



Advanced Manufacturing Virtual Internship

WIN-TECH PRESENTS ADVANCED MANUFACTURING VIRTUAL INTERNSHIP DETAILS & SCHEDULE

Win-Tech is excited to partner with other businesses, organizations, schools and students to host an internship this Summer 2025!

Below are the internship details and schedule. *This internship is offered unpaid. The internship is offered virtually.*

Student requirements:

- Must have access to laptop or desktop, internet, and webcam. Classes will be held on Zoom.
- Must have taken basic engineering, drafting, or manufacturing class(es).
- Must be a rising high school junior or senior.

Student should expect to spend approximately 17-20 hours on this internship.

- 12 hours will be live in “class.”
- A minimum of 5 hours will be spent by the student outside of class time on assignments and developing a project

Students will be expected to attend all live sessions in order to complete the internship. Please note that the host and speakers are donating resources and hours for this opportunity. We will support you getting out of this internship what you put in!

Students are expected to log-in to Zoom on time to begin class promptly at noon each day. Classes will not be recorded. There are virtual learning environment etiquette expectations – students will leave webcams “on” during class (unless there is a break) and on mute when not speaking. Students should be engaged during discussions.

DETAILS

Allison Giddens, President of Win-Tech, Inc., will be the point of contact for the student. Students are encouraged to connect with Allison Giddens on LinkedIn.

Throughout the program, we will host guest speakers who are leaders in their roles within manufacturing. We will notify students in advance so they can read about the speaker and prepare questions if they wish to ask them. These are opportunities to connect with speakers and professionals – not just for the class, but entering the post-high school world, too!

Upon completion of the class and project, the student will, at a minimum, understand manufacturing and engineering concepts and themes, presented in a way to prompt fresh perspectives and explore career possibilities in the industry.

Student will be expected to put outside time into their projects as early as they wish. Students will be presenters on Zoom for their final presentation. Teachers and parents are welcome to attend these days. Upon request, Allison will send them the link. Presentations will not be recorded.

If the teacher, student or parent has any questions, Allison Giddens is best reached via email, any time of day: akrache@win-tech.net Please be patient, as Win-Tech workload can be heavy so you may receive email responses late at night.

SCHEDULE

Week 1: Introduction to Modern Manufacturing

Tuesday, July 1, 2025 – 12:00pm-1:00pm ET

- Topics Covered:
 - Overview of manufacturing industries (aerospace, automotive, medical, etc.)
 - How products are designed, prototyped, and produced
 - Introduction to CNC machining, 3D printing, and assembly lines
- Activities:
 - Virtual tour of a manufacturing facility
 - Interactive simulation using online tools (TinkerCAD)

Wednesday, July 2, 2025 – 12:00pm-1:00pm ET

- Guest Speaker: TBA!
 - “Sustainability in Design Manufacturing”

Week’s Assignment: Learn TinkerCAD basics, make a custom keychain online

(This will be assigned on July 1, and encouraged to be turned in by July 8. Due by July 30 in order to complete the program.)

Also, additional optional homework: Take 16Personalities Test before July 7.

Week 2: Career Paths in Manufacturing

Tuesday, July 8, 2025 – 12:00pm-1:00pm ET

- Topics Covered:
 - Overview of careers within industry (engineering, machining, quality control, material science, etc.)
 - Skills and certifications needed
- Activities:
 - GUEST PANEL I – guests from various manufacturing and engineering professions visit and share about their career paths and answer your questions!

Wednesday, July 9, 2025 – 12:00pm-1:00pm ET

- Activities:
 - GUEST PANEL II – guests from various manufacturing and engineering professions visit and share about their career paths and answer your questions!

Week’s Assignment: Explore 2-3 manufacturing careers and their education pathways and skillsets that job postings require.

(This will be assigned on July 8, and encouraged to be turned in by July 15. Due by July 30 in order to complete the program.)

Week 3: Supply Chain and Innovation

Tuesday, July 15, 2025 – 12:00pm-1:00pm ET

- Topics Covered:
 - Supply chain and what it means to manufacturing and engineering
 - Circular supply chain and its impact on the environment
 - AI, IoT, robotics in manufacturing
- Activities:
 - Debate: "Is green manufacturing feasible for all industries?"
 - Discuss current supply chain trends

Wednesday, July 16, 2025 – 12:00pm-1:00pm ET

- Guest Speaker: Scott Luton, Supply Chain Now
 - "Supply Chain & Logistics"

Week's Assignment: Deep dive a product you count on and research what world events could disrupt the production of it. If you were in charge of its distribution, what actions would you take to ensure supply was uninterrupted?

(This will be assigned on July 15, and encouraged to be turned in by July 22. Due by July 30 in order to complete the program.)

Week 4: Hands-On Challenges and Problem-Solving

Tuesday, July 22, 2025 – 12:00pm-1:00pm ET

- Topics Covered:
 - Lean Manufacturing and Six Sigma principles
 - Constraints and Bottlenecks
- Activities:
 - Problem-solving in manufacturing simulations
 - Collaborative problem-solving exercise: Solving hypothetical manufacturing issues

Wednesday, July 23, 2025 – 12:00pm-1:00pm ET

- Guest Speaker: TBA

Deliverable: Work on your projects!

BONUS: If you're interested, check out "The Goal," by Eliyahu Goldratt

A presentation schedule will be shared on Day 1 so students know when to prepare to present.
All students are expected to attend all days.

Week 5: Presentations

Tuesday, July 29, 2025 – 12:00pm-2:00pm ET

Wednesday, July 30, 2025 – 12:00pm-2:00pm ET

Solve a problem using a manufacturing or engineering concept. Incorporate concepts we discussed over the last few weeks for bonus points!

Spend about 5-7 minutes with a visual presentation sharing with peers and guest judges. This is great practice for what's ahead in school and if you are already working on a project for something, feel free to use that here for practice.

- Design a unique product in TinkerCAD (or other CAD software) – and print on 3D printer, if you wish! Talk through the design, what steps you took in the design, you designed it the way you did, etc.
- Design a manufacturing process or product (on paper) that solves a real-world problem.
- Propose a green manufacturing process to recycle or upcycle materials into a new product.
- Explore the concept of Industry 4.0 and propose an automated system for a specific manufacturing task. Research what considerations have to be met for swapping out the systems (safety, training, costs, etc.).
- Present how at least two different materials are used for the same product in manufacturing, and how their properties and suitability in various applications work in different contexts.
- Have another idea? Run it by Allison!

Present the final project to peers and guest judges.

Awards will be given at the end of the program for top presentations and student engagement.

Ready to apply? [Click here!](#)

Applications are open NOW through ~~April 30, 2025~~ May 9, 2025

ANY rising high school junior or senior is welcome to apply, no matter where they are in the world.

This program is offered as English-speaking only, at no cost to students.

Space is limited and we reserve the right to accept applications based on fit for the curriculum.