### Computerized Manufacturing Industry Employment Guide

<table>
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<tr>
<th>Job Title</th>
<th>Duties</th>
<th>Skills / Education</th>
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</thead>
<tbody>
<tr>
<td><strong>MACHINE OPERATOR</strong></td>
<td>Load and unload work pieces, monitor machining in process, inspect finished parts, Statistical Process Control charting.</td>
<td>SKILLS Regular check-up of operation, general knowledge of machining</td>
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<td>EDUCATION Training at a career technical school or college</td>
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<tr>
<td><strong>MACHINE SET-UP</strong></td>
<td>Set up fixture and cutting tools, coordinate the machine, determine and enter offset and compensation values, correct errors in tooling and programming, test the program.</td>
<td>SKILLS Solid knowledge of machining and tooling, understanding of part programming, and machine functions</td>
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<td>EDUCATION Training at a career technical school or college</td>
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<tr>
<td><strong>PART PROGRAMMER</strong></td>
<td>Prepare part programs, CNC documents, and setup instructions.</td>
<td>SKILLS Command of geometry/trigonometry, sound knowledge of machining, blueprint readings, G / M code programming use of CAD / CAM software, hands on experience</td>
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<td>EDUCATION Training at a technical school or college, Industry specific software training</td>
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<tr>
<td><strong>PROCESS PLANNER</strong></td>
<td>Determine what machining processes / sequences to use and with what machines; select cutting tools and work holders/fixtures; prepare operation sheets.</td>
<td>SKILLS Overall knowledge of machining, and tooling; strong background in manufacturing and CNC</td>
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<td>EDUCATION College degree in Manufacturing is preferred</td>
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<tr>
<td><strong>CNC MANAGER OR SUPERVISOR</strong></td>
<td>Oversee CNC operations, personnel hiring/training and job assignment, coordination with other departments, evaluation and acquisition of new CNC machine tools and CAD/CAM software.</td>
<td>SKILLS Management skills, machining knowledge, CNC programming, and manufacturing experience</td>
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<td>EDUCATION Bachelor or advanced degree</td>
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<tr>
<td><strong>ROBOT TECHNICIAN</strong></td>
<td>Perform robot alignment, loading/unloading for robotic cells. Prepare basic program changes.</td>
<td>SKILLS Understanding of an industrial robot anatomy, familiarity with manufacturing processes</td>
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<td>EDUCATION Training at a career technical school or college in Robotic Technology Coordinate</td>
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<tr>
<td><strong>MEASURING MACHINES (CMM) OPERATOR</strong></td>
<td>Perform dimensional and/or mechanical inspections to ensure conformance with quality standards</td>
<td>SKILLS Knowledge of precision measuring tools, blueprint reading, Geometric Dimensioning and Tolerances, and CMM operations and software</td>
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<tr>
<td></td>
<td></td>
<td>EDUCATION Training at a career technical school or college in Metrology and Inspection</td>
</tr>
</tbody>
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5 Chicago Locations*

- **Manufacturing Lab:**
  - 5338 N. Northwest Highway, 60630
  - 6240 W. Belmont Ave. 60634
  - 5440 N. Cumberland Ave., 60656 (Near O’Hare)
  - 3601 W. Devon Ave., 60659
  - 828 S. Wabash Ave., 60605 (Downtown)

*Not all programs available at all locations

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**COMPUTERIZED MANUFACTURING and ROBOTICS**

Approved by the Division of Private Business and Vocational Schools of the Illinois Board of Higher Education. [www.ibhe.org](http://www.ibhe.org) 217.782.2551

Accredited member of the Accrediting Council for Independent Colleges and Schools (ACICS).

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**BIR Training is:**

- An authorized Esprit CAD/CAM software training provider.
- A FANUC certified training and education site.
- A HAAS technical education center.
- An authorized GeoPath training and certificate provider.
- An affiliate of and testing site for the National Institute for Metalworking Skills.
- An Illinois Workforce Development partner.
- A member of the Illinois Manufacturing Excellence Center.
WHAT IS COMPUTERIZED MANUFACTURING?
Computer controlled machines create the vast majority of consumer products, from cars and boats, to toothbrushes and electronic devices. Examples of sophisticated computer controlled machines utilized in computerized manufacturing include Computer Numerical Control (CNC) Mills and Lathes, Robots, Coordinate Measuring Machines (CMM), 3D Printers, and Laser Machines, among others. The demand for programmers and operators of Computer Numerical Controlled (CNC) and robotic equipment is strong today and is expected to grow.

BIR TRAINING CENTER IS THE MIDWEST’S LEADER IN COMPUTERIZED MANUFACTURING TRAINING
Since 1993 BIR has offered instruction in CNC machining and part programming, CMM precision inspection and measurement, Computer Aided Drafting (CAD)/Computer Aided Manufacturing (CAM), Robot Automation, and more. Computerized Manufacturing and Robotics provide attractive career opportunities for both women and men. The opportunities to learn CNC, CMM, CAD/CAM, and Robotics are closer than you think.

(M3) Machine Tool Operations: Has a machine specific focus on turning or milling center operations.

BIR ADVANTAGES
Hands-On Training Manufacturing Facility
Affordable Tuition Tuition Payment Plans
Career Assistance Small Class Sizes
Certification Exam Preparation Test Administration OnSite

Preparation for credentialing exams through:
The National Institute for Metalworking Skills (NIMS)
1. Measurement, Materials, & Safety
2. CNC Turning Operator
3. CNC Milling Operator

(M2) Machine Tool Technology: Includes turning and milling centers operations, programming, and CAD/CAM.

FANUC Robotics Certified Education
Robot Training (CERT)
1. Robot Handling Tool Operation and Programming Certification
2. Robotics Vision iRevision Operation and Programming (2D) Certification