



# Westside High School Computer Integrated Manufacturing

Course Syllabus  
Fall 2023

*"To the optimist, the glass is half full. To the pessimist, the glass is half empty. To the engineer, the glass is twice as big as it needs to be."*

*Unknown*

*"Strive for perfection in everything you do. Take the best that exists and make it better. When it does not exist, design it."*  
*Sir Henry Royce*

## Instructor

Felipe Resendez

281-920-8000 Ext. 036202

Office: A204 (next to the college room) and in V105 Engineering Lab during 5th, 6th, and 7th.

[felipe.resendez@houstonisd.org](mailto:felipe.resendez@houstonisd.org)

Email is the best way to reach me. I will do my best to reply to the same day, but it can take up to 48hrs as mandated by district policy.

Tutorials: Tuesday and Thursday 2<sup>nd</sup> half of lunch.

## Course Description (Source PLTW CIM Course Outline)

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 all around us. Students build upon their Computer Aided Design (CAD) experience using 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.

Course Overview
Unit 1 Principles of Manufacturing
<ul style="list-style-type: none"><li>Lesson 1.1 History of Manufacturing</li><li>Lesson 1.2 Control Systems</li><li>Lesson 1.3 Cost of Manufacturing</li></ul>
Unit 2 Manufacturing Processes
<ul style="list-style-type: none"><li>Lesson 2.1 Designing for Manufacturability</li><li>Lesson 2.2 How we make things</li><li>Lesson 2.3 Product Development</li></ul>
Unit 3 Elements of Automation
<ul style="list-style-type: none"><li>Lesson 3.1 Introduction to Robotics Automation</li><li>Lesson 3.2 Introduction to Automation Power</li><li>Lesson 3.3 Robotic Programming and Usage</li></ul>
Unit 4 Integration of Manufacturing
<ul style="list-style-type: none"><li>Lesson 4.1 CIM systems</li><li>Lesson 4.2 Integration of Manufacturing</li></ul>

- Course overview is subject to change. We will not cover all subjects listed above.

**Supplies:**

- Engineering Notebook
- Pencils and extra lead if needed
- Pen that will **NOT** bleed through paper
- Transparent tape 5 park or similar
- Ruler
- Erasers-
- Scissors
- Color pencils

If you are able to, please bring in the following additional supplies:

- Box of Tissues
- Hand Sanitizer
- Clorox Wipes, Lysol Spray, etc.
- Expo markers and Expo Eraser

**Notes:**

Composition notebook with engineering **grid paper**

Brand: **Staedtler** white or similar eraser

**Grading Policy**

Each grading period (every 6 weeks), your grade in this class will be calculated using the following weighting:

<b>30% Minor</b>	<ul style="list-style-type: none"> <li>• Classwork</li> <li>• Homework</li> <li>• Participation</li> <li>• Quizzes</li> </ul>
<b>70% Major</b>	<ul style="list-style-type: none"> <li>• Tests</li> <li>• Projects</li> <li>• Notebook checks (content and organization)/Professionalism</li> </ul>

**Absences and Make-up work**

It is your responsibility to find out what you have missed. Check Lesson Plans and Canvas to find out what you missed. When you are absent from class, you have two days to make-up/submit the work without a loss of points.

**Westside Re-take/Re-do Policy**

If you earn less than a 70% on a major grade\* (test\*\*) you may be eligible to re-take/re-do it for a maximum of 70% provided that you meet the following criteria:

**Retake Guidelines**

- All teachers must follow Policy EIA (Local).
- All major grades are eligible for a retake.
- Assignment must have been attempted to be eligible for a retake.
- Retake must be completed within two weeks of original test grade being posted in PowerSchool.
- Retakes are for failing grades (below 70).
- Students with absences still have the opportunity to have a retake for a make-up exam.
- Retakes are not allowed for final exams.

**Retake Process**

Prior to retaking, students must complete one or more of the following, determined by the teacher:

- Attend necessary tutorials
- Complete alternative assignment
- Complete necessary homework

- Complete test corrections
- After a student completes a retake, the teacher has a week to grade the assessment.
- All retake grades are capped at a 70.

\*This policy does not apply to final exams.

### **Absence Policy**

If you are absent, you will have two days to turn in missing assignments, to take a missed test or quiz, or to make alternative arrangements. All assignments from the preceding week will be available on the Canvas. If the assignment is not turned in within two days, you will receive a reduced grade for the assignment. See me **at lunch, before or after school** to reschedule quizzes and tests.

Campus Non-Negotiables
<ul style="list-style-type: none"> <li>• <b>Wear your ID at all times</b></li> <li>• Entering the classroom quietly</li> <li>• Observing cell phone policy</li> <li>• Utilizing technology with integrity according to campus policy- Any damage to your computer must be reported promptly to avoid damage fees.</li> <li>• Adherence to the Westside Way Handbook</li> </ul>

### **Electronics:**

Per the Westside Way Handbook, all electronic devices (phones, Ipods, headphones, etc) must be turned-off and put-away during instructional time unless instructor has made an exception for class-related use. If an electronic device is seen during instructional time, it can be confiscated by any school personnel and submitted to the office. Failure to comply or repeated use will result in a call home and a discipline referral.

**\*\*IF CELL PHONES APPEAR DURING QUIZZES OR TESTS:** the security of the assessment instrument has been compromised. Therefore, you will receive a zero on the assessment. No make-up is offered.

### **Classroom Expectations**

Students are expected to act in accordance with the Code of Student Conduct in the Westside Way Student Handbook.

Typically, for Level I offenses, students who fail to follow classroom rules will:

- First violation: Be given a verbal warning
- Second violation: Student/Teacher conference.
- Third Violation: Disciplinary action which may include referral to dean, removal from classroom, and/or parent/coach/club sponsor contact.

Level II or II offenses will result in immediate disciplinary action as written in the Student Handbook.

### **Academic Integrity**

If a student violates the WHS Honor Code, they will receive a "0" for the school work, a "U" in conduct, and disciplinary action. In addition, this conduct is considered a Level II violation of the Code of Student Conduct. Please see the Westside Way Student Handbook for a detailed explanation.

### **Expectations**

*My expectations of you:* I expect each of you to be on-task for the full duration of every class. I also expect that all the work **you** create is high quality to be proud to keep for future reference. By the end of this year, every student in this class will have a greater appreciation of how engineering skills will contribute to your success in your education and your future. **My goal is to help each, and every student prepare to pursue engineering in manufacturing.**

# Computer Integrated Manufacturing Syllabus 2022-2023

## Instructional Guidelines Agreement

**(Due by Monday, August 29<sup>th</sup>)**

Tear off and turn into teacher

We, the undersigned, have read, understood, and agree to abide by the guidelines described in the 2022-2023 Syllabus for this course. We also understand that failure to comply will result in the consequences mentioned in the guidelines.

Student Name (print): \_\_\_\_\_ Class Period \_\_\_\_\_

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/Guardian Name (print): \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Daytime phone Number: \_\_\_\_\_

Evening Phone Number: \_\_\_\_\_

Parent email address: \_\_\_\_\_

Allergies/Questions/Concerns: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_