

Program Outline: CNC Programmer

6,000 Hours

Program Description & Outcomes:

The overall goal of this program is to develop journey-level CNC Programmers with a machining background. Students in the AJAC CNC Programmer Apprenticeship will learn to use CAD and CAM fundamentals and to design for manufacturability (develop tooling). Students will gain a thorough understanding of the underlying manufacturing processes that are essential to developing a part program; they will know how to build a part and will understand the role of the CNC Programmer in a team and an organization. In Year 3, students will learn multi-axis CAM tool paths for mill and lathe as well as advanced CNC Programming Techniques.

Graduates from this program will be able to carry out the following duties at a journey level:

- Establish Manufacturing Process for machining
- Develop Tooling
- Create CNC Code
- Verify Numeric Code in a software platform
- Develop Set-up Documentation utilizing various methods (PDF/HTML files etc.)
- Manage Manufacturing Data
- Provide Customer Service for internal and external customers
- Participate in Professional Development Activities
- Administrative Tasks related to the Role of CNC Programmer

Apprentice Eligibility:

This program is designed as a training for journey level Machinists. It has been structured as a 6,000 hour program with two entry points to accommodate both apprenticeship graduates and also those experienced Machinists achieving their journey level status through work experience but lacking formal academic preparation.

Based on subject matter experts and employer recommendations, the following is the candidate eligibility criteria:

1. **Apprenticeship Completion: Journey-Level Machinist.** Automatically awarded first year course work (3 classes) and 2,000 OJT Hours.
2. **College Certificate or Degree + Industry Trained | 5 Years of Experience/Certificate or Degree.** Up to 3 classes of the first year's coursework and 2,000 OJT Hours.
3. **Industry Trained | 5+ Years of Proven Machining Experience.** Required to complete all 9 RSI Classes and 6,000 OJT Hours.

Please visit www.ajactraining.org, call 206-764-7940 or e-mail info@ajactraining.org

It is the mission of the Aerospace Joint Apprenticeship Committee that the training of apprentices shall be without discrimination based on race, sex, color, religion, national origin, age, disability, sexual orientation, veteran status or as otherwise specified by law.

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The following table is a breakdown of required (☒) RSI Classes for each eligible participant category.

RSI Class	Apprenticeship Completion	Industry Trained	College + Industry Trained
YEAR 1			
APM 103: Engineering Drawings		☒	TBD
APM 122: Applied Geometry & Trigonometry		☒	TBD
APM 201: Geometric Dimensioning & Tolerancing		☒	TBD
YEAR 2			
CNC 201: CAD Fundamentals	☒	☒	☒
CNC 202: Design for Manufacturability	☒	☒	☒
CNC 203: Manufacturing Processes Related to Project Management	☒	☒	☒
YEAR 3			
CNC 301: Basic Tool Path for Mill & Lathe	☒	☒	☒
CNC 302: Multi Axis/Indexing	☒	☒	☒
CNC 303: Advanced CNC Programming Techniques	☒	☒	☒
TOTAL RSI HOURS: 450			

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OJT Tasks & Hours:

Task Name	Approximate OJT Hours
Provide Customer Service	100
Manage Manufacturing Data	300
Develop Set-Up Documentation	300
Verify Numeric Code	550
Create CNC/NC Code	1,500
Develop Tooling	1,050
Establish Manufacturing Process	2,100
TOTAL HOURS	6,000

The above schedule of tasks and hours is designed as a guide. The apprentice shall be instructed and trained in all operations and methods customarily used on the various machines. Each company will adhere to the schedule as closely as facilities will permit in order to provide the apprentice with well-rounded experience and practice on all relevant equipment and processes in the shop.

Step	Number of Hours	Percentage of Journey Level Rate
1	0000 - 1000	70% (\$22.40)
2	1001 - 2000	75% (\$24.00)
3	2001 - 3000	80% (\$25.60)
4	3001 - 4000	85% (\$27.20)
5	4001-5000	90% (\$29.90)
6	5001-6000	95% (\$30.40)

Base Established Wage for Occupation - \$32.00

Employer Responsibilities for Participation:

- a) Become a Training Agent by signing the AJAC agreement form furnished by the Washington State Labor & Industries Apprenticeship Section.
- b) Grant equal treatment and training opportunities for all apprentices and apply those conditions uniformly.
- c) Have equipment available and rotate apprentices in the various processes and equipment of the skilled occupation.
- d) Determine tuition reimbursement policy for apprentices if applicable.
- e) Identify (or hire) employees to train under apprenticeship program.

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- f) Identify Master Tradesperson to mentor apprentice(s), provide proper on-the-job training and maintain the appropriate 1:1 ratio.
- g) Periodically review and evaluate apprentices before advancement to the apprentice's next wage progression.
- h) Pay your apprentice(s) the percentage of Journey wage rate for hours worked (see table below).

Apprentice Requirements:

- a) For minimum eligibility requirements, please reference Apprentice Eligibility on page one.
- b) Have a High School Diploma or GED and be over 17 years old.
- a) Able to perform the physical requirements of the occupation.
- b) Meet minimum scores on COMPASS test, ASSET test, WOWI assessment or college level math and English classes (90 or greater).
- c) Sign an Apprenticeship Agreement with AJAC and abide by the AJAC Standards of Apprenticeship
- d) Pay ½ of community college tuition (depending on company reimbursement policy).
- e) Attend and pass college courses off-hours.
- f) Demonstrate progress on the job.
- g) Submit monthly work progress reports.

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