <p><b>Classify major types of cells, including squamous, cuboidal, columnar, simple and stratified.</b></p> <p><b>Classify tissues as connective, muscular, nervous, or epithelial.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Identify the four major tissue types of the body and their roles.</b></li> <li><b>2. Discuss the types and functions of epithelial cells.</b></li> <li><b>3. Describe the relationship between form and function for each epithelial type.</b></li> <li><b>4. Compare the structures and functions of various types of connective tissues.</b></li> <li><b>5. Explain how epithelial and connective tissue combines to form four different types of membranes, and specify the functions of each.</b></li> <li><b>6. Describe the three types of muscle and the special structural features of each.</b></li> <li><b>7. Discuss the basic structure and role of neural tissue.</b></li> <li><b>8. Discuss how tissues respond in a coordinated manner to maintain homeostasis.</b></li> <li><b>9. Describe how aging affects the tissues of the body.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>
<b>Week 7</b>	<b>Ch. 4: Histology</b>	<p><b><i>Anatomy &amp; Physiology COS Objectives 3 &amp; 4</i></b></p> <p><b>Classify major types of cells, including squamous, cuboidal, columnar, simple and stratified.</b></p> <p><b>Classify tissues as connective, muscular, nervous, or epithelial.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Identify the four major tissue types of the body and their roles.</b></li> <li><b>2. Discuss the types and functions of epithelial cells.</b></li> <li><b>3. Describe the relationship between form and function for each epithelial type.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Microscope Lab: Tissue drawings</b></li> </ol>

			<ol style="list-style-type: none"> <li>4. <b>Compare the structures and functions of various types of connective tissues.</b></li> <li>5. <b>Explain how epithelial and connective tissue combines to form four different types of membranes, and specify the functions of each.</b></li> <li>6. <b>Describe the three types of muscle and the special structural features of each.</b></li> <li>7. <b>Discuss the basic structure and role of neural tissue.</b></li> <li>8. <b>Discuss how tissues respond in a coordinated manner to maintain homeostasis.</b></li> <li>9. <b>Describe how aging affects the tissues of the body.</b></li> </ol>	
<b>Week 8</b>	<b>Ch. 5: Integumentary System</b>	<p><b><i>Anatomy &amp; Physiology COS Objective 5</i></b></p> <p><b>Identify anatomical structures and functions of the integumentary system.</b></p> <p><b>Identifying accessory organs.</b></p> <p><b>Recognizing diseases and disorders of the integumentary system.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. <b>Describe the general functions of the integumentary system.</b></li> <li>2. <b>Describe the main structural features of the epidermis and explain their functional significance.</b></li> <li>3. <b>Explain what accounts for individual and racial difference in skin, such as skin color.</b></li> <li>4. <b>Explain how the integumentary system helps regulate body temperature.</b></li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Lecture/PowerPoint</b></li> <li>2. <b>Chapter Review Questions</b></li> <li>3. <b>Coloring sheets</b></li> </ol>



		<p><b>Examples: decubitus ulcer, melanoma, psoriasis</b></p>	<ol style="list-style-type: none"> <li><b>5. Discuss the effects of ultraviolet radiation on the skin and the role played by melanocytes. Discuss the functions of the skin's accessory structures.</b></li> <li><b>6. Describe the mechanisms that product hair and that determine hair texture and color.</b></li> <li><b>7. Explain how the skin responds to injury and repairs itself. Summarize the effects of the aging process on the skin.</b></li> </ol>	
<b>Week 9</b>	<b>Integumentary System</b>	<p><b><i>Anatomy &amp; Physiology COS Objective 5</i></b></p> <p><b>Identify anatomical structures and functions of the integumentary system.</b></p> <p><b>Identifying accessory organs.</b></p> <p><b>Recognizing diseases and disorders of the integumentary system.</b>  <b>Examples: decubitus ulcer, melanoma, psoriasis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the general functions of the integumentary system.</b></li> <li><b>2. Describe the main structural features of the epidermis and explain their functional significance.</b></li> <li><b>3. Explain what accounts for individual and racial difference in skin, such as skin color.</b></li> <li><b>4. Explain how the integumentary system helps regulate body temperature.</b></li> <li><b>5. Discuss the effects of ultraviolet radiation on the skin and the role played by melanocytes. Discuss the functions of the skin's accessory structures.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Skin Cancer Brochure</b></li> </ol>

			<p><b>6. Describe the mechanisms that product hair and that determine hair texture and color.</b></p> <p><b>7. Explain how the skin responds to injury and repairs itself. Summarize the effects of the aging process on the skin.</b></p>	
<b>Week 10</b>	<b>Ch. 6-7: Skeletal System</b>	<p><b><i>Anatomy &amp; Physiology COS Objective 6</i></b></p> <p><b>Identify bones that compose the skeletal system.</b></p> <p><b>Identifying functions of the skeletal system.</b></p> <p><b>Identifying subdivisions of the skeleton as axial and appendicular skeletons.</b></p> <p><b>Classifying types of joints according to their movement.</b></p> <p><b>Identifying the four bone types.</b></p> <p><b>Identifying the various types of skeletal system disorders.</b></p> <p><b>Examples: fractures, arthritis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the functions of the skeletal system.</b></li> <li><b>2. Compare the structures and functions of compact and spongy bones.</b></li> <li><b>3. Discuss the processes by which bones develop grow and account for variations in their internal structure.</b></li> <li><b>4. Describe the remodeling and repair of the skeleton and discuss homeostatic mechanisms responsible for regulating mineral deposition.</b></li> <li><b>5. Name the components of the axial and appendicular skeletons and their functions.</b></li> <li><b>6. Identify the bones of the skull.</b></li> <li><b>7. Discuss the differences in structure and function of the various vertebrae.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>

