



## Approved Innovative Course

- Districts must have local board approval to implement innovative courses
- Innovative courses may meet state elective credit only
- CTE Innovative courses may not be the final course in a coherent sequence for an endorsement
- Course requirements must be met without modification

Course: *Computer Integrated Manufacturing*

PEIMS Code: *N1303748*

Abbreviation: *CIM*

Grade Level(s): *9-12*

Number of Credits: *1.0*

### Course description:

PLTW Computer Integrated Manufacturing is one of the specialization courses in the PLTW Engineering program. The course deepens the skills and knowledge of an engineering student within the context of efficiently creating the products around us. Students build upon their Computer Aided Design (CAD) experience through the use of Computer Aided Manufacturing (CAM) software. CAM transforms a digital design into a program that a Computer Numerical Controlled (CNC) mill uses to transform a block of raw material into a product designed by a student. Students learn and apply concepts related to integrating robotic systems such as Automated Guided Vehicles (AGV) and robotic arms into manufacturing systems. Throughout the course students learn about manufacturing processes and systems. This course culminates with a capstone project where students design, build, program, and present a manufacturing system model capable of creating a product.

### Teacher qualifications:

An assignment for Computer Integrated Manufacturing is allowed with one of the following certificates as well as successful completion of the Project Lead The Way's Core Training requirements for Computer Integrated Manufacturing.

PLTW Core Training:

PLTW's Core Training requires approximately 90 hours of instruction led by PLTW approved Master Teachers. Course mastery is demonstrated by the submission and approval of a course portfolio that meet's PLTW's requirements. After successful completion of Core Training, teachers receive access to the National PLTW Engineering Professional Learning Community, course-specific student and classroom instructional resources, and Ongoing Training resources through the PLTW Content Management System.

- Secondary Industrial Arts (Grades 6-12).



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- Secondary Industrial Technology (Grades 6-12).
- Technology Education: Grades 6-12.
- Trade and Industrial Education: Grades 6-12. This assignment requires appropriate work approval.
- Trade and Industrial Education: Grades 8-12. This assignment requires appropriate work approval.
- Vocational Trades and Industry. This assignment requires appropriate work approval.
- Vocational Trades and Industry (Grades 6-12). This assignment requires appropriate work approval.
- Vocational Trades and Industry Pre-Employment Laboratory (Grades 6-12). This assignment requires appropriate work approval.
- Vocational Trades and Industry Co-op (Grades 6-12). This assignment requires appropriate work approval.
- Technology Applications: Grades EC-12
- Technology Applications: Grades 8-12

### Additional information:

Districts may use these courses only with the approval of Project Lead The Way. All requirements of Project Lead The Way must be met. Please contact Project Lead The Way directly for these requirements:

Project Lead The Way  
Solution Center  
Toll Free: 877.335.PLTW (7589)  
[solutioncenter@pltw.org](mailto:solutioncenter@pltw.org)