# MACHINE OPERATOR CERTIFICATE

The Computer-Integrated Machining curriculum prepares students with the analytical, creative and innovative skills necessary to take a production idea from an initial concept through design, development and production, resulting in a finished product. Coursework may include manual machining, computer applications, engineering design, computer-aided drafting (CAD), computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC) equipment, basic and advanced machining operations, precision measurement and high-speed multi-axis machining.

Career Opportunities: Graduates should qualify for employment as machining technicians in high-tech manufacturing, rapid-prototyping and rapid-manufacturing industries, specialty machine shops, fabrication industries, and high-tech or emerging industries such as aerospace, aviation, medical, and renewable energy, and to sit for machining certification examinations.

## High School Career Cluster

## Advanced Manufacturing (ADMA)

### Prerequisite:

IM11 Advanced Manufacturing I

#### Concentrator:

 IM12 Advanced Manufacturing II -or-IM14 Manufacturing Robotics

# Nash Community College CCP Pathway

Machine Operator Certificate C50210AH

Total Hours: 13

Recommended Sequence of Courses:

Courses are only offered during the Fall term.

- BRP 111 Print Reading (2) Credits)
- MAC 141 Machining Applications I (4 Credits)
- MAC 141A Machining Appl I Lab (2 Credits)
- MAC 171 Measure/Material & Safety (1 Credit)
- MAC 121 Intro to CNC (2 Credits)
- MAC 151 Machining Calculations (2 Credits)

## Nash Community College Additional Diplomas/Certificates

Computer Numerical Controlled Certificate C50210B Total Hours: 13

Advanced CNC Certificate C50210C Total Hours: 12

Robotic Machining Certificate C50210D Total Hours: 14

#### Computer-Integrated Machining Diploma D50210 Total Hours: 39

- BRP 111 Print Reading (2 Credits)
- ENG 110 Freshman Composition -or-ENG 111 Writing and Inquiry (3 Credits)
- MAC 141 Machining Applications I (4
- MAC 141A Machining Applications I Lab (2 Credits)
- MAC 171 Measure/Material & Safety (1
- MAC 121 Intro to CNC (2 Credits)
- MAC 151 Machining Calculations (2)
- ISC 112 Industrial Safety (2 Credits)
- MAC 142 Machining Applications II (4
- MAC 142A Machining Applications II Lab (2 Credits)
- MAC 122 CNC Turning (2 Credits)
- MAC 124 CNC Milling (2 Credits)
- MAC 152 Machining Calculations (2)
- MAT 110 Mathematical Measurement -or-MAT 121 Algebra/Trigonometry (3 Credits)
- DFT 119 Basic CAD (2 Credits)
- MAC 143 Machining Applications III (4
- BUS 151 People Skills (3 Credits)
- BUS 240 Business Ethics (3 Credits)
- INT 110 International Business (3 Credits)

## Nash Community College Associate's Degree

### Computer-Integrated Machining A50210 Total Hours: 73-74

- ACA 122 College Transfer Success (1 Credit)
- BRP 111 Print Reading (2 Credits)
- ENG 110 Freshman Composition -or- ENG 111 Writing and Inquiry (3 Credits)
- MAC 141 Machining Applications I (4 Credits)
- MAC 141A Machining Appl I Lab (2 Credits)
- MAC 171 Measure/Material & Safety (1 Credit)
- MAC 121 Intro to CNC (2 Credits) MAC 151 Machining Calculations (2 Credits)
- COM 110 Intro to Communication -or- COM 231
- Public Speaking (3 Credits)
- HUM/FA Humanities/Fine Arts Elective (3 Credits)
- ISC 112 Industrial Safety (2 Credits)
- MAC 142 Machining Applications II (4 Credits)
- MAC 142A Machining Appl II Lab (2 Credits)
- MAC 124 CNC Milling (2 Credits)
- MAC 152 Machining Calculations (2 Credits) DFT 119 Basic CAD (2 Credits)
- MAC 143 Machining Applications III (4 Credits)
- MAC 241AB Jigs & Fixtures AB (2 Credits)
- MAC 122 CNC Turning (2 Credits)
- MAC 224 Advanced CNC Milling (2 Credits)
- MAC 241BB Jigs & Fixtures I BB (2 Credits)
- MAT 121 Algebra/Trigonometry I (3 Credits) -or-MAT 171 Precalculus Algebra (4 Credits)
- MEC 231 Computer-Aided Manuf. I (3 Credits)
- Elective (Choose 4 hours from list.)
- MAC 226 CNC EDM Machining (2 Credits)
- MEC 232 Computer-Aided Manuf, II (3 Credits)
- SOC/BEH Social/Behavioral Science Elective (3)
- Elective (Choose 6 hours from list.)
- ATR 280 Robotic Fundamentals (4 Credits)
- ATR 281 Automation Robotics (4 Credits) WBL 112 Work-Based Learning I (2 Credits)
- MAC 222 Advanced CNC Turning (2 Credits)
- MAC 234 Adv. Multi-Axis Mach. (3 Credits)
- MAC 247 Production Tooling (2 Credits MAC 248 Production Procedures (2 Credits)
- WLD 112 Basic Welding Processes (2 Credits)

- WLD 151 Fabrication I (4 Credits) WLD 251 Fabrication II (3 Credits)



East Carolina University

Bachelor of Science in Industrial Technologies Transfer Program

https://cet.ecu .edu/techsyst ems/undergra duate-progra ms/industrial-t echnology-tra nsfer/





**Ouestions? Please contact** Alyssa Womble Director, Career and College Promise 252.451.8473 | | alwomble393@nashcc.edu