			<p><b>8. Relate the structural differences between the pectoral and pelvic girdles to their various functional roles.</b></p> <p><b>9. Distinguish among different types of joints and link structural features to joint functions.</b></p> <p><b>10. Describe the dynamic movements of the skeleton and the structure of representative articulations.</b></p>	
<b>Week 11</b>	<b>Ch. 6-7: Skeletal System</b>	<p><b><i>Anatomy &amp; Physiology COS Objective 6</i></b></p> <p><b>Identify bones that compose the skeletal system.</b></p> <p><b>Identifying functions of the skeletal system.</b></p> <p><b>Identifying subdivisions of the skeleton as axial and appendicular skeletons.</b></p> <p><b>Classifying types of joints according to their movement.</b></p> <p><b>Identifying the four bone types.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the functions of the skeletal system.</b></li> <li><b>2. Compare the structures and functions of compact and spongy bones.</b></li> <li><b>3. Discuss the processes by which bones develop grow and account for variations in their internal structure.</b></li> <li><b>4. Describe the remodeling and repair of the skeleton and discuss homeostatic mechanisms responsible for regulating mineral deposition.</b></li> <li><b>5. Name the components of the axial and appendicular skeletons and their functions.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Build a Bone Lab</b></li> </ol>

		<p><b>Identifying the various types of skeletal system disorders</b>  <b>Examples: fractures, arthritis</b></p>	<ol style="list-style-type: none"> <li><b>6. Identify the bones of the skull.</b></li> <li><b>7. Discuss the differences in structure and function of the various vertebrae.</b></li> <li><b>8. Relate the structural differences between the pectoral and pelvic girdles to their various functional roles.</b></li> <li><b>9. Distinguish among different types of joints and link structural features to joint functions.</b></li> <li><b>10. Describe the dynamic movements of the skeleton and the structure of representative articulations.</b></li> </ol>	
<b>Week 12</b>	<b>Ch. 6-7: Skeletal System</b>	<p><b><i>Anatomy &amp; Physiology COS Objective 6</i></b></p> <p><b>Identify bones that compose the skeletal system.</b></p> <p><b>Identifying functions of the skeletal system.</b></p> <p><b>Identifying subdivisions of the skeleton as axial and appendicular skeletons.</b></p> <p><b>Classifying types of joints according to their movement.</b></p> <p><b>Identifying the four bone types.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the functions of the skeletal system.</b></li> <li><b>2. Compare the structures and functions of compact and spongy bones.</b></li> <li><b>3. Discuss the processes by which bones develop grow and account for variations in their internal structure.</b></li> <li><b>4. Describe the remodeling and repair of the skeleton and discuss homeostatic mechanisms responsible for regulating mineral deposition.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>

		<p><b>Identifying the various types of skeletal system disorders</b>  <b>Examples: fractures, arthritis</b></p>	<ol style="list-style-type: none"> <li><b>5. Name the components of the axial and appendicular skeletons and their functions.</b></li> <li><b>6. Identify the bones of the skull.</b></li> <li><b>7. Discuss the differences in structure and function of the various vertebrae.</b></li> <li><b>8. Relate the structural differences between the pectoral and pelvic girdles to their various functional roles.</b></li> <li><b>9. Distinguish among different types of joints and link structural features to joint functions.</b></li> <li><b>10. Describe the dynamic movements of the skeleton and the structure of representative articulations.</b></li> </ol>	
<b>Week 13</b>	<b>Ch. 6-7: Skeletal System</b>	<p><b><i>Anatomy &amp; Physiology COS Objective 6</i></b></p> <p><b>Identify bones that compose the skeletal system.</b></p> <p><b>Identifying functions of the skeletal system.</b></p> <p><b>Identifying subdivisions of the skeleton as axial and appendicular skeletons.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the functions of the skeletal system.</b></li> <li><b>2. Compare the structures and functions of compact and spongy bones.</b></li> <li><b>3. Discuss the processes by which bones develop grow and account for variations in their internal structure.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>

		<p><b>Classifying types of joints according to their movement.</b></p> <p><b>Identifying the four bone types.</b></p> <p><b>Identifying the various types of skeletal system disorders</b>  <b>Examples: fractures, arthritis</b></p>	<ol style="list-style-type: none"> <li><b>4. Describe the remodeling and repair of the skeleton and discuss homeostatic mechanisms responsible for regulating mineral deposition.</b></li> <li><b>5. Name the components of the axial and appendicular skeletons and their functions.</b></li> <li><b>6. Identify the bones of the skull.</b></li> <li><b>7. Discuss the differences in structure and function of the various vertebrae.</b></li> <li><b>8. Relate the structural differences between the pectoral and pelvic girdles to their various functional roles.</b></li> <li><b>9. Distinguish among different types of joints and link structural features to joint functions.</b></li> <li><b>10. Describe the dynamic movements of the skeleton and the structure of representative articulations.</b></li> </ol>	
<b>Week 14</b>	<b>Ch. 8: Joints</b>	<p><b><i>Anatomy &amp; Physiology COS Objective 6</i></b></p> <p><b>Identify bones that compose the skeletal system.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the functions of the skeletal system.</b></li> <li><b>2. Compare the structures and functions of compact and spongy bones.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>

