

**UR East Overview of Year
Vision Care I Curriculum**

10th/11th Grade

Your curriculum overview may have more than 6 units. Please adjust the template accordingly.

SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE
Unit 1		Unit 2			Unit 3		Unit 4		Unit 5
Ocular Structure and Lenses		Lensometry			Layout and Blocking		Edging and Mounting		Final Verification

Unit 1-	Understanding	Essential Question
<p>CDOS Standards (Career Development and Occupational Studies): 1, 2, 3a, and 3b</p>	<p>Enduring Understandings <i>Scholars will understand that...</i></p> <ol style="list-style-type: none"> 1. <i>The curvature of the crystalline lens of the eye focuses images on the retina of the eye</i> 2. <i>Changes to the cornea and crystalline lens of the eye affect the ability to see</i> 3. <i>Astigmatism is a natural disorder of the eye that causes myopia and hyperopia and can be corrected with "cylinder" in prescription eye glasses</i> 4. <i>Spherical lenses don't correct astigmatism, but correct refractive imperfections of the eye</i> 5. <i>Images focus through the pupil and onto the retina where the light rays are collected and sent to the brain for visual processing</i> 6. <i>Concave and convex lenses refract light differently</i> 	<p>Essential Questions <i>Scholars will consider such questions as...</i></p> <ol style="list-style-type: none"> 1. How does my eye make an image? 2. Why can't I see like other people? 3. How do glasses help to correct my vision?
<p>Performance Task: Scholars will demonstrate how the mammalian ocular system projects images on the back of the eye using models. Through manipulation of models, students will demonstrate to the teacher how eyes work correctly as well as how misshapen eyes project images. Scholars will use available lenses to correct vision issues, demonstrating an understanding of how light passes through concave and convex lenses.</p>		
<p>Formative Assessments: Career Pathways programs will monitor universal employability skills for each student. These will be formally assessed with an Employability Profile.</p>		

Unit 2- Lensometry	Understanding	Essential Question
<p>CDOS Standards (Career Development and Occupational Studies): 1, 2, 3a, and 3b</p> <p>CCTC Standards (Common Career Technical Core) 1, 2, 4, 8, 9, 11</p>	<p>Enduring Understandings <i>Scholars will understand that...</i></p> <ol style="list-style-type: none"> <i>Spherical lenses don't correct astigmatism, but correct refractive imperfections of the eye</i> <i>Lensometers read the "power" of a lens and allow opticians to either make or neutralize patient prescriptions</i> <i>The axis of an astigmatic lens is determined by turning an axis wheel and this corresponds to an axis in a patients eye</i> 	<p>Essential Questions <i>Scholars will consider such questions as...</i></p> <ol style="list-style-type: none"> What tools help me to make glasses to help people see? Why do I need to calibrate my tools? How does turning the power drum help to determine the power of a lens?
<p>Performance Task:</p> <p>Scholars will neutralize 5 finished pairs of glasses, finding both the powers and the axis, and extrapolate the vision imperfection based on the prescription of the glasses</p>		
<p>Formative Assessments:</p> <p>Career Pathways programs will monitor universal employability skills for each student. These will be formally assessed with an Employability Profile.</p>		

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Unit 3- Layout and Blocking	Understanding	Essential Question
<p>CDOS Standards (Career Development and Occupational Studies):</p> <p>1, 2, 3a, and 3b</p> <p>CCTC Standards (Common Career Technical Core)</p> <p>1, 2, 4, 8, 9, 11</p>	<p>Enduring Understandings <i>Scholars will understand that...</i></p> <ol style="list-style-type: none"> 1. Pupillary distance is unique to individuals and is important in placing optical centers of lenses in front of a patients pupil 2. Decentration moves the optical center of a lens from the geometric center of a frame to its placement in front of the patients pupil. 3. Blocking places a block at the location for a patients ophthalmic needs for edging lenses 	<p>Essential Questions <i>Scholars will consider such questions as...</i></p> <p>Why is the optical center of a lens so important?</p> <p>Why is decentration important?</p> <p>What is my pupillary distance?</p> <p>How do I prepare a lens to be cut for a specific frame?</p>
<p>Performance Tasks:</p> <p>Scholars will practice skills by obtaining accurate PDs of 10 Scholars, spot and dot the optical centers of 8 lenses to the doctors prescribed axis, mathematically calculate decentration for a patient and specific frame, and accurately block 8 lenses based on the calculated decentrations</p>		
<p>Formative Assessments:</p> <p>Career Pathways programs will monitor universal employability skills for each student. These will be formally assessed with an Employability Profile.</p>		

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Unit 4- Edging & mounting	Understanding	Essential Question
<p>CDOS Standards (Career Development and Occupational Studies):</p> <p>1, 2, 3a, and 3b</p> <p>CCTC Standards (Common Career Technical Core)</p> <p>1, 2, 4, 8, 9, 11</p>	<p>Enduring Understandings</p> <p><i>Scholars will understand that...</i></p> <ol style="list-style-type: none"> 1. Specific measurements are important to correctly cutting and placing a lens in a frame 2. Millimeters make a difference when cutting lenses 3. Patterns are used to cut a correct shape for the lens 4. Hand beveling creates an important safety consideration 5. Safety is always important 	<p>Essential Questions</p> <p><i>Scholars will consider such questions as...</i></p> <p>How much is too much?</p> <p>What safety features does an edger have?</p> <p>How do I know if I did it right?</p> <p>Why aren't my glasses straight?</p>
<p>Performance Task:</p> <p>Scholars will cut, hand bevel, and mount lenses in a frame using a Horizon II edger while observing all safety procedures</p>		
<p>Formative Assessments:</p> <p>Career Pathways programs will monitor universal employability skills for each student. These will be formally assessed with an Employability Profile.</p>		

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Unit 5- Final Verification	Understanding	Essential Question
<p>CDOS Standards (Career Development and Occupational Studies):</p> <p>1, 2, 3a, and 3b</p> <p>CCTC Standards (Common Career Technical Core)</p> <p>1, 2, 4, 8, 9, 11</p>	<p>Enduring Understandings</p> <p><i>Scholars will understand that...</i></p> <ol style="list-style-type: none"> 1. The work ticket is used to keep track of the information necessary to make patients glasses 2. Accuracy in each step helps to ensure accuracy in the final product 3. Bench alignment of frames helps to ensure proper fit 	<p>Essential Questions</p> <p><i>Scholars will consider such questions as...</i></p> <p>How do I know if I did it right?</p> <p>Why aren't my glasses straight?</p> <p>What can I do with the skills I learned this year?</p>
<p>Performance Task:</p> <p>Scholars will manufacture, from start to finish, a pair of glasses for a patient using tools and techniques learned throughout the course of the school year. They will check for accuracy of the final product prior to acting as an optician and dispensing the glasses to the patient</p>		
<p>Formative Assessments:</p> <p>Career Pathways programs will monitor universal employability skills for each student. These will be formally assessed with an Employability Profile.</p>		