

## Human Anatomy Curriculum (SCI 319/ 320)

Date		Hobbs Science Standards 11 <sup>th</sup> - 12 <sup>th</sup> Grade	NM Standards & Benchmarks	Resources  Basic text is Marieb: <u>Human Anatomy &amp; Physiology</u>
		<b>By being embedded throughout the curriculum, these Processing Skills will be addressed throughout the year.</b>		
		<b>Students will be able to:</b>	Strand, Standards, Benchmarks, & Performance Standards	Supplemental books, labs, videos, projects, digital curriculum
<hr/> <hr/> <hr/> <hr/>	<b>1</b>	<ol style="list-style-type: none"> <li>1. Describe the essential components of an investigation, including appropriate methodologies, proper equipment, and safety precautions.</li>   <li>2. Design and conduct scientific investigations that include: <ul style="list-style-type: none"> <li>• Testable hypotheses</li> <li>• Controls and variables</li> <li>• Methods to collect, analyze, and interpret data</li> <li>• Results that address hypotheses being investigated</li> <li>• Predictions based on results</li> <li>• Re-evaluation of hypotheses and additional experimentation as necessary</li> <li>• Error analysis.</li> </ul> </li>   <li>3. Use appropriate technologies to collect, analyze, and communicate scientific data (e.g., computers, calculators, balances, microscopes).</li>   <li>4. Convey results of investigations using scientific concepts, methodologies, and expressions, including: <ul style="list-style-type: none"> <li>• Scientific language and symbols</li> <li>• Diagrams, charts, and other data displays</li> <li>• Mathematical expressions and processes (e.g., mean, median, slope, proportionality)</li> <li>• Clear, logical, and concise communication</li> </ul> </li> </ol>	<p>I, I, I, 1</p> <p>I, I, I, 2</p> <p>I, I, I, 3</p> <p>I, I, I, 4</p>	

		<ul style="list-style-type: none"> <li>Reasoned arguments.</li> </ul> <p>5. Understand how scientific theories are used to explain and predict natural phenomena (e.g., plate tectonics, ocean currents, structure of atom).</p>	I, I, I, 5	
	<b>2</b>	<p>1. Understand how scientific processes produce valid, reliable results, including:</p> <ul style="list-style-type: none"> <li>Consistency of explanations with data and observations</li> <li>Openness to peer review</li> <li>Full disclosure and examination of assumptions</li> <li>Testability of hypotheses</li> <li>Repeatability of experiments and reproducibility of results.</li> </ul> <p>2. Use scientific reasoning and valid logic to recognize:</p> <ul style="list-style-type: none"> <li>Faulty logic</li> <li>Cause and effect</li> <li>The difference between observation and unsubstantiated inferences and conclusion</li> <li>Potential bias</li> </ul> <p>3. Understand how new data and observations can result in new scientific knowledge.</p> <p>4. Critically analyze an accepted explanation by reviewing current scientific knowledge.</p> <p>5. Examine investigations of current interest in science (e.g., superconductivity, molecular machines, age of the universe).</p> <p>6. Examine the scientific processes and logic used in investigations of past events (e.g., using data from crime scenes, fossils), investigations that can be planned in advance but are only done once (e.g., expensive or time-consuming experiments such as medical clinical trials), and investigations of phenomena that can be repeated easily and frequently.</p>	<p>I, I, II, 1</p> <p>I, I, II, 2</p> <p>I, I, II, 3</p> <p>I, I, II, 4</p> <p>I, I, II, 5</p> <p>I, I, II, 6</p>	
	<b>3</b>	<p>1. Create multiple displays of data to analyze and explain the relationships in scientific investigations.</p>	I, I, III, 1	