		<p><b>Identifying functions of the skeletal system.</b></p> <p><b>Identifying subdivisions of the skeleton as axial and appendicular skeletons.</b></p> <p><b>Classifying types of joints according to their movement.</b></p> <p><b>Identifying the four bone types.</b></p> <p><b>Identifying the various types of skeletal system disorders</b>  <b>Examples: fractures, arthritis</b></p>	<ol style="list-style-type: none"> <li><b>3. Discuss the processes by which bones develop grow and account for variations in their internal structure.</b></li> <li><b>4. Describe the remodeling and repair of the skeleton and discuss homeostatic mechanisms responsible for regulating mineral deposition.</b></li> <li><b>5. Name the components of the axial and appendicular skeletons and their functions.</b></li> <li><b>6. Identify the bones of the skull.</b></li> <li><b>7. Discuss the differences in structure and function of the various vertebrae.</b></li> <li><b>8. Relate the structural differences between the pectoral and pelvic girdles to their various functional roles.</b></li> <li><b>9. Distinguish among different types of joints and link structural features to joint functions.</b></li> <li><b>10. Describe the dynamic movements of the skeleton and the structure of representative articulations.</b></li> </ol>	
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<p><b>Week 15</b></p>	<p><b>Ch. 9-10: Muscular System</b></p>	<p><b><i>Anatomy &amp; Physiology COS Objective 7</i></b></p> <p><b>Identify major muscles, including origins, insertions, and actions.</b></p> <p><b>Describing common types of body movements, including flexion, extension, abduction, and adduction.</b></p> <p><b>Classifying muscles based on functions in the body, including prime movers, antagonists, synergists, and fixators.</b></p> <p><b>Comparing skeletal, smooth, and cardiac muscles based on their microscopic anatomy.</b></p> <p><b>Identifying diseases and disorders of the muscular system.</b>  <b>Examples: muscular dystrophy, multiple sclerosis, strain</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the properties and functions of muscle tissue.</b></li> <li><b>2. Describe the organization of muscle at the tissue level.</b></li> <li><b>3. Identify the structural components of a sarcomere.</b></li> <li><b>4. Explain the key steps involved in the contraction of a skeletal muscle fiber.</b></li> <li><b>5. Compare the different types of muscle contractions.</b></li> <li><b>6. Describe the mechanisms by which muscles obtain and use energy to power contractions.</b></li> <li><b>7. Relate types of muscle fibers to muscular performance.</b></li> <li><b>8. Distinguish between aerobic and anaerobic endurance and explain their implications for muscular performance.</b></li> <li><b>9. Contrast skeletal, cardiac, and smooth muscles in terms of structure and function.</b></li> <li><b>10. Identify the principal axial muscles of the body together with their origins and insertions.</b></li> <li><b>11. Identify the principal appendicular muscles of the body, together with their origins and insertions.</b></li> <li><b>12. Describe the effects of exercise and aging on muscle tissue.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>
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<p><b>Week 16</b></p>	<p><b>Ch. 9-10: Muscular System</b></p>	<p><b>Anatomy &amp; Physiology COS Objective 7</b></p> <p><b>Identify major muscles, including origins, insertions, and actions.</b></p> <p><b>Describing common types of body movements, including flexion, extension, abduction, and adduction.</b></p> <p><b>Classifying muscles based on functions in the body, including prime movers, antagonists, synergists, and fixators.</b></p> <p><b>Comparing skeletal, smooth, and cardiac muscles based on their microscopic anatomy.</b></p> <p><b>Identifying diseases and disorders of the muscular system.</b>  <b>Examples: muscular dystrophy, multiple sclerosis, strain</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the properties and functions of muscle tissue.</b></li> <li><b>2. Describe the organization of muscle at the tissue level.</b></li> <li><b>3. Identify the structural components of a sarcomere.</b></li> <li><b>4. Explain the key steps involved in the contraction of a skeletal muscle fiber.</b></li> <li><b>5. Compare the different types of muscle contractions.</b></li> <li><b>6. Describe the mechanisms by which muscles obtain and use energy to power contractions.</b></li> <li><b>7. Relate types of muscle fibers to muscular performance.</b></li> <li><b>8. Distinguish between aerobic and anaerobic endurance and explain their implications for muscular performance.</b></li> <li><b>9. Contrast skeletal, cardiac, and smooth muscles in terms of structure and function.</b></li> <li><b>10. Identify the principal axial muscles of the body together with their origins and insertions.</b></li> <li><b>11. Identify the principal appendicular muscles of the body, together with their origins and insertions.</b></li> <li><b>12. Describe the effects of exercise and aging on muscle tissue.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Sarcomere Lab</b></li> </ol>
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<p><b>Week 17</b></p>	<p><b>Ch. 9-10: Muscular System</b></p>	<p><b>Anatomy &amp; Physiology COS Objective 7</b></p> <p><b>Identify major muscles, including origins, insertions, and actions.</b></p> <p><b>Describing common types of body movements, including flexion, extension, abduction, and adduction.</b></p> <p><b>Classifying muscles based on functions in the body, including prime movers, antagonists, synergists, and fixators.</b></p> <p><b>Comparing skeletal, smooth, and cardiac muscles based on their microscopic anatomy.</b></p> <p><b>Identifying diseases and disorders of the muscular system.</b>  <b>Examples: muscular dystrophy, multiple sclerosis, strain</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the properties and functions of muscle tissue.</b></li> <li><b>2. Describe the organization of muscle at the tissue level.</b></li> <li><b>3. Identify the structural components of a sarcomere.</b></li> <li><b>4. Explain the key steps involved in the contraction of a skeletal muscle fiber.</b></li> <li><b>5. Compare the different types of muscle contractions.</b></li> <li><b>6. Describe the mechanisms by which muscles obtain and use energy to power contractions.</b></li> <li><b>7. Relate types of muscle fibers to muscular performance.</b></li> <li><b>8. Distinguish between aerobic and anaerobic endurance and explain their implications for muscular performance.</b></li> <li><b>9. Contrast skeletal, cardiac, and smooth muscles in terms of structure and function.</b></li> <li><b>10. Identify the principal axial muscles of the body together with their origins and insertions.</b></li> <li><b>11. Identify the principal appendicular muscles of the body, together with their origins and insertions.</b></li> <li><b>12. Describe the effects of exercise and aging on muscle tissue.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Muscle Movement Activity</b></li> </ol>
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<p><b>Week 18</b></p>	<p><b>Ch. 9-10: Muscular System</b></p>	<p><b>Anatomy &amp; Physiology COS Objective 7</b></p> <p><b>Identify major muscles, including origins, insertions, and actions.</b></p> <p><b>Describing common types of body movements, including flexion, extension, abduction, and adduction.</b></p> <p><b>Classifying muscles based on functions in the body, including prime movers, antagonists, synergists, and fixators.</b></p> <p><b>Comparing skeletal, smooth, and cardiac muscles based on their microscopic anatomy.</b></p> <p><b>Identifying diseases and disorders of the muscular system.</b>  <b>Examples: muscular dystrophy, multiple sclerosis, strain</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the properties and functions of muscle tissue.</b></li> <li><b>2. Describe the organization of muscle at the tissue level.</b></li> <li><b>3. Identify the structural components of a sarcomere.</b></li> <li><b>4. Explain the key steps involved in the contraction of a skeletal muscle fiber.</b></li> <li><b>5. Compare the different types of muscle contractions.</b></li> <li><b>6. Describe the mechanisms by which muscles obtain and use energy to power contractions.</b></li> <li><b>7. Relate types of muscle fibers to muscular performance.</b></li> <li><b>8. Distinguish between aerobic and anaerobic endurance and explain their implications for muscular performance.</b></li> <li><b>9. Contrast skeletal, cardiac, and smooth muscles in terms of structure and function.</b></li> <li><b>10. Identify the principal axial muscles of the body together with their origins and insertions.</b></li> <li><b>11. Identify the principal appendicular muscles of the body, together with their origins and insertions.</b></li> <li><b>12. Describe the effects of exercise and aging on muscle tissue.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>
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<p><b>Week 19</b></p>	<p><b>Ch. 11-14, 16: Nervous System</b></p>	<p><b>Anatomy &amp; Physiology COS Objective 8</b></p> <p><b>Identify structures of the nervous system.</b></p> <p><b>Explaining differences in the function of the peripheral nervous system and the central nervous system.</b></p> <p><b>Labeling parts of sensory organs, including the eye, ear, tongue, and skin receptors.</b></p> <p><b>Recognizing diseases and disorders of the nervous system.</b>  <b>Examples: Parkinson's disease, meningitis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the anatomical organization and general functions of the nervous system.</b></li> <li><b>2. Distinguish between neurons and neuroglia and compare their structures and functions.</b></li> <li><b>3. Discuss the events that generate action potentials in the membranes of nerve cells.</b></li> <li><b>4. Distinguish between continuous and saltatory nerve impulse conduction.</b></li> <li><b>5. Explain the mechanism of nerve impulse transmission at the synapse.</b></li> <li><b>6. Describe the process of a neural reflex.</b></li> <li><b>7. Describe the three meningeal layers that surround the central nervous system.</b></li> <li><b>8. Discuss the structure and functions of the spinal cord.</b></li> <li><b>9. Name the major regions of the brain and describe their functions</b></li> <li><b>10. Locate the motor, sensory, and association areas of the cerebral cortex and discuss their functions.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>
