



Three Rivers School District  
**PLANNED COURSE STATEMENT**

**Arial  
12**

<b>Course Title: INTRO TO PRINCIPLES OF ENGINEERING</b>	<b>Grade Level(s): 09-12</b>
<b>Length of Course: 2 trimester</b>	<b>Credit Area: ELECTIVE</b>
<b>Prerequisite:</b>	<b>Amount of Credit: 1 Credit</b>
<b>Adopted/Supplemental Materials:</b>	
<b>Dual Credit Articulation:</b>	

**COURSE DESCRIPTION:**

The major focus of IED is the design process and its application. Through hands-on projects, students apply engineering standards and document their work. Students use industry standard 3D modeling software to help them design solutions to solve proposed problems, document their work using an engineer's notebook, and communicate solutions to peers and members of the professional community.

**COURSE GOALS:**

Students will:

Gain an understanding of the design/engineering process as it creates a basis for innovation.

Develop skills: Orthographic, isometric, perspective, oblique.

Model 3-dimensional objects using 3-d modeling software.

Reverse engineer and improve an existing product demonstrated through the 3-d modeling program.

Learn to work with clients and solve problems using the process of design and modeling.

**ASSESSMENT STRATEGIES:**

Demonstration of use of modeling software.

Completion of design, building and operation of robot.

Collected sketches in portfolio.

Collaborative problem solving skills measured by rubric created to score presentations.

Student notebook will document student participation in individual and collaborative projects.

Teacher generated quizzes and tests on classroom lectures and presentations.

**ACCOMMODATIONS AND MODIFICATIONS:**

Per individual IEP

**CAREER RELATED LEARNING STANDARDS:**