		2. Use mathematical models to describe, explain, and predict natural phenomena.	I, I, III, 2	
		3. Use technologies to quantify relationships in scientific hypotheses (e.g., calculators, computer spreadsheets and databases, graphing software, simulations, modeling).	I, I, III, 3	
		4. <i>Identify and apply measurement techniques and consider possible effects of measurement errors.</i>	I, I, III, 4	
		5. <i>Use mathematics to express and establish scientific relationships (e.g., scientific notation, vectors, dimensional analysis).</i>	I, I, III, 5	
	<b>4</b>	<b>Science and Technology</b>		
		1. Know how science enables technology but also constrains it, and recognize the difference between real technology and science fiction (e.g., rockets vs. antigravity machines; nuclear reactors vs. perpetual-motion machines; medical X-rays vs. Star-Trek tricorders).	III, I, I, 1	
		2. Understand how advances in technology enable further advances in science (e.g., microscopes and cellular structure; telescopes and understanding of the universe).	III, I, I, 2	
		3. Evaluate the influences of technology on society (e.g., communications petroleum, transportation, nuclear energy, computers, medicine, genetic engineering) including both desired and undesired effects, and including some historical examples (e.g., the wheel, the plow, the printing press, the lightning rod).	III, I, I, 3	
		4. Understand the scientific foundations of common technologies (e.g., kitchen appliances, radio, television, aircraft, rockets, computers, medical X-rays, selective breeding, fertilizers and pesticides, agricultural equipment).	III, I, I, 4	
		5. Analyze the impact of digital technologies on the availability, creation, and dissemination of information.	III, I, I, 6	
		6. <i>Examine the role that New Mexico research facilities play in current space exploration (e.g., Very Large Array, Goddard Space Center).</i>	III, I, I, 7	

		<p>7. Describe uses of radioactivity (e.g. nuclear power, nuclear medicine, radiometric dating).</p> <p>8. Understand how knowledge about the universe comes from evidence collected from advanced technology (e.g., telescopes, satellites, images, computer models).</p> <p>9. <i>Describe the key observations that led to the acceptance of the Big Bang theory and that the age of the universe is over 10 billion years.</i></p>	<p>III, I, I, 8</p> <p>II, III, I, 3</p> <p>II, III, I, 4</p>	
	<b>5</b>	<p style="text-align: center;"><b>Science and Society</b></p> <p>1. Describe how human activities have affected ozone in the upper atmosphere and how it affects health and the environment.</p> <p>2. Describe how scientific knowledge helps decision makers with local, national, and global challenges (e.g., Waste Isolation Pilot Project [WIPP], mining, drought, population growth, alternative energy, climate change).</p> <p>3. Describe major historical changes in scientific perspectives (e.g., atomic theory, germs, cosmology, relativity, plate tectonics, evolution) and the experimental observations that triggered them.</p> <p>4. Know that societal factors can promote or constrain scientific discovery (e.g., government funding, laws and regulations about human cloning and genetically modified organisms, gender and ethnic bias, AIDS research, alternative-energy research).</p> <p>5. Describe how environmental, economic, and political interests impact resource management and use in New Mexico.</p>	<p>III, I, I, 7</p> <p>III, I, I, 9</p> <p>III, I, I, 10</p> <p>III, I, I, 11</p> <p>III, I, I, 13</p>	
	<b>6</b>	<p style="text-align: center;"><b>Science and Individuals</b></p> <p>1. <i>Describe New Mexico's role in nuclear science (e.g., Manhattan Project, WIPP, national laboratories).</i></p> <p>2. Identify how science has produced knowledge that is relevant to individual</p>	<p>III, I, I, 14</p> <p>III, I, I, 15</p>	

		health and material prosperity.		
		3. Understand that reasonable people may disagree about some issues that are of interest to both science and religion (e.g., the origin of life on Earth, the cause of the Big Bang, the future of Earth).	III, I, I, 16	
		4. Identify important questions that science cannot answer (e.g., questions that are beyond today's science, decisions that science can only help to make, questions that are inherently outside the realm of science).	III, I, I, 17	
		5. Understand that scientists have characteristics in common with other individuals (e.g., employment and career needs, curiosity, desire to perform public service, greed, preconceptions and biases, temptation to be unethical, core values, including honesty and openness).	III, I, I, 18	
		6. Know that science plays a role in many different kinds of careers and activities (e.g., public service, volunteers, public office holders, researchers, teachers, doctors, nurses, technicians, farmers, ranchers).	III, I, I, 19	

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(1<sup>st</sup> 9 weeks- 1<sup>st</sup> 4 ½ weeks)