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<p><b>Week 20</b></p>	<p><b>Ch. 11-14, 16: Nervous System</b></p>	<p><b>Anatomy &amp; Physiology COS Objective 8</b></p> <p><b>Identify structures of the nervous system.</b></p> <p><b>Explaining differences in the function of the peripheral nervous system and the central nervous system.</b></p> <p><b>Labeling parts of sensory organs, including the eye, ear, tongue, and skin receptors.</b></p> <p><b>Recognizing diseases and disorders of the nervous system.</b>  <b>Examples: Parkinson's disease, meningitis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the anatomical organization and general functions of the nervous system.</b></li> <li><b>2. Distinguish between neurons and neuroglia and compare their structures and functions.</b></li> <li><b>3. Discuss the events that generate action potentials in the membranes of nerve cells.</b></li> <li><b>4. Distinguish between continuous and saltatory nerve impulse conduction.</b></li> <li><b>5. Explain the mechanism of nerve impulse transmission at the synapse.</b></li> <li><b>6. Describe the process of a neural reflex.</b></li> <li><b>7. Describe the three meningeal layers that surround the central nervous system.</b></li> <li><b>8. Discuss the structure and functions of the spinal cord.</b></li> <li><b>9. Name the major regions of the brain and describe their functions</b></li> <li><b>10. Locate the motor, sensory, and association areas of the cerebral cortex and discuss their functions.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Reflex Lab</b></li> </ol>
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<p><b>Week 21</b></p>	<p><b>Ch. 11-14, 16: Nervous System</b></p>	<p><b>Anatomy &amp; Physiology COS Objective 8</b></p> <p><b>Identify structures of the nervous system.</b></p> <p><b>Explaining differences in the function of the peripheral nervous system and the central nervous system.</b></p> <p><b>Labeling parts of sensory organs, including the eye, ear, tongue, and skin receptors.</b></p> <p><b>Recognizing diseases and disorders of the nervous system.</b>  <b>Examples: Parkinson's disease, meningitis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the anatomical organization and general functions of the nervous system.</b></li> <li><b>2. Distinguish between neurons and neuroglia and compare their structures and functions.</b></li> <li><b>3. Discuss the events that generate action potentials in the membranes of nerve cells.</b></li> <li><b>4. Distinguish between continuous and saltatory nerve impulse conduction.</b></li> <li><b>5. Explain the mechanism of nerve impulse transmission at the synapse.</b></li> <li><b>6. Describe the process of a neural reflex.</b></li> <li><b>7. Describe the three meningeal layers that surround the central nervous system.</b></li> <li><b>8. Discuss the structure and functions of the spinal cord.</b></li> <li><b>9. Name the major regions of the brain and describe their functions</b></li> <li><b>10. Locate the motor, sensory, and association areas of the cerebral cortex and discuss their functions.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Left-Brain/Right-Brain Activity</b></li> <li><b>5. Rewiring the Brain Lab</b></li> </ol>
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<p><b>Week 22</b></p>	<p><b>Ch. 11-14, 16: Nervous System</b></p>	<p><b>Anatomy &amp; Physiology COS Objective 8</b></p> <p><b>Identify structures of the nervous system.</b></p> <p><b>Explaining differences in the function of the peripheral nervous system and the central nervous system.</b></p> <p><b>Labeling parts of sensory organs, including the eye, ear, tongue, and skin receptors.</b></p> <p><b>Recognizing diseases and disorders of the nervous system.</b>  <b>Examples: Parkinson's disease, meningitis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the anatomical organization and general functions of the nervous system.</b></li> <li><b>2. Distinguish between neurons and neuroglia and compare their structures and functions.</b></li> <li><b>3. Discuss the events that generate action potentials in the membranes of nerve cells.</b></li> <li><b>4. Distinguish between continuous and saltatory nerve impulse conduction.</b></li> <li><b>5. Explain the mechanism of nerve impulse transmission at the synapse.</b></li> <li><b>6. Describe the process of a neural reflex.</b></li> <li><b>7. Describe the three meningeal layers that surround the central nervous system.</b></li> <li><b>8. Discuss the structure and functions of the spinal cord.</b></li> <li><b>9. Name the major regions of the brain and describe their functions.</b></li> <li><b>10. Locate the motor, sensory, and association areas of the cerebral cortex and discuss their functions.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Brain Dissection</b></li> </ol>
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<p><b>Week 23</b></p>	<p><b>Ch. 15: Senses</b></p>	<p><b><i>Anatomy &amp; Physiology COS Objective 8</i></b></p> <p><b>Identify structures of the nervous system.</b></p> <p><b>Explaining differences in the function of the peripheral nervous system and the central nervous system.</b></p> <p><b>Labeling parts of sensory organs, including the eye, ear, tongue, and skin receptors.</b></p> <p><b>Recognizing diseases and disorders of the nervous system.</b>  <b>Examples: Parkinson's disease, meningitis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Distinguish between the general senses and the special senses.</b></li> <li><b>2. Identify the receptors for the general senses, and describe how they function.</b></li> <li><b>3. Describe the receptors and processes involved in the sense of smell.</b></li> <li><b>4. Discuss the receptors and processes involved in the sense of taste.</b></li> <li><b>5. Identify the parts of the eye and their functions</b></li> <li><b>6. Explain how we are able to see objects and distinguish colors.</b></li> <li><b>7. Discuss how the central nervous system processes information related to vision.</b></li> <li><b>8. Discuss the receptors and processes involved in the sense of equilibrium.</b></li> <li><b>9. Describe the parts of the ear and their roles in the process of hearing.</b></li> <li><b>10. Describe the effects of aging on smell, taste, vision, and hearing.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Sensory Lab</b></li> </ol>
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<p><b>Week 24</b></p>	<p><b>Ch. 15: Senses</b></p>	<p><b><i>Anatomy &amp; Physiology COS Objective 8</i></b></p> <p><b>Identify structures of the nervous system.</b></p> <p><b>Explaining differences in the function of the peripheral nervous system and the central nervous system.</b></p> <p><b>Labeling parts of sensory organs, including the eye, ear, tongue, and skin receptors.</b></p> <p><b>Recognizing diseases and disorders of the nervous system.</b>  <b>Examples: Parkinson's disease, meningitis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Distinguish between the general senses and the special senses.</b></li> <li><b>2. Identify the receptors for the general senses, and describe how they function.</b></li> <li><b>3. Describe the receptors and processes involved in the sense of smell.</b></li> <li><b>4. Discuss the receptors and processes involved in the sense of taste.</b></li> <li><b>5. Identify the parts of the eye and their functions</b></li> <li><b>6. Explain how we are able to see objects and distinguish colors.</b></li> <li><b>7. Discuss how the central nervous system processes information related to vision.</b></li> <li><b>8. Discuss the receptors and processes involved in the sense of equilibrium.</b></li> <li><b>9. Describe the parts of the ear and their roles in the process of hearing.</b></li> <li><b>10. Describe the effects of aging on smell, taste, vision, and hearing.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Astigmatism Activity</b></li> <li><b>5. Eye Dissection</b></li> </ol>
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<p><b>Week 25</b></p>	<p><b>Ch. 17-18: Endocrine System</b></p>	<p><b><i>Anatomy &amp; Physiology COS Objective 14</i></b></p> <p><b>Identify the endocrine glands and their functions.</b></p> <p><b>Describing effects of hormones produced by the endocrine glands.</b></p> <p><b>Identifying common disorders of the endocrine system.</b>  <b>Examples: diabetes, goiter, hyperthyroidism</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Compare the similarities between the endocrine and nervous systems.</b></li> <li><b>2. Compare the major chemical classes of hormones.</b></li> <li><b>3. Explain the general mechanisms of hormonal action.</b></li> <li><b>4. Describe how the endocrine system is controlled.</b></li> <li><b>5. Discuss the location, hormones, and functions of the following endocrine glands and tissues: pituitary, thyroid, parathyroids, thymus, adrenals, kidneys, heart, pancreas, testes, ovaries, and pineal gland.</b></li> <li><b>6. Explain how hormones interact to produce coordinated physiological responses.</b></li> <li><b>7. Identify the hormones that are important to normal growth and discuss their roles.</b></li> <li><b>8. Explain how the endocrine system responds to stress.</b></li> <li><b>9. Discuss the results of abnormal hormone production.</b></li> </ol>	<p><b>1. Hormone Cards Activity</b></p>
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			<p><b>10. Discuss the functional relationships between the endocrine system and other body systems.</b></p>	
<p><b>Week 26</b></p>	<p><b>Ch. 19-21: Circulatory System</b></p>	<p><b><i>Anatomy &amp; Physiology</i></b> <b><i>COS Objective 9</i></b></p> <p><b>Identify structures and functions of the cardiovascular systems.</b></p> <p><b>Trace the flow of blood through the body.</b></p> <p><b>Identify components of blood.</b></p> <p><b>Describe blood cell formation.</b></p> <p><b>Distinguish among human blood groups.</b></p> <p><b>Describe common cardiovascular diseases and disorders.</b> <b>Examples: myocardial infarctions, mitral valve prolapsed, varicose veins, atherosclerosis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the important components and major functions of blood.</b></li> <li><b>2. Discuss the composition and functions of plasma.</b></li> <li><b>3. Describe the origin and production of the formed elements in blood.</b></li> <li><b>4. Discuss the characteristics and functions of red blood cells.</b></li> <li><b>5. Explain what determines a person's blood type and why blood types are important.</b></li> <li><b>6. Categorize the various white blood cells on the basis of their structures and functions.</b></li> <li><b>7. Describe the mechanisms that reduce blood loss after an injury.</b></li> <li><b>8. Describe the location and general features of the heart.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Blood Smear Lab</b></li> </ol>

