

**Content Area: Vision Care II**  
**Unit #1 – Ophthalmic Fabrication**

**Unit overview:** Scholars will revisit the steps a tools necessary to manufacture a single vision pair of glasses. They will be introduced to the different types of vision disorders that require correction and how each one is corrected by specific prescriptions. Students will learn the reason and rules of ANSI Standards as they apply to the fabrication of glasses for patients.

**Stage 1 Desired Results**

Mission/Vision alignment	<i>Transfer</i>	
<ul style="list-style-type: none"> <li>• <b>Tenacious:</b> Recognizes and takes advantage of opportunities to discover passions</li> <li>• <b>Think Purposeful:</b> Thinks creatively to solve problems, make decisions, and take action</li> <li>• <b>Advocate:</b> Accepts differences and listens to the voice of others</li> </ul>	<p><i>Scholars will be able to independently use their learning to...</i></p> <p>Accurately manufacture a pair of single vision glasses, from start to finish, using a patients prescription and PD, and check the glasses for matching to standards</p> <p>Use their knowledge of prescriptions to determine the ocular disorder of a patient from their prescription</p>	
<p><b>CDOS Standards (Career Development and Occupational Studies):</b> 1, 2, 3a, and 3b</p> <p><b>CCTC Standards (Common Career Technical Core)</b> 1, 2, 4, 8, 9, 11</p> <p><b>ESTABLISHED GOALS</b></p> <ol style="list-style-type: none"> <li>1. Complete sequences of steps accurately and determine where mistakes might have been made, and how</li> <li>2. Manufacture a pair of glasses and determine their accuracy based on ANSI Standards</li> <li>3. Understand the differences in prescriptions and how they correct vision</li> </ol>	<i>Meaning</i>	
	<p><b>UNDERSTANDINGS</b>  <i>Scholars will understand that...</i></p> <ol style="list-style-type: none"> <li>1. <i>There are different ophthalmic profession choices that are open to me after this program</i></li> <li>2. <i>Glasses correct for different types of astigmatism, and that myopia and hyperopia are the 2 types of visual disorders that people experience</i></li> <li>3. <i>Each step of the fabrication of glasses must be completed accurately</i></li> <li>4. <i>Using the lensometer is accurately is important to ensure the patients prescription is accurate</i></li> <li>5. <i>How the tracer and edger work together to accurately cut the shape of the lens, and what to do to determine errors in size</i></li> <li>6. <i>How to use ANSI standards to determine whether a prescription is accurate for the patient and the prescription</i></li> </ol>	<p><b>ESSENTIAL QUESTIONS</b></p> <ol style="list-style-type: none"> <li>1. What can I do after this class?</li> <li>2. How do I make a pair of glasses?</li> <li>3. Why do I need to know the difference between spherical and cylindrical lines in the lensometer?</li> <li>4. How do glasses help to correct my vision?</li> <li>5. Why do I need to block lenses at the correct decentration?</li> <li>6. How does the tracer help me to make glasses?</li> <li>7. Why are ANSI standards?</li> </ol>
	<i>Acquisition</i>	
	<p><i>Scholars will know...</i></p> <ol style="list-style-type: none"> <li>1. <i>What myopia, hyperopia, and astigmatism are and the various mixes of the ocular disorders and the prescriptions that correlate to each</i></li> </ol>	<p><i>Scholars will be skilled at...</i></p> <ol style="list-style-type: none"> <li>1. <i>Using a lensometer to find the power of a finished pair of glasses</i></li> <li>2. <i>Blocking lenses using calculated decentration</i></li> <li>3. <i>Using the tracer and edger to cut the lens to fit the glasses</i></li> </ol>

	<p>2. When using a lensometer the spherical lines must be set before the cylindrical lines or the patients prescription will be backwards</p> <p>3. How to read ANSI chart Z80.1 to determine if a pair of glasses is accurate and within dispensing standards</p>	<p>4. Labeling the patients ocular disorder based on their prescription</p> <p>5. Using the ANSI standards and the correct tools to determine whether glasses are ok to be dispensed</p>
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## Stage 2 - Evidence

Evaluative Criteria	Assessment Evidence
Use of the ANSI Standards, Z80.1 and the common assessment rubric for East Career Pathways	<p>PERFORMANCE TASK(S):</p> <p>Use ANSI standards to determine if a pair of glasses is within dispensing standards and what must be corrected for the glasses to be dispensed</p>
	<p>Scholars must determine the patients ocular disorder based on the prescription</p> <p>OTHER EVIDENCE:</p> <p>Demonstration of various skills</p> <p>Quizzes</p> <p>Questioning</p> <p>Reflections completed by student</p>

## Stage 3 – Learning Plan

### Summary of Key Learning Events and Instruction

1. Introduce the various pathways for scholars in this class and where they can go throughout their future. Discuss assignment from previous year regarding the pathways (*where, hook*)
2. Scholars will revisit the steps to manufacture a pair of glasses from start to finish, demonstrating mastery of each step. (*where, hook, equip*)
3. Introduction of the ANSI Standards Z80.1 chart and how to read it and apply to glasses to determine if glasses are dispensable, as well as how to measure what meets and exceeds standards (*Where, Equip, Rethink, revise*)
4. Scholars will be given 5 pairs of glasses that they must perform the final verification of in order to determine if they fit within standards (*Rethink, organized, exhibit*)
5. Scholars will research the various types of ocular disorders and prescriptions that correct for them. (*Equip, rethink, organized*)
6. Scholars will be given a mystery pair of glasses that they must determine the prescription and ocular disorder of the patient who wears them. (*Organized, tailored, rethink, equip*)