

590 INTRO TO ENGINEERING AND DESIGN HONORS

COURSE DESCRIPTION

This introductory Project Lead the Way course (IED) is designed both for students with a strong interest in engineering and students who are exploring their options. No prior experience is necessary. IED emphasizes problem solving, the design process, and computer aided drafting- CAD. Students will design and produce personalized projects using the CAD system and high tech equipment like laser engravers and 3d-printers to learn the basics of engineering. Students also explore the many fields and career paths in engineering.

Because Introduction to Engineering Design and Computer Integrated Manufacturing are both PLTW introductory courses, students selecting one of those courses will automatically have the other as an alternate choice.

ACADEMIC PLANNING

This course can be used as one Science Elective Credit

PREREQUISITE: NONE

FREQUENCY: SEMESTER/DAILY

STANDARDS

[PLTW Engineering Standards Connection](#)

UNITS

- Unit 1 - Design and Problem Solving
- Unit 2 - Assembly Design
- Unit 3 - Thoughtful Product Design
- Unit 4 - Making Things Move

OBJECTIVES

[PLTW Course Resume](#)

KEY RESOURCES

- Microsoft Office (Excel, Word, PowerPoint) or similar
- 3D solid modeling software - Autodesk Fusion 360 (or other 3D solid modeling application)
- Dial calipers
- 3D prototyper
- Mechanical prototyping equipment

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ASSESSMENTS & GRADING

Assessments / Class work / Projects / Homework = 40%

Daily Self assessment = 20%

Weekly Evidence Portfolio = 20%

Safety Quizzes / STEM Content Assignments = 15%

Mid-term / Final / Digital Portfolio = 5%

ATTENDANCE POLICY

Twin Valley School District's attendance policy can be found in the [TVHS Student Handbook](#).

ELECTRONIC DEVICE POLICY

Twin Valley School District's Electronic Device Policy can be found in [School Board Policy 237](#). Additional information can be found in the [TVHS Student Handbook](#).

ACCOMMODATIONS STATEMENT

The Twin Valley School District has a longstanding commitment to the inclusion of students requiring specially-designed instruction within the general education environment to the extent appropriate for the individual child. Twin Valley School District implements a co-teaching model at levels in which general and special education teachers plan and provide instruction within a general education class so that instruction is differentiated to meet the educational needs of all students. These co-taught classes increase learning opportunities and success within the least restrictive environment.

ACADEMIC POLICIES & PROCEDURES

Twin Valley School District values academic integrity. The following information regarding cheating/plagiarism can be found in the [TVHS Student Handbook](#): "Students involved in cheating, plagiarism, and/or unauthorized copying of schoolwork or other educational material will receive no credit for the particular test or assignment, or other actions at the discretion of the teacher. More severe or involved offenses may result in disciplinary actions by the school administration." Additional High School Academic information can be found on their [Program of Studies Website](#).