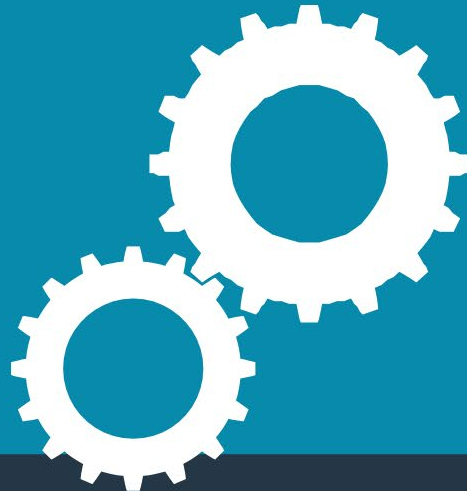




Apprenticeship Program Puget Sound

PREP PACK



**General Apprenticeship Information
Education Requirements
Minimum Requirements
Job Description
Wages**

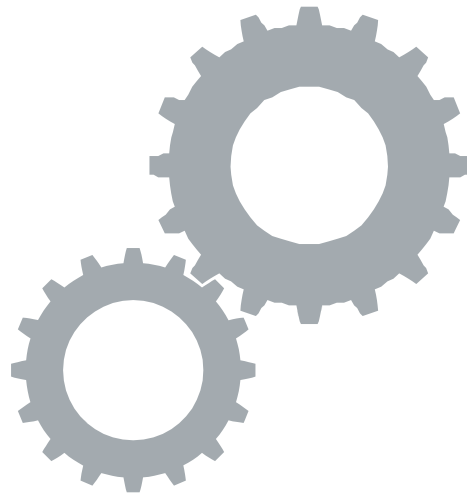


IAM/Boeing :: Joint Programs



Apprenticeship Program Puget Sound

PREP PACK



**General Apprenticeship Information Education
Requirements Minimum Requirements Job
Description Wages**

Boeing is an Equal Opportunity Employer. Employment decisions are made without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, veteran status or other characteristics protected by law. Women and minorities are encouraged to apply.



Preparing for an Apprenticeship

Don't wait until the next application period is advertised before working to become qualified. Start today!

Thank you for your interest in the IAM/Boeing Joint Apprenticeship Program. This prep packet contains the information needed to qualify and apply for a Boeing Company apprenticeship in the Puget Sound area.

Applicants must meet specific minimum qualifications in order to apply. These minimum qualifications may be met in one of two ways: either through Vocational Training or Work Experience.

Candidates may apply for apprenticeships when jobs are posted throughout the year on the Boeing Careers website at <http://www.boeing.com/careers>. A Boeing Careers tip sheet and other documents to assist candidates with the application process are available at <http://www.iam-boeing-apprenticeship.com>.

Application acceptance dates are advertised in advance in several local Boeing news sources, the IAM District 751 Aero Mechanic newspaper, the IAM District 751 site (<http://www.iam751.org>), the [IAM/Boeing Joint Apprenticeship internal website](http://iamboeing.web.boeing.com/index.aspx?com=5&id=1) (<http://iamboeing.web.boeing.com/index.aspx?com=5&id=1>) and external website <http://www.iam-boeing-apprenticeship.com>.

Applications are accepted throughout the year. However, not all of our trades are available during each hiring event. Positions are advertised as they become available.

To be eligible to apply for a Puget Sound area IAM/Boeing Joint Apprenticeship, you must:

- be at least 18 years of age.
- be eligible for hire or rehire at The Boeing Company in the Puget Sound area.
- be a high school graduate (or equivalent). If proof of graduation cannot be provided, a two- or four-year degree is acceptable,
- have US Person status as defined by The Boeing Company (see FAQs).
- meet specific defined vocational training or trade-related work experience requirements.
- be able to perform the physical requirements of the targeted apprenticeship.
- and never have been enrolled in, or completed, an IAM/Boeing Joint Apprenticeship.

The Apprenticeship Program is administered by the IAM/Boeing Joint Apprenticeship Committee which is comprised of equal numbers of IAM District 751 and Boeing Company representatives. Programs are 8,000 or 10,000 hours in length and include paid on-the-job training and unpaid classroom education. The first 20% of the on-the-job training is a probationary period. Apprentices attend school for a minimum of 144 unpaid hours per school year (four hours per week) at the South Seattle College Georgetown Apprenticeship and Education Center.