<b>Date</b>		Hobbs Science Standards 11 <sup>th</sup> - 12 <sup>th</sup> Grade	<b>NM Standards &amp; Benchmarks</b>	<b>Resources</b>
		<b>Students will be able to:</b>	Strand, Standards, Benchmarks, & Performance Standards	Basic text is Marieb: <u>Human Anatomy &amp; Physiology</u> Supplemental books, labs, videos, projects, digital curriculum
<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<b>7</b>	<p style="text-align: center;"><b>Levels of Organization</b></p> <p><b>Anatomical Reference System</b></p> <ol style="list-style-type: none"> <li>1. Identify the anatomical terms of the human body.</li> <li>2. Identify the regional body terms.</li> <li>3. Describe the different types of anatomy.</li> <li>4. Design an anatomical human body to understand transverse planes.</li> </ol>	II, II, I, 8	<p>Anatomical Gel Person Lab</p> <p>Anatomical Position with Regional Terms Poster</p>
<p>_____</p>	<b>8</b>	<p><b>Biological Molecules</b></p> <ol style="list-style-type: none"> <li>1. Digestive system</li> </ol>	II, I, I, 1	
<p>_____</p> <p>_____</p>	<b>9</b>	<p><b>Cells</b></p> <ol style="list-style-type: none"> <li>1. Identify the basic structures &amp; functions of a basic cell.</li> <li>2. Identify the different types of cells in the human body.</li> </ol>	II, II, II, 1-6 II, II, III, 1-7	<p>Identification of the Types of Cells in the Human Body Lab</p> <p>Labeling the Cell</p>
	<b>10</b>	<b>DNA/ RNA/ Protein Synthesis</b>	II, II, II, 5-7	Review over Genetics Stages of Mitosis

<p>_____</p> <p>_____</p>		<p>1. Describe the basic structure of DNA and the process of protein synthesis</p> <ul style="list-style-type: none"> <li>• Mitosis</li> </ul> <p>2. List and identify the stages of Mitosis</p>		
<p>_____</p>	<p><b>11</b></p>	<p><b>Meiosis</b></p> <p>1. List and identify the stages of meiosis.</p>	<p>II, II, II, 5-7</p>	



—		6. Discuss birth defects.		
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(2<sup>nd</sup> 9 weeks- 3<sup>rd</sup> 4 ½ weeks)

Date		Hobbs Science Standards 11 <sup>th</sup> - 12 <sup>th</sup> Grade	NM Standards & Benchmarks	Resources
		<b>Students will be able to:</b>	Strand, Standards, Benchmarks, & Performance Standards	Supplemental books, labs, videos, projects, digital curriculum
_____	<b>14</b>	<p style="text-align: center;"><b>Skeletal System</b></p> <p><b>Histology of Osseous Tissue</b></p> <p>1. Identify the composition of bone tissue and cartilage.</p>	II, II, I II, II, II II, II, III	ADAM- “Skeletal System”  Lab Practical- Skeleton  Male v Female Skeleton Lab Internal Anatomy of the Bone Lab
_____	<b>15</b>	<p><b>Axial Skeleton</b></p> <p>1. Explain the function of the axial skeleton.</p> <p>2. Name and identify the bones of the axial skeleton.</p>	II, II, I II, II, II II, II, III	
_____	<b>16</b>	<p><b>Appendicular Skeleton</b></p> <p>1. Explain the function of the appendicular skeleton.</p> <p>2. Name and identify the bones of the appendicular skeleton.</p>	II, II, I II, II, II II, II, III	
_____	<b>17</b>	<p><b>Articulations</b></p> <p>1. Describe three different articulations of the body.</p>	II, II, I II, II, II II, II, III	Diagram of the Knee Joint

_____		2. List and identify different types of joints.		
_____	<b>18</b>	<b>Pathology</b> 1. Discuss injuries & diseases of the skeletal system.	II, II, I II, II, II II, II, III	What is Calcium? Lab
_____	<b>19</b>	<b>Muscular System</b> <b>Histology of Muscle Tissue</b> 1. Identify and describe the three different types of muscle tissue.	II, II, I II, II, II II, II, III	ADAM: "Muscular System" Identification of Muscle Tissues Lab