			<ol style="list-style-type: none"><li><b>9. Trace the flow of blood through the heart, identifying the major blood vessels, chambers, and heart valves.</b></li><li><b>10. Identify the layers of the heart wall.</b></li><li><b>11. Describe the differences in the action potentials and twitch contractions of skeletal muscle fibers and cardiac muscle cells.</b></li><li><b>12. Describe the components and functions of the conducting system of the heart.</b></li><li><b>13. Explain the events of the cardiac cycle and relate the heart sounds to specific events in this cycle.</b></li><li><b>14. Define stroke volume and cardiac output and describe the factors that influence these values.</b></li><li><b>15. Distinguish among the types of blood vessels on the basis of their structure and function.</b></li><li><b>16. Explain the mechanisms that regulate blood flow through arteries, capillaries, and veins.</b></li><li><b>17. Discuss the mechanisms and various pressures involved in the movement of fluids between capillaries and interstitial spaces.</b></li></ol>	
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			<p><b>18. Describe the factors that influence blood pressure and how blood pressure is regulated.</b></p> <p><b>19. Explain how the activities of the cardiac, vasomotor, and respiratory centers are coordinated to control blood flow through the tissues.</b></p> <p><b>20. Explain how the circulatory system responds to the demands of exercise and hemorrhaging.</b></p> <p><b>21. Identify the major arteries and veins and the areas they serve.</b></p> <p><b>22. Describe the age-related changes that occur in the cardiovascular system.</b></p> <p><b>23. Discuss the structural and functional interactions among the cardiovascular system and other body systems.</b></p>	
<b>Week 27</b>	<b>Ch. 19-21: Circulatory System</b>	<p><b><i>Anatomy &amp; Physiology</i></b> <b><i>COS Objective 9</i></b></p> <p><b>Identify structures and functions of the cardiovascular systems.</b></p> <p><b>Trace the flow of blood through the body.</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the important components and major functions of blood.</b></li> <li><b>2. Discuss the composition and functions of plasma.</b></li> <li><b>3. Describe the origin and production of the formed elements in blood.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Simulated Blood Typing Lab</b></li> <li><b>5. Self Blood Typing Lab</b></li> </ol>

