Computer Integrated Manufacturing (CIM)
Mr. Seth Harper
2022-23 Course Syllabus

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COURSE DESCRIPTION: The Project Lead The Way (PLTW) Computer Integrated Manufacturing course (CIM) introduces students to the high-tech, innovative nature of modern manufacturing. It provides a basic overview of manufacturing processes, product design and development, robotics, and automation. Focusing on learning the design process, fabrication techniques, manufacturing costs and the cost of quality.

INSTRUCTIONAL PHILOSOPHY: This course is based on a number of learning activities that educate the student in the different areas of manufacturing. Students will focus on the use of computer programs used like they would be in an industrial application. The development of the material is to prepare the student to become a self-directed, lifetime learner, which includes developing the student's mathematics, science, technical reading and writing, critical analysis, and problem solving skills. Several of the activities require teamwork and the use of appropriate business communications. The coursework is collegiate-level and professional conduct is required at all times.

ESSENTIAL STANDARDS:
1. Describe the changes in manufacturing, historical and globally
2. Implement a working models with control systems
3. Exam the cost of manufacturing
4. Identify manufacturing process for specific product designs
5. Analyze product development and create prototypes
6. Implement, verify, and troubleshoot automation designs
7. Show understanding and ability to calculate the elements of power
8. Design and implement programs for robotic arms

MAJOR ASSIGNMENTS/PROJECTS:
1. Daily Work
2. Section Quizzes
3. Team Presentations
4. Vex Build for Automation
5. Prototype and Taking Products to Market
6. Personal Product Design and Creation
7. Unit Tests
8. PLTW End Of Course Exam

ASSESSMENT PLAN: Daily and weekly formative assessments will be used to identify whether students are attaining the essential learning targets on a daily basis. Online quizzes, skills exams, and knowledge exams will be utilized to prepare students for the PLTW End of Course (EOC) exam. Summative assessments will be given, including a comprehensive final at the end of the course that shows achievement of the essential standards and concepts accomplished.

DUAL CREDIT OPPORTUNITIES: Offered to eligible students according to the Coordinating Board of Higher Education. The student needs to sign up for this at the beginning of the course at their cost.
 1. University of Central Missouri (https://www.ucmo.edu/dualcredit/Enroll.cfm)
 a. ENGT1012: Global Production Technology **(2 hr. college cr.) -** required for ET MIC students

UCM Dual Credit Enrollment deadlines
    • Spring Semester – January 28, 2023
                 Cost: $92 per credit hour

GRADING POLICY: Grades will be figured using the Summit Technology Academy approved grading scale. Grades are cumulative throughout the semester. The grade will be based on the following:
1. Classwork/Homework: 15%
2. Projects: 30%
3. Math: 10%
4. Quizzes: 15%
5. Exams: 30%

A comprehensive final exam will comprise 10% of the semester grade.

The following standardized grading scale is used for STA:

A	95 -100		C	73 - 76
A-	90 - 94		C-	70 - 72
B+	87 - 89		D+	67 - 69
B	83 - 86		D	63 - 66
B-	80 - 82		D-	60 - 62
C+	77 - 79		F	59 & below (No Credit)

Colleges use a four point system of grading (A= 4, B=3, C=2, D=1, F=0) without a minus and plus option.

TUTORING/EXTRA HELP PLAN: STA utilizes a pyramid of interventions in order to ensure students successfully meet the course requirements. Tutoring or extra help can be obtained by contacting the STA teacher through email, phone or a student management system (such as Schoology). The teacher will provide either immediate help, set up a time to meet, or utilize an online video conference method.

ATTENDANCE POLICY: Regular attendance reflects dependability. The experience gained by students in the lab cannot be duplicated in the event of absence. **STA's policy may differ from that of the sending school and will be in effect for the period of attendance at STA.**

A student shall be allowed no more than nine (9) absences, excused or unexcused, per semester in any one class. When a student reaches 9 days, the school will send an informational letter to the parents, regardless of prior contact by phone or conference. The letter serves as notification of the number and type of absences by the student in each class. On the tenth (10) absence, in any one class, the student will not earn credit for that class. Students will have the opportunity to work with their administrator or teacher to make up missed time prior to the end of the semester. If a student still has 10 or more absences at the conclusion of the semester the student will be required to complete an attendance waiver appeal. A waiver to maintain full credit must be submitted by the end of the semester. This waiver should include documentation of illness, funeral, or family emergency from a medical doctor, dentist, minister, or other official source. The waiver should be turned into the attendance office.

ELECTRONIC GRADEBOOK/PARENT CONNECT WEBSITE: Grades are updated on a weekly basis. The Parent Connect website address is http://pc.lsr7.net.

ACADEMIC LETTERING: Students who have earned a 94.5% or higher in a STA program for the first semester and a 94.5% or higher grade at the time of the fifth grading period AND 94.5% attendance will receive the academic letter.

TARDY POLICY: A tardy will be issued in accordance with the student handbook. Students are on time if they are seated in the classroom at the time of the bell.

DRIVING PRIVILEGES: Driving to STA is a privilege and can be revoked at any time. Students are allowed to drive to STA as long as their sending school allows them to drive and a permit is on file. Driving permits may be revoked if a student is frequently tardy, late to school, or exhibits irresponsible driving practices upon entering, or leaving STA, etc.

ELECTRONICS POLICY: The use of Electronics will be allowed at the instructor's discretion, so long as it does not become a disruption to the classroom nor the student's own learning. Students will be informed of the negative impact of high screen-time and will be encouraged to make adjustments accordingly.

How we spend our days is, of course, how we spend our lives
- Annie Dillard

DAILY MATERIALS NEEDED:
- Folder/Binder
- Engineering notebook (first one provided by STA)
- Scientific calculator
- Pencil(s) and pen(s)
- Flash drive (4 GB minimum)
- Safety Glasses (first one provided by STA)

TECHNOLOGY: Students are required to utilize technology for various assignments. Outside computer and internet access is required.

LATE WORK: No late work is accepted.