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	<b>Students will be able to:</b>	Strand, Standards, Benchmarks, & Performance Standards	Basic text is Marieb: <u>Human Anatomy &amp; Physiology</u>  Supplemental books, labs, videos, projects, digital curriculum
<b>20</b>	<b>Muscular System</b>  <b>Identification of Muscles</b>  1. Identify different muscles found on the human skeleton.	II, II, I II, II, II II, II, III	Identification of Major Muscles  Muscle Function Lab
<b>21</b>	<b>Muscle Physiology</b>  1. Identify the function of the major muscles of the body.  2. Describe and differentiate the basic types of muscle contractions.  3. Describe the effects of exercise on the development of muscles.	II, II, I II, II, II II, II, III	
<b>22</b>	<b>Pathology</b>  1. Discuss injuries and diseases that affect the muscular system.	II, II, I II, II, II II, II, III	
<b>23</b>	<b>Nervous System Structures and Functions</b>  <b>Nerve Cells and Nerve Impulses</b>  1. Describe the structure of a neuron.	II, II, I II, II, II II, II, III	ADAM- “Nervous System: Neuron Models”  Neurotransmitters

<p>_____</p>		<ol style="list-style-type: none"> <li>2. Name the components of a neuron and explain its functions.</li> <li>3. Describe the mechanism for the transmission of a nerve impulse.</li> <li>4. Describe the structure and components of a synapse.</li> <li>5. Discuss the function of neurotransmitters.</li> <li>6. Describe the effects of drugs and alcohol on brain.</li> <li>7. Explain how drugs and alcohol affect the transmission of nerve impulses.</li> <li>8. Explain the effects of drugs and alcohol on synaptic transmission.</li> <li>9. Describe the structure of a nerve.</li> <li>10. Distinguish between sensory neurons (receptor), motor neurons and interneurons.</li> <li>11. Summarize the electrical and chemical conditions of resting potential.</li> </ol>		<p>Activity</p> <p>Drug Effect on the Brain Research</p>
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(3<sup>rd</sup> 9 weeks- 5<sup>th</sup> 4 ½ weeks)

Date		Hobbs Science Standards 11 <sup>th</sup> - 12 <sup>th</sup> Grade	NM Standards & Benchmarks	Resources
		<b>Students will be able to:</b>	Strand, Standards, Benchmarks, & Performance Standards	Basic text is Marieb: <u>Human Anatomy &amp; Physiology</u>  Supplemental books, labs, videos, projects, digital curriculum
_____	<b>24</b>	<p style="text-align: center;"><b>Nervous System Structures and Functions</b></p> <p><b>Peripheral Nervous System</b></p> <ol style="list-style-type: none"> <li>1. Differentiate neurons of the peripheral and central nervous systems.</li> <li>2. Differentiate between afferent and efferent nerve impulses.</li> </ol>	II, II, I II, II, II II, II, III	Video- “Nervous System”
_____	<b>25</b>	<p><b>Central Nervous System</b></p> <ol style="list-style-type: none"> <li>1. Name the three divisions of the central nervous system.</li> <li>2. Identify the basic structures of the brain.</li> <li>3. Name the divisions of the cerebrum and describe their functions.</li> <li>4. Locate and describe the cerebellum and its functions.</li> <li>5. Define an integrative function and give an example of an integrative function which involves structures of the three regions of the brain.</li> </ol>	II, II, I II, II, II II, II, III	Sheep Brain Dissection  Potato Head Activity
_____	<b>26</b>	<p><b>Pathology</b></p> <ol style="list-style-type: none"> <li>1. Describe injuries &amp; disease that effect the nervous system.</li> </ol>	II, II, I II, II, II	Potato Head Drop- Brain Injuries Protective Head

