

<b>Planned Course: Anatomy &amp; Physiology</b>		<b>Course Number: S406</b>	<b>Department: Science</b>
<b>Unit: Organization Levels</b>		<b>Grade Level: 11-12</b>	
<b>Estimated Time: 6 weeks</b>		<b>Level/Track: Honors</b>	<b>Date Approved: 1/12/2018</b>
<b>PA Academic Standards or PA Assessment Anchors</b>	<b>Core Concepts (in question format)</b> • Skills/Knowledge	<b>Activities/Strategies/Study Skills (identify some activities as remedial or enrichment activities)</b>	<b>Assessments (include types and topics)</b>

<p>S11.B Biological Sciences</p> <p>S11.B.1 Structure and function of Organisms</p> <p>S11.B.1.1 Explain structure and function at multiple levels of organization.</p>	<p>S11.B.1.1.1 Explain how structure determines function at multiple levels of organization (e.g., chemical, cellular, anatomical).</p> <ul style="list-style-type: none"> <li>▶ What is the definition of anatomy and physiology and how are they related to one another?</li> <li>▶ How do anatomy form and arrange body parts?</li> <li>▶ What are the physiological functions of the body?</li> </ul> <p>S11.B.1.1.2 Compare and contrast the structural and functional similarities and differences among living things (e.g., classify organisms into classification groups, compare systems).</p> <ul style="list-style-type: none"> <li>▶ What are the major characteristics of all life and how do they constitute a metabolism?</li> <li>▶ How are traits shared by organisms?</li> <li>▶ What does metabolism have to do with life?</li> </ul>	<ul style="list-style-type: none"> <li>- Anatomical body</li> <li>- Lab</li> <li>- Vocabulary lists</li> <li>- Diagrams</li> <li>- Chapter questions</li> <li>- At the Clinic</li> </ul> <p><u>Enrichment</u></p> <ul style="list-style-type: none"> <li>- Medical Journal articles</li> <li>- CNN Health News</li> </ul> <ul style="list-style-type: none"> <li>- Lecture</li> <li>- Vocabulary</li> <li>- Read text</li> <li>- Chapter questions</li> <li>- Lab – Safety</li> </ul> <p><u>Enrichment</u></p> <ul style="list-style-type: none"> <li>- Medical Journal Articles</li> <li>- CNN Health News</li> </ul>	<ul style="list-style-type: none"> <li>• Homework grades</li> <li>• Individual Lab reports – Level 1,2,3 analysis questions</li> <li>• Diagrams</li> </ul> <ul style="list-style-type: none"> <li>• Individual Lab report- Level 1,2,3 Analysis questions</li> <li>• Homework</li> </ul>
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	<p>S11.B.1.1.1 Explain how structure determines function at multiple levels of organization (e.g., chemical, cellular, anatomical).</p> <ul style="list-style-type: none"> <li>▶ How is the study of living things based on and dependent on chemistry?</li> <li>▶ How do chemical compositions change?</li> <li>▶ How are biology and chemistry interrelated?</li> </ul> <p>S11.B.1.1.2 Compare and contrast the structural and functional similarities and differences among living things (e.g., classify organisms into classification groups, compare systems).</p> <ul style="list-style-type: none"> <li>▶ What are the general roles played by different types of organic and inorganic substances?</li> <li>▶ Are organic carbon atoms non-electrolytes?</li> <li>▶ What compounds are necessary for cellular activities?</li> <li>▶ What are carbon lacking compounds?</li> </ul>	<ul style="list-style-type: none"> <li>– Lecture</li> <li>– Text Readings</li> <li>– Vocabulary</li> <li>– Chapter questions</li> <li>– Lab – Water in Biological materials</li> </ul> <ul style="list-style-type: none"> <li>– Lecture</li> <li>– Read text</li> <li>– Vocabulary</li> <li>– Chapter questions</li> <li>– Lab – Organic substances in food</li> <li>– Lab – Principles of Chemistry</li> <li>– Lab – Composition of Living Matter</li> <li>– At the Clinic</li> </ul>	<ul style="list-style-type: none"> <li>• Individual Lab report</li> <li>• Homework</li> <li>• Diagrams</li> <li>• Written test requiring Chemistry recall in the determination of moisture analysis and deciphering calculations using open ended explanations</li> <li>• Written Test-Subjective based questions; define, short answer and open-ended essays.</li> </ul>
