ICATT Apprenticeships at Oakton

Learn by Doing!

The **Illinois Consortium for Advanced Technical Training (ICATT)** is an innovative, company-driven technical training program managed by the German American Chambers of Commerce (GACC) and participating companies.

Oakton Community College's ICATT apprenticeships are benchmarked on the German Dual Education System, an innovative, industry-led approach to education developed in conjunction with technology leaders, combining "on-the-job training" with theory and practice through an associate degree program to train a globally-competitive workforce. The program is accessible even for small companies, and classroom and lab training is provided by Oakton.

Oakton's ICATT apprenticeships prepare students for the following occupational profiles:

Advanced Manufacturing Technician

Potential Roles:

- Build, assemble, and/or set up production machinery
- Maintenance
- Service

Technology

- Set up, troubleshoot and repair mechanics, pneumatics and hydraulics, incl. reading technical diagrams and schematics
- Understand and repair motors and drives
- Choose or develop correct test procedures and use quality management systems
- Use CNC machinery
- Understand properties of different materials and how they affect production processes
- Select and perform correct joining technology, e.g. welding, brazing
- Install and configure programs for hardware and software components
- Set up basic PLCs (with option to expand)

Methodology

- Work systematically (Plan-Do-Check-Act)
- Analyze problems for effective troubleshooting
- Understand the importance of correct documentation
- Work safely, understand appropriate precautions and use PPE correctly
- Estimate manufacturing costs based on machine cost, material costs and labor costs
- Communicate effectively

CNC Machining Professional

Potential Roles:

- Program CNC machines and production systems to machine high quality parts
- Set up machines and systems, conduct test runs, maintain and inspect machine tools
- Tool and die maker

Technology

- Program and operate numerically controlled machine tools
- Use precision machining tools to produce components
- Analyze and prepare drawings
- Identify and use geometric data; metrology
- Understand properties of different materials and how they affect production processes
- Plan and organize computer-aided production
- Plan, monitor and improve production processes in discrete manufacturing

Methodology

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- Analyze problems for effective troubleshooting
- Understand the importance of correct documentation
- Work safely, understand appropriate precautions and use PPE correctly
- Estimate manufacturing costs based on machine cost, material costs and labor costs
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Degrees in Manufacturing Technology

Get the hands-on experience needed to master computer numerical control (CNC) machining, setup, and programming; automation systems design and maintenance; programmable logic controllers (PLC) and machine control systems; industrial robotics systems; sensor technology; and vision systems. Oakton offers credentials at a fraction of the cost of a four-year college or university.

Manufacturing Technology Associate in Applied Science Degree

Receive a thorough grounding in advanced manufacturing production processes, equipment, design, and operation incorporating AutoCAD; computer information systems; electronics; robotics; MASTERCAM; PLC; CNC; hydraulics, pneumatics, and controls; and general education requirements (60 credit hours).

Mechatronics Technology Associate in Applied Science Degree

Become proficient in AutoCAD; PLC; robotics; circuits; engineering graphics; basic print reading; hydraulics, pneumatics, and controls; SolidWorks; microprocessors; semiconductor theory; and general education requirements (60 credit hours).

Supply Chain Automation Associate in Applied Science Degree

Develop the skills and knowledge necessary to enter into the growing field of supply chain logistics, advanced manufacturing, transportation, and warehousing. Become proficient in overall automated processes and procedures used in warehousing, production, inventory control, and distribution (60 credit hours).

Implementation Schedule/Progress

The path toward fall 2018 ICATT implementation comprises several benchmarks.

Spring 2018

Solicit employers.

Obtain signed employer commitments.

Begin promotion and recruitment.

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Summer 2018

Have all interested students work with Career Services.

Begin enrollment and hiring process.

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Fall 2018

First cohort begins.

Fall 2018 Classes/Lab Experience

MFG 120 Introduction to Welding

MFG 135 Hydraulics, Pneumatics and Controls

MFG 140 Introduction to Robotics and Vision Systems

MFG 141 CNC Machine Operations

MFG 144 Introduction to CNC Programming

MFG 145 Advanced CNC Programming

MFG 165 Mastercam Computer Aided Manufacturing

MFG 240 Programmable Controllers

CAD 230 Introduction to SolidWorks

For more information, visit *www.oakton.edu/mfg* or contact Joseph Cirone, chair of Mechanical Design, CAD, and Manufacturing at 847.376.7612, *jcirone@oakton.edu*.

Oakton Community College

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