

Computer Integrated Manufacturing

Power Standards

Students will be able to:

- Use a three dimensional, solid modeling software package with mass property analysis.
- Understanding the machine tools and its operating and programming aspects.
- Converting computer generated geometry into a program to drive CNC machine tools.
- Work in teams to design a manufacturing work cells

Power Benchmarks

Students will be able to:

- Identify the attributes, uses, advantages, and disadvantages of the components used in manufacturing automations.
- Develop power point presentation on major concepts and components used in manufacturing automation.
- Work effectively in an engineering team.
- Design and implement solutions to problems encountered in computer-integrated manufacturing systems.
- Write programs to control CNC mills, servo robots, and automated control system.
- Utilize parametric modeling, CAD/CAM, and CNC software packages to generate CNC machine code.
- Handshake a servo robot controller to CNC milling machine controller to create a basic automated work cell.
- Understand the ethics related to the use of automation in the manufacturing workplace.
- Evaluate the end arm tooling needs for a given application and specify the tooling in general terms at type, weight, and operation.
- Evaluate tooling and material to set feeds and speeds to cut any kind if material.

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