

Cornwall-Lebanon School District Curriculum Overview

Engineering Design 2 (Grades 9-12)

18	length of time in weeks	Concepts & Competencies	Common Assessments	Academic Standards (PA Core if applicable)
Unit 1	15	<p style="text-align: center;"><u>3D Design Tutorials</u></p> <p>Using intermediate level design skills successfully design a 3 dimensional part. Use the extruded boss, extruded cut, swept boss, swept cut, helix, loft, dome, fillet, and chamfer features to design a PART.</p>	<ul style="list-style-type: none"> ➤ Student work will be assessed using a grade rubric developed for these drafting assignments. 	
Unit 2	20	<p style="text-align: center;"><u>Half Section Views</u></p> <p>Construct a fully defined half section sketch using 3D design software. Successfully design a SolidWorks PART using circular & linear patterns. Dimension a drawing using proper dimensioning techniques including thread notes & tolerances.</p>	<ul style="list-style-type: none"> ➤ Student work will be assessed using a grade rubric developed for these drafting assignments. 	
Unit 3	5	<p style="text-align: center;"><u>Threads, Fasteners & Tolerances</u></p> <p>Use the extruded boss, extruded cut, swept boss, swept cut, helix, loft, dome, fillet, and chamfer features to design a PART. Design a threaded mechanical fastener using 3D design software. Dimension a drawing using proper dimensioning techniques including thread notes & tolerances.</p>	<ul style="list-style-type: none"> ➤ Student work will be assessed using a grade rubric developed for these drafting assignments. 	
Unit 4	5	<p style="text-align: center;"><u>Full & Exploded View Assemblies</u></p> <p>Using a 3D software program create a Full and Exploded Assembly using 3D design software.</p>	<ul style="list-style-type: none"> ➤ Student work will be assessed using a grade rubric developed for these drafting assignments. 	
Unit 5	45	<p style="text-align: center;"><u>Solving 3D Design Challenges</u></p> <p>Solve a complex design challenge using advanced problem solving skills, design skills, and 3D software. Use the extruded boss, extruded cut, swept boss, swept cut, helix, loft, dome, fillet, and chamfer features to design a PART. Dimension a drawing using proper dimensioning techniques including thread notes & tolerances. Print a SolidWorks PART using a 3 Dimensional Printer.</p>	<ul style="list-style-type: none"> ➤ Student work will be assessed using a grade rubric developed for these drafting assignments. 	