

Expectations and Outcomes

Grade Level/Course: 10-12

Content Area: Tech Ed

Unit Title	Guarantees
Unit 1 – Conversions and Math	<ul style="list-style-type: none"> • Direct application to CAD/CAM/CNC work
Unit 2 - Design and Material Research	<ul style="list-style-type: none"> • Design Process Use • Hand Sketching • Research Material properties of ABS, Aluminum, Mild Steel, and common types of wood
Unit 3 - 3D printing & Tolerances	<ul style="list-style-type: none"> • Experiment with 3D Fusion • Use XYZ software. • Part tolerances • Reinforce Parametric Modeling • Making simple machines
Unit 4 - CNC Metal Milling	<ul style="list-style-type: none"> • CAM Software use and training • Section views • Design a u joint • Design a whistle
Unit 5 - Robotics Accessories	<ul style="list-style-type: none"> • Design a component to improve the capabilities of the Vitrics Robots performance during the EOD competition.
Unit 6 - Keystone Project	<ul style="list-style-type: none"> • Students will design and construct a project that will shows their master of skills in Mechanical Engineering. • Possibly Rube Goldberg