_____		<p>2. Differentiate the central and nervous systems in terms of their abilities to repair themselves.</p> <p>3. Explain the effects of major and minor trauma to the brain.</p>	II, II, III	<p>Gear Research</p> <p>Video- “Fires of the Mind”</p>
_____	<b>27</b>	<p align="center"><b>The Special Senses</b></p> <p><b>Vision</b></p> <p>1. Identify the basic structure of the human eye.</p> <p>2. Describe the function of the structures of the human eye.</p> <p>3. Explain the process of vision.</p> <p>4. Discuss disorders of the eye.</p>	<p>II, II, I</p> <p>II, II, II</p> <p>II, II, III</p>	<p>Cow Eye Dissection</p> <p>Labeling the Eye</p> <p>Blind Spot Activity</p> <p>Illusions &amp; Visual Effects Activities</p> <p>Video- “Vision”</p>
_____	<b>28</b>	<p><b>Hearing</b></p> <p>1. Identify the basic structure of the human ear.</p> <p>2. Explain the functions of ear structures in hearing and equilibrium.</p>	<p>II, II, I</p> <p>II, II, II</p> <p>II, II, III</p>	<p>Labeling the Ear Activity</p> <p>Video- “Hearing”</p>
_____	<b>29</b>	<p><b>Olfaction</b></p> <p>1. Describe the basic structure and function of the nose.</p>	<p>II, II, I</p> <p>II, II, II</p> <p>II, II, III</p>	
_____	<b>30</b>	<p><b>Taste</b></p> <p>1. Describe the basic structure &amp; function of the tongue.</p> <p>2. Identify the taste receptors found on the tongue.</p>	<p>II, II, I</p> <p>II, II, II</p> <p>II, II, III</p>	Tasty Buds, Taste & Smell Activity
_____	<b>31</b>	<p><b>Sensory Receptors</b></p> <p>1. Describe the basic structure &amp; function of the skin.</p>	<p>II, II, I</p> <p>II, II, II</p>	Tactile Sensations Activity

_____		2. Name the three different types of receptors found throughout the body and explain their roles in detecting pain, pressure, temperature, and touch.	II, II, III	
_____	<b>32</b>	<p style="text-align: center;"><b>Histology</b></p> <p><b>Tissues</b></p> <p>1. Identify and describe the basic tissue types.</p> <p>2. Explain the functions of the different tissues.</p>	II, II, I II, II, II II, II, III	
_____	<b>33</b>	<p><b>Membranes</b></p> <p>1. Name and describe the different types of membranes and their locations.</p>	II, II, I II, II, II II, II, III	
_____	<b>34</b>	<p><b>Skin</b></p> <p>1. Name and describe the layers of the skin.</p> <p>2. Explain the functions of the layers of the skin.</p> <p>3. Differentiate epidermis, dermis, and subcutaneous tissues.</p> <p>4. Describe the process of tissue healing and repair in skin injuries.</p> <p>5. Explain the effects on the skin of prolonged exposure to the sun and other environmental factors.</p>	II, II, I II, II, II II, II, III	Video- "Human Body- The Skin"  Observing Different Skin Types Lab  Drawings & Diagrams of the Skin

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		<b>Students will be able to:</b>	Strand, Standards, Benchmarks, & Performance Standards	Basic text is Marieb: <u>Human Anatomy &amp; Physiology</u>  Supplemental books, labs, videos, projects, digital curriculum
<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<b>35</b>	<p style="text-align: center;"><b>Circulatory System</b></p> <p><b>Heart</b></p> <ol style="list-style-type: none"> <li>1. Describe the location of the heart in the thorax.</li> <li>2. Name and locate the chambers of the heart.</li> <li>3. Name and locate the valves of the heart.</li> <li>4. Describe the function based on the structure of each valve.</li> <li>5. Describe the pathway of blood through the heart.</li> <li>6. Explain the role of the valves of the heart in regulating blood flow.</li> <li>7. Locate and describe the structures and functions of the coronary circulation.</li> <li>8. Name and locate the structures of the electrical conduction system of the heart.</li> </ol>	II, II, I II, II, II II, II, III	Heart Labeling  Video- “The Heart” Video- “Heart Bypass Surgery”  Sheep Heart Dissection
<p>_____</p>	<b>36</b>	<p><b>Vascular System</b></p> <ol style="list-style-type: none"> <li>1. Differentiate veins and arteries based on their structure and function</li> </ol>	II, II, I II, II, II II, II, III	ADAM- “Circulatory System”  Video- “Human Body