		<p><b>Identify components of blood.</b></p> <p><b>Describe blood cell formation.</b></p> <p><b>Distinguish among human blood groups.</b></p> <p><b>Describe common cardiovascular diseases and disorders.</b></p> <p><b>Examples: myocardial infarctions, mitral valve prolapsed, varicose veins, atherosclerosis</b></p>	<ol style="list-style-type: none"><li><b>4. Discuss the characteristics and functions of red blood cells.</b></li><li><b>5. Explain what determines a person's blood type and why blood types are important.</b></li><li><b>6. Categorize the various white blood cells on the basis of their structures and functions.</b></li><li><b>7. Describe the mechanisms that reduce blood loss after an injury.</b></li><li><b>8. Describe the location and general features of the heart.</b></li><li><b>9. Trace the flow of blood through the heart, identifying the major blood vessels, chambers, and heart valves.</b></li><li><b>10. Identify the layers of the heart wall.</b></li><li><b>11. Describe the differences in the action potentials and twitch contractions of skeletal muscle fibers and cardiac muscle cells.</b></li><li><b>12. Describe the components and functions of the conducting system of the heart.</b></li><li><b>13. Explain the events of the cardiac cycle and relate</b></li></ol>	
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			<p><b>the heart sounds to specific events in this cycle.</b></p> <p><b>14. Define stroke volume and cardiac output and describe the factors that influence these values.</b></p> <p><b>15. Distinguish among the types of blood vessels on the basis of their structure and function.</b></p> <p><b>16. Explain the mechanisms that regulate blood flow through arteries, capillaries, and veins.</b></p> <p><b>17. Discuss the mechanisms and various pressures involved in the movement of fluids between capillaries and interstitial spaces.</b></p> <p><b>18. Describe the factors that influence blood pressure and how blood pressure is regulated.</b></p> <p><b>19. Explain how the activities of the cardiac, vasomotor, and respiratory centers are coordinated to control blood flow through the tissues.</b></p> <p><b>20. Explain how the circulatory system responds to the demands of exercise and hemorrhaging.</b></p>	
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			<p><b>21. Identify the major arteries and veins and the areas they serve.</b></p> <p><b>22. Describe the age-related changes that occur in the cardiovascular system.</b></p> <p><b>23. Discuss the structural and functional interactions among the cardiovascular system and other body systems.</b></p>	
<b>Week 28</b>	<b>Ch. 19-21: Circulatory System</b>	<p><b><i>Anatomy &amp; Physiology</i></b> <b><i>COS Objective 9</i></b></p> <p><b>Identify structures and functions of the cardiovascular systems.</b></p> <p><b>Trace the flow of blood through the body.</b></p> <p><b>Identify components of blood.</b></p> <p><b>Describe blood cell formation.</b></p> <p><b>Distinguish among human blood groups.</b></p> <p><b>Describe common cardiovascular diseases and disorders.</b> <b>Examples: myocardial infarctions, mitral valve</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the important components and major functions of blood.</b></li> <li><b>2. Discuss the composition and functions of plasma.</b></li> <li><b>3. Describe the origin and production of the formed elements in blood.</b></li> <li><b>4. Discuss the characteristics and functions of red blood cells.</b></li> <li><b>5. Explain what determines a person's blood type and why blood types are important.</b></li> <li><b>6. Categorize the various white blood cells on the basis of their structures and functions.</b></li> <li><b>7. Describe the mechanisms that reduce blood loss after an injury.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Heart Dissection</b></li> </ol>