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	<ul style="list-style-type: none"> <li>▶ What substances are necessary for cellular reactions to take place?</li> <li>▶ What are the different types of cytoplasmic organelles and how do these substances move through the cell membranes?</li> <li>▶ What does cell shape have to do with function?</li> <li>▶ What is the gas exchange and concentration variations during and infusion facilitated diffusion, osmosis, filtration active transport and endocytosis.</li> </ul> <p>S11.B.1.1.3 Compare and contrast cellular processes (e.g., photosynthesis and respiration, meiosis and mitosis, protein syntheses and DNA replication).</p> <ul style="list-style-type: none"> <li>▶ What are the general characteristics and functions of the epithelial tissues?</li> </ul>	<ul style="list-style-type: none"> <li>– Lecture</li> <li>– Text reading</li> <li>– Questions</li> <li>– Vocabulary</li> <li>– Worksheets</li> <li>– Lab – Filtration, Diffusion, Osmosis</li> <li>– Diagrams</li> <li>– Lab – Anatomy of Generalized Cell</li> <li>– Visualized Exercise of the Cell</li> </ul> <ul style="list-style-type: none"> <li>– Lecture</li> <li>– Read text</li> </ul>	<ul style="list-style-type: none"> <li>• Individual Lab report</li> <li>• Homework questions</li> <li>• Written quiz</li> <li>• Reading summaries</li> </ul> <ul style="list-style-type: none"> <li>• Individual Lab report</li> <li>• Homework questions</li> <li>• Color-coded worksheets</li> <li>• Observation lab activities</li> <li>• Advanced answering in</li> </ul>
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	<ul style="list-style-type: none"> <li>▶ How are layers of cells arranged?</li> <li>▶ What is the composition of these cells?</li> </ul> <p>S11.B.1.1.1 Explain how structure determines function at multiple levels of organization (e.g., chemical, cellular, anatomical).</p> <ul style="list-style-type: none"> <li>▶ What are the major cell types of muscle connective and nerve tissues?</li> <li>▶ What is the responsibility of connective tissues?</li> <li>▶ What is the contractile muscle tissue responsible for?</li> <li>▶ How does nerve tissue coordinate and regulate body activities?</li> </ul>	<ul style="list-style-type: none"> <li>– Vocabulary</li> <li>– Microscope slides</li> <li>– Diagrams</li> <li>– Lab – Epithelial tissue</li> <li><u>Enrichment</u></li> <li>– CNN Health Lines</li>   <li>– Reading text</li> <li>– Question-Answer</li> <li>– Vocabulary</li> <li>– Diagrams</li> <li>– Lecture</li> <li>– Lab – Connective Tissue</li> <li>– Lab – Cellular Structure and Function</li> </ul>	<p>Epithelial Tissue Characteristics</p> <ul style="list-style-type: none"> <li>• Individual Lab report</li> <li>• Written quiz</li> <li>• Color-coded diagrams</li> <li>• Drawn slide observations.</li> </ul>
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<b>PA Academic Standards or PA Assessment Anchors</b>	<b>▶ Core Concepts (in question format)</b> • Skills/Knowledge	<b>Activities/Strategies/Study Skills (identify some activities as remedial or enrichment activities)</b>	<b>Assessments (include types and topics)</b>

			<ul style="list-style-type: none"> <li>• Homework questions</li> <li>• Individual Lab report</li> <li>• Color-coded diagrams</li> <li>• Advanced answering in Connective Tissue Characteristics</li> <li>• Written Test- subjective based with definitions, short answer and open ended essays.</li> </ul>
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