



## Northern York County School District

### Curriculum Overview

<b>Course: Packaging Engineering &amp; Design</b>	
<b>Grade Level: 10-12</b>	
<b>Approval Date: March 2023</b>	<b>Length of Time: 180 Days/1 credit</b>
<b>Course Description:</b>  <b>Prerequisite: Introduction to Graphic Design</b> <p>The Packaging Engineering &amp; Design course introduces students to the ever-growing packaging design and printing field. Students will learn how to engineer and design various shaped packages. These processes develop the critical-thinking and problem-solving skills necessary for preparation to meet the always every changing industry needs. Students who are looking to investigate their creative skills and / or prepare for potential future employment in this field will benefit greatly from this course.</p>	
<b>Course Objectives:</b> <ul style="list-style-type: none"> <li>• Students will incorporate the seven elements of the graphic design process.</li> <li>• Students will know and use non-fiction reading strategies to improve their technical reading ability.</li> <li>• Students will know color palettes.</li> <li>• Students will use tools within Adobe Illustrator.</li> <li>• Students will use tools within Adobe Photoshop.</li> </ul>	
<b>Related Standards:</b>  <u>Pennsylvania State Standards:</u> <ul style="list-style-type: none"> <li>• Explore the use of basic tools, simple materials, and techniques to safely solve problems.</li> <li>• Evaluate the effectiveness of computer software to solve specific problems.</li> </ul> <u>Pennsylvania Technology &amp; Engineering Standards</u> <i>Nature of Characteristics of Technology &amp; Engineering</i> <ul style="list-style-type: none"> <li>• Relate how technological and engineering developments have been evolutionary, often the result of a series of refinements to basic inventions or technological knowledge.</li> <li>• Use project management tools, strategies, and processes in planning, organizing, and controlling work.</li> </ul> <i>Integration of Knowledge, Technologies, and Practices</i> <ul style="list-style-type: none"> <li>• Analyze how technology transfer occurs when a user applies an existing innovation developed for one function for a different purpose.</li> </ul> <i>Design &amp; Technology</i> <ul style="list-style-type: none"> <li>• Apply a broad range of design skills to a design thinking process.</li> <li>• Implement and critique principles, elements, and factors of design.</li> <li>• Implement and critique principles, elements, and factors of design.</li> <li>• Optimize a design by addressing desired qualities within criteria and constraints while considering trade-offs.</li> </ul> <u>Standards for Technological and Engineering Literacy:</u> <ul style="list-style-type: none"> <li>• Illustrate principles, elements, and factors of design.</li> </ul>	

<b>Units:</b> <ol style="list-style-type: none"> <li>1. Graphic Design Principles</li> <li>2. Color Theory</li> <li>3. Package Design &amp; Prototype Construction</li> <li>4. Print for Packaging &amp; Manufacturing</li> </ol>	
<b>Concepts:</b> <ul style="list-style-type: none"> <li>• Design principles</li> <li>• Color theory</li> <li>• Principles of packaging</li> <li>• Material testing</li> <li>• Prototype &amp; package printing</li> <li>• Adobe Photoshop</li> <li>• Adobe Illustrator</li> </ul>	<b>Competencies:</b> <ul style="list-style-type: none"> <li>• Students will learn about the 7 elements of design: Balance/Alignment, Contrast, Emphasis, Movement, Proportions, Repetition, White Space.</li> <li>• Students will learn basic tools in Illustrator: Selection, Direct Selection, Pen, Type Tools (Type, Type on a path, Vertical Type, Area Type), Shape Tools (Rectangle, Ellipse, Polygon, Star, Line), Rotate, Scale, Reflect, Sheer Tools. Eraser, Gradient, Fill &amp; Stroke.</li> <li>• Students will learn basic panels in Illustrator: Properties, Layers, Colors, Colors Guide, &amp; Swatches.</li> <li>• Students will learn basic tools in Photoshop: Move, Marquee Tools (Rectangle &amp; Ellipse), Lasso Tools (Lasso, Polygonal Lasso, Magnetic Lasso), Selection Tools (Object Selection, Quick Selection &amp; Magic Wand,) Crop, Eyedropper, Healing Brush Tools (Spot Healing, Healing, Red Eye), Brush, Stamp Tools (Clone &amp; Pattern) Eraser Tools (Eraser, Magic Eraser, Background Eraser), Paint Bucket, Gradient, Blur, Sharpen, Smudge, Type Tools (Horizontal &amp; Vertical), Shape Tools (Rectangle, Ellipse, Triangle, Polygon, Triangle, Line &amp; Custom Shape), Foreground Color, Background Color, Fill, Stroke &amp; Zoom Tool.</li> <li>• Students will learn basics panels in Photoshop: Layers, Swatches, Gradients, Properties, Adjustments, History &amp; Layers.</li> <li>• Students will employ non-fiction reading strategies including: using external text features, identifying key concepts, recognizing text organization, previewing, monitoring comprehension and summarizing.</li> </ul>
<b>Learning Activities:</b> <ul style="list-style-type: none"> <li>• Individual classwork</li> <li>• Peer teaching</li> <li>• Teacher demonstration</li> <li>• Instructional videos</li> </ul>	<b>Performance Tasks:</b> <ul style="list-style-type: none"> <li>• Product/package research project</li> <li>• Non-traditional shaped package design</li> <li>• Design and create a cell phone box packaging or similar task based on student competency achievement</li> </ul>

	<ul style="list-style-type: none"> <li>• Redesign and create an updated label of existing product</li> </ul>
<b>Other Assessment Measures:</b> <ul style="list-style-type: none"> <li>• Student self-evaluation.</li> <li>• Student peer evaluation.</li> <li>• Teacher feedback.</li> </ul>	
<b>Textbook/Primary Resource:</b> <ul style="list-style-type: none"> <li>• Adobe Illustrator</li> <li>• Adobe Photoshop</li> </ul>	
<b>Supplemental Resource Materials:</b> <ul style="list-style-type: none"> <li>• YouTube</li> <li>• Adobe Help Website</li> <li>• Teacher generated materials</li> </ul>	