**prolapse, varicose  
veins, atherosclerosis**

- 8. Describe the location and general features of the heart.**
- 9. Trace the flow of blood through the heart, identifying the major blood vessels, chambers, and heart valves.**
- 10. Identify the layers of the heart wall.**
- 11. Describe the differences in the action potentials and twitch contractions of skeletal muscle fibers and cardiac muscle cells.**
- 12. Describe the components and functions of the conducting system of the heart.**
- 13. Explain the events of the cardiac cycle and relate the heart sounds to specific events in this cycle.**
- 14. Define stroke volume and cardiac output and describe the factors that influence these values.**
- 15. Distinguish among the types of blood vessels on the basis of their structure and function.**
- 16. Explain the mechanisms that regulate blood flow through arteries, capillaries, and veins.**

			<p><b>17. Discuss the mechanisms and various pressures involved in the movement of fluids between capillaries and interstitial spaces.</b></p> <p><b>18. Describe the factors that influence blood pressure and how blood pressure is regulated.</b></p> <p><b>19. Explain how the activities of the cardiac, vasomotor, and respiratory centers are coordinated to control blood flow through the tissues.</b></p> <p><b>20. Explain how the circulatory system responds to the demands of exercise and hemorrhaging.</b></p> <p><b>21. Identify the major arteries and veins and the areas they serve.</b></p> <p><b>22. Describe the age-related changes that occur in the cardiovascular system.</b></p> <p><b>23. Discuss the structural and functional interactions among the cardiovascular system and other body systems.</b></p>	
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<p><b>Week 29</b></p>	<p><b>Ch. 22: Lymphatic System</b></p>	<p><b>Anatomy &amp; Physiology COS Objective 15</b></p> <p><b>Identifying physiological effects and components of the immune system.</b></p> <p><b>Contrasting active and passive immunity.</b></p> <p><b>Evaluating the importance of vaccines.</b></p> <p><b>Recognizing disorders and diseases of the immune system.</b>  <b>Examples: acquired immunodeficiency syndrome (AIDS), acute lymphocytic leukemia</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Identify the major components of the lymphatic system and explain their functions.</b></li> <li><b>2. Discuss the importance of lymphocytes and describe where they are found in the body.</b></li> <li><b>3. List the body's nonspecific defenses and explain how each functions.</b></li> <li><b>4. Define specific resistance and identify the forms and properties of immunity.</b></li> <li><b>5. Distinguish between cell-mediated immunity and antibody-mediated (humoral) immunity.</b></li> <li><b>6. Discuss the different types of T cells and the role played by each in the immune response.</b></li> <li><b>7. Describe the structure of antibody molecules and explain how they function.</b></li> <li><b>8. Describe the primary and secondary immune responses to antigen exposure.</b></li> <li><b>9. Relate allergic reactions and autoimmune disorders to immune mechanisms.</b></li> <li><b>10. Describe the changes in the immune system that occur with aging.</b></li> <li><b>11. Discuss the structural and functional interactions</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>
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			<p>among the lymphatic system and other body systems.</p>	
<p><b>Week 30</b></p>	<p><b>Ch. 23: Respiratory System</b></p>	<p><b><i>Anatomy &amp; Physiology COS Objective 11</i></b></p> <p><b>Identify structures and functions of the respiratory system.</b></p> <p><b>Tracing the pathway of the oxygen and carbon dioxide exchange.</b></p> <p><b>Recognizing common disorders of the respiratory system.</b>  <b>Examples: asthma, bronchitis, cystic fibrosis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Describe the primary functions of the respiratory system.</b></li> <li><b>2. Explain how the delicate respiratory exchange surfaces are protected from pathogens, debris, and other hazards.</b></li> <li><b>3. Relate respiratory functions to the structural specializations of the tissues and organs in the system.</b></li> <li><b>4. Describe the physical principles governing the movement of air into the lungs and the diffusion of gases into and out of the blood.</b></li> <li><b>5. Describe the actions of respiratory muscles on respiratory movements.</b></li> <li><b>6. Describe how oxygen and carbon dioxide are transported in the blood.</b></li> <li><b>7. Describe the major factors that influence the rate of respiration.</b></li> <li><b>8. Identify the reflexes that regulate respiration.</b></li> <li><b>9. Describe the changes that</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter Review Questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>

			<p>occur in the respiratory system at birth and with aging.</p> <p>Discuss the interrelationships among the respiratory system and other systems.</p>	
<b>Week 31</b>	<b>Ch. 23: Respiratory System</b>	<p><i>Anatomy &amp; Physiology COS Objective 11</i></p> <p>Identify structures and functions of the respiratory system.</p> <p>Tracing the pathway of the oxygen and carbon dioxide exchange.</p> <p>Recognizing common disorders of the respiratory system. Examples: asthma, bronchitis, cystic fibrosis</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. Describe the primary functions of the respiratory system.</li> <li>2. Explain how the delicate respiratory exchange surfaces are protected from pathogens, debris, and other hazards.</li> <li>3. Relate respiratory functions to the structural specializations of the tissues and organs in the system.</li> <li>4. Describe the physical principles governing the movement of air into the lungs and the diffusion of gases into and out of the blood.</li> <li>5. Describe the actions of respiratory muscles on respiratory movements.</li> <li>6. Describe how oxygen and carbon dioxide are transported in the blood.</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture/PowerPoint</li> <li>2. Chapter Review Questions</li> <li>3. Coloring sheets</li> <li>4. Respiration Lab</li> </ol>

			<ol style="list-style-type: none"> <li>7. Describe the major factors that influence the rate of respiration.</li> <li>8. Identify the reflexes that regulate respiration.</li> <li>9. Describe the changes that occur in the respiratory system at birth and with aging.</li> <li>10. Discuss the interrelationships among the respiratory system and other systems.</li> </ol>	
<b>Week 32</b>	<b>Ch. 24-25: Digestive System &amp; Nutrition</b>	<p><b><i>Anatomy &amp; Physiology COS Objective 10</i></b></p> <p><b>Identify structures and functions of the digestive system.</b></p> <p><b>Tracing the pathway of digestion from the mouth to the anus using diagrams.</b></p> <p><b>Identifying disorders affecting the digestive system.</b>  <b>Examples: ulcers, Crohn's disease, diverticulitis</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Identify the organs of the digestive tract, and the accessory organs of digestion.</li> <li>2. List the functions of the digestive system.</li> <li>3. Describe the histology of each segment of the digestive tract in relation to its function.</li> <li>4. Explain how ingested materials are propelled through the digestive tract.</li> <li>5. Describe how food is processed in the mouth, and describe the key events of the swallowing process.</li> <li>6. Describe the anatomy of the stomach, its</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture/PowerPoint</li> <li>2. Build your own digestive system project</li> </ol>