_____		2. Name and locate the major veins and arteries of the body		Circulation”
_____		3. Differentiate diastolic and systolic blood pressures		Circulation of the Heart Mini-Lab
_____		4. Demonstrate the proper technique for measuring blood pressure		
_____	<b>37</b>	<b>Blood</b>		
_____		1. Name the types of formed elements of the blood and describe their functions.	II, II, I	Vital Signs/ Measurement of Blood Pressure Lab
_____		2. Describe the composition of plasma and explain its functions.	II, II, II	Effect of Exercise on Blood Pressure Lab
_____		3. Describe the role of the blood and blood vessels in homeostasis.	II, II, III	Video- “Human Body The Blood”
_____		4. Differentiate blood types according to antigen and Rh factors.		Blood Typing Lab
_____		5. Explain the proper technique for typing blood according to antigen and Rh factor.		
_____		6. Describe the components of the blood which work with the immune system to defend the body against disease.		
_____		7. Describe the transmission of HIV through blood.		
_____	<b>38</b>	<b>Pathology</b>		
_____		1. Describe common illnesses and diseases of the blood.	II, II, I	Video- “The Immune System”
_____		2. Discuss common disorders and diseases of the heart.	II, II, II II, II, III	
_____	<b>39</b>	<b>Endocrine Structures and Functions</b>		
_____		<b>Major Glands</b>	II, II, I	
_____		1. Name the nine major glands of the endocrine system.	II, II, II	
_____		2. Name the hormones produced by each endocrine gland and the basic effect of	II, II, III	

		that hormone.		
_____	<b>40</b>	<b>Regulatory and Integrative Functions</b> 1. Name the organs and systems which work with the endocrine system in control of metabolism.	II, II, I II, II, II II, II, III	
_____	<b>41</b>	<b>Pathology</b> 1. Name one disease caused by the hyper/hyosecretion of each of the major hormones of the endocrine system.	II, II, I II, II, II II, II, III	

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Date		Hobbs Science Standards 11 <sup>th</sup> - 12 <sup>th</sup> Grade	NM Standards & Benchmarks	Resources
		<b>Students will be able to:</b>	Strand, Standards, Benchmarks, & Performance Standards	Supplemental books, labs, videos, projects, digital curriculum
_____	<b>42</b>	<p style="text-align: center;"><b>Respiratory System</b></p> <p><b>Respiratory Organs</b></p> <ol style="list-style-type: none"> <li>1. Name and locate the divisions of the respiratory system.</li> <li>2. Describe the microscopic structure of the respiratory membranes.</li> <li>3. Describe the pathway of air into and out of the lungs.</li> </ol>	II, II, I II, II, II II, II, III	Video- “The Circulatory & Respiratory System”  ADAM- “Respiratory System”  Labeling: Respiratory System
_____	<b>43</b>	<p><b>Mechanics of Breathing</b></p> <ol style="list-style-type: none"> <li>1. Describe the steps involved in the physiology of breathing.</li> <li>2. Explain the pressure differences within the thorax which are caused by the contraction of the muscles of respiration.</li> </ol>	II, II, I II, II, II II, II, III	Lung Volume & Balloon Lab  Measuring Lung Volume with the Spirometer Lab
_____	<b>44</b>	<p><b>Respiratory Gases</b></p> <ol style="list-style-type: none"> <li>1. Explain the need for exchange of carbon dioxide and oxygen.</li> <li>2. Describe gas exchange as diffusion.</li> </ol>	II, II, I II, II, II II, II, III	Balloon v Spirometer

