CTE - PROJECT LEAD THE WAY			
COURSE	**CREDIT**	**OPEN TO**	**PREREQUISITE**
Honors Introduction to Engineering Design (IED)*	1.0	9-12	None
Advanced Principles of Engineering (POE) Will be offered alternate years: 2023-2024 2025-2026	1.0	10-12	IED, or department recommendation
Honors Digital Electronics (DE)	1.0	10-12	IED, or department recommendation
Advanced Computer Integrated Manufacturing (CIM)	1.0	10-12	IED, or department recommendation

*All students will have the ability to earn dual credit in this course. The teacher will review these requirements at the start of the school year.

HONORS INTRODUCTION TO ENGINEERING DESIGN (IED) Prerequisite: None Open to: Grades 9-12 Length: 2 semester Credits: 1.0 (honors Credit). Course Number: IT1200 **Dual-Credit Opportunity** **3 Credit Hours at CLC: CAD 171 Introduction to Inventor**	Using industry-standard computer-aided design software, discover the role of an engineer in taking an idea from the design process. Learn and use the Engineering Design Process to solve problems and innovate products by hand, on the computer (CAD) and with physical models. Produce an incredible, working prototype of your project with a 3D printer and a laser cutter. You will work on projects, activities, and problems not only of interest to you, but that have global and human impacts. Work in teams to design and improve products, document your solutions, and communicate them to others. Students can earn an Autodesk Certified User Certification.
HONORS DIGITAL ELECTRONICS (DE) Prerequisite: IED or department recommendation Open to: Grades 10-12 Length: 2 semesters Credits: 1.0 (Honors credit) Course Number:	From smartphones to appliances, digital circuits are all around us. This course provides a foundation for students who are interested in electrical engineering, electronics, or circuit design. Students study topics such as combinational and sequential logic and are exposed to circuit design tools used in industry, including logic gates, integrated circuits, and programmable logic devices. The major focus of Digital Electronics is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.

ADVANCED PRINCIPLES OF ENGINEERING (POE) Prerequisite: IED or department recommendation, Algebra 2 trig must be taken prior or concurrently Open to: Grades 10-12 Length: 2 semesters Credits: 1.0 (Advanced Level credit) Course Number: IT2200 **This course will be offered every other year due to enrollment. POE will be offered in the 2023-2024 and 2025-2026 school years.**	In the second course in the PLTW series, through problems that engage and challenge, students will explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students will develop skills in problem-solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.
ADVANCED COMPUTER INTEGRATED MANUFACTURING (CIM) Prerequisite: IED or department recommendation Open to: Grades 10-12 Length: 2 semesters Credits: 1.0 (Advanced Level Credit) Course Number: IT3200	Manufactured items are part of your everyday life, yet most people have not been introduced to the high-tech, innovative nature of modern manufacturing. This course illuminates the opportunities related to understanding manufacturing. You will learn about manufacturing processes, product design, robotics, and automation. Students can earn a HAAS Mill User Certification.