			<ol style="list-style-type: none"> <li>7. <b>histological features, and its roles in digestion and absorption.</b></li> <li>8. <b>Explain the functions of the intestinal secretions, and discuss the significance of digestion in the small intestine.</b></li> <li>9. <b>Describe the structure and functions of the pancreas, liver, and gallbladder.</b></li> <li>10. <b>Describe the structure of the large intestine, its movements, and its absorptive functions.</b></li> <li>11. <b>Describe the digestion and absorption of carbohydrates, lipids, and proteins.</b></li> <li>12. <b>Describe the changes in the digestive system that occur with aging.</b></li> <li>13. <b>Discuss the interactions among the digestive system and other organ systems.</b></li> </ol>	
<b>Week 33</b>	<b>Ch. 24-25: Digestive System &amp; Nutrition</b>	<p><b><i>Anatomy &amp; Physiology</i></b> <b><i>COS Objective 10</i></b></p> <p><b>Identify structures and functions of the digestive system.</b></p> <p><b>Tracing the pathway of digestion from the mouth</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. <b>Identify the organs of the digestive tract, and the accessory organs of digestion.</b></li> <li>2. <b>List the functions of the digestive system.</b></li> <li>3. <b>Describe the histology of each segment of the</b></li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Lecture/PowerPoint</b></li> <li>2. <b>Build your own digestive system project</b></li> </ol>

**to the anus using diagrams.**

**Identifying disorders affecting the digestive system.**

**Examples: ulcers, Crohn's disease, diverticulitis**

**digestive tract in relation to its function.**

- 4. Explain how ingested materials are propelled through the digestive tract.**
- 5. Describe how food is processed in the mouth, and describe the key events of the swallowing process.**
- 6. Describe the anatomy of the stomach, its histological features, and its roles in digestion and absorption.**
- 7. Explain the functions of the intestinal secretions, and discuss the significance of digestion in the small intestine.**
- 8. Describe the structure and functions of the pancreas, liver, and gallbladder.**
- 9. Describe the structure of the large intestine, its movements, and its absorptive functions.**
- 10. Describe the digestion and absorption of carbohydrates, lipids, and proteins.**
- 11. Describe the changes in the digestive system that occur with aging.**



			<p><b>12. Discuss the interactions among the digestive system and other organ systems.</b></p>	
<p><b>Week 34</b></p>	<p><b>Ch. 26-27: Urinary System</b></p>	<p><b><i>Anatomy &amp; Physiology COS Objective 13</i></b></p> <p><b>Identify structures and functions of the urinary system.</b></p> <p><b>Tracing the filtration of blood from the kidneys to the urethra.</b></p> <p><b>Recognizing diseases and disorders of the urinary system.</b>  <b>Examples: kidney stones, urinary tract infections</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Identify the components of the urinary system and their functions.</b></li> <li><b>2. Describe the structural features of the kidneys.</b></li> <li><b>3. Describe the structure of the nephron and the processes involved in urine formation.</b></li> <li><b>4. Trace the path of blood flow through a kidney.</b></li> <li><b>5. List and describe the factors that influence filtration pressure and the rate of filtrate formation.</b></li> <li><b>6. Describe the changes that occur in the tubular fluid as it moves through the nephron and exits as urine.</b></li> <li><b>7. Describe the structures and functions of the ureters, urinary bladder, and urethra.</b></li> <li><b>8. Discuss the process of urination and how it is controlled.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter review questions</b></li> <li><b>3. Coloring sheets</b></li> <li><b>4. Kidney Function Demo</b></li> </ol>

			<p><b>9. Explain how the urinary system interacts with other body systems to maintain homeostasis in body fluids.</b></p> <p><b>10. Describe how water and electrolytes are distributed within the body.</b></p> <p><b>11. Explain the basic concepts involved in the control of fluid and electrolyte regulation.</b></p> <p><b>12. Explain the buffering systems that balance the pH of the intracellular and extracellular fluids.</b></p> <p><b>13. Describe the effects of aging on the urinary system.</b></p>	
<b>Week 35</b>	<b>Ch. 28-29: Reproductive System</b>	<p><b><i>Anatomy &amp; Physiology</i></b> <b><i>COS Objective 12</i></b></p> <p><b>Identify structures and functions of the reproductive system.</b></p> <p><b>Differentiating between male and female reproductive systems</b></p> <p><b>Recognizing stages of pregnancy and fetal development</b></p> <p><b>Identifying disorders of the reproductive system</b></p>	<p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li><b>1. Summarize the functions of the human reproductive system and its principal components.</b></li> <li><b>2. Describe the components of the male reproductive system. (pp. 582–589)</b></li> <li><b>3. Describe the process of spermatogenesis.</b></li> <li><b>4. Describe the roles that the male reproductive tract and accessory glands play in the maturation and transport of spermatozoa.</b></li> </ol>	<ol style="list-style-type: none"> <li><b>1. Lecture/PowerPoint</b></li> <li><b>2. Chapter review questions</b></li> <li><b>3. Coloring sheets</b></li> </ol>

		<p><b>Examples:</b>  <b>endometriosis, sexually transmitted diseases, prostate cancer</b></p>	<ol style="list-style-type: none"> <li><b>5. Describe the hormonal mechanisms that regulate male reproductive functions.</b></li> <li><b>6. Describe the components of the female reproductive system.</b></li> <li><b>7. Describe the process of oogenesis in the ovary.</b></li> <li><b>8. Detail the physiological processes involved in the ovarian and menstrual cycles.</b></li> <li><b>9. Discuss the physiology of sexual intercourse as it affects the reproductive systems of males and females.</b></li> <li><b>10. Describe the changes in the reproductive system that occur with aging.</b></li> <li><b>11. Explain how the reproductive system interacts with other body systems.</b></li> </ol>	
<b>Week 36</b>	<p><b>Cat/Fetal Pig Dissection</b></p> <p><b>Final Exam</b></p>	<p><b>Anatomy &amp; Physiology COS Objectives 1-15</b></p>	<p><b>All previous objectives</b></p>	<ol style="list-style-type: none"> <li><b>1. Cat dissection</b></li> <li><b>2. Review for final exam</b></li> </ol>