_____	<b>45</b>	<b>Pathology</b> 1. Discuss the illness and disorders of the respiratory system.	II, II, I II, II, II II, II, III	Smoking & Your Lungs Activity
_____	<b>46</b>	<b>Digestive Structures and Functions</b> <b>Essential Organs</b> 1. Name the essential organs of the digestive system and explain their functions. 2. Explain how the structures of each region of the digestive system matches its function.	II, II, I II, II, II II, II, III	ADAM- "The Digestive System" Labeling: The Digestive System" Intro to Digestion Lab Video: "The Digestive System"
_____	<b>47</b>	<b>Accessory Organs</b> 1. Locate the liver/gallbladder and pancreas and explain their functions.	II, II, I II, II, II II, II, III	
_____	<b>48</b>	<b>Chemical Digestion</b> 1. Describe the function of an enzyme. 2. Name the enzymes produced by each region of the digestive system and explain their specific functions. 3. Describe the role of hydrochloric acid in digestion and the activation of enzymes. 4. Describe the formation and function of bile.	II, II, I II, II, II II, II, III	Enzymes Activity
_____	<b>49</b>	<b>Mechanical Digestion</b> 1. Explain the specialization of teeth in the mechanical digestion of different types of foods. 2. Describe the mechanisms and reflexes involved in mastication and deglutition.	II, II, I II, II, II II, II, III	

_____		3. Describe the mechanical processes which occur in the stomach and intestines which aid in digestion.		
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## Human Anatomy Curriculum (SCI 319/ 320)

(4<sup>th</sup> 9 weeks- 8<sup>th</sup> 4 ½ weeks)

<b>Date</b>		Hobbs Science Standards 11 <sup>th</sup> - 12 <sup>th</sup> Grade	<b>NM Standards &amp; Benchmarks</b>	<b>Resources</b>
		<b>Students will be able to:</b>	Strand, Standards, Benchmarks, & Performance Standards	Supplemental books, labs, videos, projects, digital curriculum
<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<b>50</b>	<p style="text-align: center;"><b>Digestive Structures and Functions</b></p> <p><b>Nutrition and Metabolism</b></p> <ol style="list-style-type: none"> <li>1. Differentiate between essential and derived nutrients.</li> <li>2. Name the sources of the major nutrients.</li> <li>3. Describe the role of vitamins and minerals in the human body.</li> <li>4. Explain the breakdown of foods into absorbable nutrients.</li> </ol>	II, II, I II, II, II II, II, III	Using the Food Pyramid Activity Keeping a Food Diary Activity  Fast Foods Lab  Snack Attack Part 1 Activity Snack Attack Part 2 Activity
<p>_____</p> <p>_____</p> <p>_____</p>	<b>51</b>	<p><b>Pathology</b></p> <ol style="list-style-type: none"> <li>1. Describe diseases caused by the lack of specific nutrients.</li> <li>2. Describe the formation and treatment of ulcers.</li> <li>3. Explain at least one common disorder or illness of the digestive system.</li> </ol>	II, II, I II, II, II II, II, III	Video- “Junk Food Junkie”
	<b>52</b>	<p style="text-align: center;"><b>Excretory Structures and Functions</b></p> <p><b>Kidneys</b></p>	II, II, I II, II, II II, II, III	Video- “Human Body Excretory System” Video- “Kidney Transplant Surgery”

_____		<ol style="list-style-type: none"> <li>1. Describe the location of the kidneys.</li> <li>2. Describe the gross anatomy of the kidneys.</li> <li>3. Describe the internal structures and drainage system of the kidneys.</li> </ol>		ADAM- “The Excretory System” Labeling the Kidney Kidney Dissection Organ Donation Activity
_____	<b>53</b>	<b>Accessory Structures</b> <ol style="list-style-type: none"> <li>1. Describe the structures which drain and store urine.</li> <li>2. Describe the tissue structure of the urinary bladder which allows it to stretch and contract.</li> </ol>	II, II, I II, II, II II, II, III	
_____	<b>54</b>	<b>Formation of Urine</b> <ol style="list-style-type: none"> <li>1. Explain how the kidneys filter blood.</li> <li>2. Describe how the process of filtration leads to the formation of urine.</li> <li>3. Describe the composition of urine.</li> <li>4. Explain the role of kidneys in maintaining proper levels of water and electrolytes in the body.</li> </ol>	II, II, I II, II, II II, II, III	
_____	<b>55</b>	<b>Pathology</b> <ol style="list-style-type: none"> <li>1. Explain the formation of kidney stones.</li> <li>2. Describe the effects of exposure of environmental pollutants on the kidneys.</li> <li>3. Explain the process of kidney dialysis.</li> </ol>	II, II, I II, II, II II, II, III	Video- “Osmosis Jones”