

Embedding Employability Skills into Technical Instruction

Prior to teaching Computer-Integrated Machining at Rockingham Community College (RCC) in Wentworth, Cyndi Johnson worked for 37 years in the manufacturing industry. Cyndi knows anyone can succeed in machining if they are: dedicated to the work, willing to put in the required hours, and, most importantly, a team player with both technical and employability skills. She is devoted to empowering her students at RCC with these matched skill sets.

When Cyndi joined the faculty at RCC, she recognized that her Computer-Integrated Machining students needed more than just the technical skills to machine metal. So, she developed and assigned to students



machining projects that require 1) working and communicating as a team, 2) being accountable to one another, and 3) being flexible to adjust to

changing real-world circumstances. These are just some of the employability skills she found essential during her years in engineering and quality management at Caterpillar, Inc.

Cyndi observed that a traditional machining class would typically have students plan and deliver a completed project based on provided mechanical drawings and raw materials, with the student being primarily graded on the end result—completed on time, matching the plan specs, quality of fit, etc. Typically, students graduate with a solid set of technical skills. But, after years in industry, Cyndi knew employers expected far more. She now engages students with assignments that interweave technical and employability skills.

Cyndi's students work in teams, with members dividing responsibilities among them, such as Raw Materials, Machining, Inspection, Rework, and Assembly. Each team develops detailed process plans, cross-functionally communicating with other teams, followed by a

“prove design” run to refine and hone the development process. The



refined plans are then swapped with another team. Can their plans be understood and executed by another team? If not, some cross training between teams may be required before the full production run ensues. But, operating under a real-world scheduling constraint, there is no time to waste.

Communications must be efficient and accurate, so production can begin. A student-created Reaction Plan prescribes the handling of out-of-tolerance work product. Cyndi's assessments of the student work include not only machining the required parts and meeting the schedule and quality requirements, but evaluating each student's role in the production process and communications with other teams.

By approaching each machining project with the question “How can this project be enhanced to teach and reinforce essential employability skills?” Cyndi is equipping her students with skills they need to be successful in the workplace. To learn more, contact johnsonc5617@rockinghamcc.edu

Related Resources:

- [NC-NET Employability Skills Toolkit](#)
- [Necessary Skills Now](#)