Apprenticeship Wage Rates

Apprentice wages are defined in Article 17 of the Collective Bargaining Agreement between the IAM 751 Union and The Boeing Company. Wages are updated each September. Apprentices begin at labor grade zero and advance one labor grade for every 1000 apprenticeship hours until completion at labor grade 8, 9 or 10 depending upon the trade. Apprentices are placed in the target job at the maximum rate upon graduation and receive a Journey Worker Certificate and Card which is recognized worldwide.

The chart below shows the base rate of pay for apprentices, effective September 13, 2024. Target job codes end in a 08, 09 or 10 and are located on the following trade specific pages. All apprenticeships are full time jobs provided by The Boeing Company and represented by the IAM District 751 Union.

Apprenticeship Program Hours	Apprenticeship Job Code	Grade 8 Target Job	Grade 9 Target Job	Grade 10 Target Job
0 to 999	AXXA0	\$40.53	\$41.56	\$42.43
1,000 to 1,999	AXXA1	\$42.26	\$43.32	\$43.90
2,000 to 2,999	AXXA2	\$43.98	\$45.08	\$45.34
3,000 to 3,999	AXXA3	\$45.67	\$46.84	\$46.80
4,000 to 4,999	AXXA4	\$47.38	\$48.60	\$48.26
5,000 to 5,999	AXXA5	\$49.10	\$50.36	\$49.71
6,000 to 6,999	AXXA6	\$50.82	\$52.12	\$51.14
7,000 to 7,999	AXXA7	\$52.52	\$53.90	\$52.61
8,000 to 8,999	AXXA8	N/A	N/A	\$54.07
9,000 to 9,999	AXXA9	N/A	N/A	\$55.52

Minimum Requirements

There are two ways to qualify for the Apprenticeship Program: Vocational Training or Work Experience.

Vocational Training: To qualify through vocational training listed for the trade; **all courses, certificates and/or degrees** must be completed prior to the time of application. Equivalent content is acceptable. Additional consideration is given for trade-specific and trade-related work experience. A score of at least 80% is required for all Boeing classes or challenge tests; a grade of "C" or better for all educational transcripts; a pass is required for pass/fail courses.

Work Experience: To qualify through work experience, the minimum requirement is one year of trade-related work experience. The experience can be in just one category or a total of any combination of the noted categories listed for each trade. Additional consideration is given for trade-specific and trade-related vocational training.

Assessment / Placement Results or Course Completions Required

All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows:

1. English 90 or better
2. Intermediate Algebra or better, taken within the last 5 years

Documentation for all course completions, certificates, degrees, and/or assessment placement results must be provided upon request. Any course of equivalent content is an acceptable substitute to the noted courses. All vocational training must be completed prior to application. On the following pages are the requirements for each trade.

Locate your desired trade and determine your qualifying method: Vocational Training or Work Experience.



Blue Streak Mechanic

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Job: 14308 Blue Streak Mechanic

Potential Locations: Everett, Renton and Auburn.

Blue Streak Mechanics fabricate details and assemblies by hand and other mechanical means to support production, Aircraft on Ground (AOG), and/or critical spares requirements. When prints, templates, or tools are not available they develop and fabricate complex temporary shop aid templates and tools, which include forming compound curvatures and angles to support part fabrication. Accomplishment of the above tasks requires regular use of obsolete blueprints, advanced shop mathematics, trigonometry, descriptive geometry (layout and lofting), geometric dimensioning and tolerancing, and computer aided design applications such as CATIA.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through a Vocational Training Certificate or Degree Program.** Applicants must complete a certificate or degree program that contains equivalent content to the examples noted below and assessment placement results or course completions as noted above.

- Composite Technician Certificate (15 Credits); Edmonds Community College, Edmonds, WA <https://www.edmonds.edu/>
- Manufacturing Composites Certificate (28 Credits); Washington Aerospace Research & Training (WATR) Center, Everett, WA <https://watrcenter.edmonds.edu/>
- Aerospace Composite Technician Certificate (40 Credits); Everett Community College, Everett, WA <https://www.everettcc.edu/>
- Advanced Composites Manufacturing Technician Certificate (31 Credits), Skagit Valley College, Mount Vernon, WA <https://www.skagit.edu/>

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- | | |
|--|---|
| <ul style="list-style-type: none"> ▪ Bench Mechanic ▪ Boring Mills (Vertical, Horizontal) ▪ Computer Numerical Control ▪ Drills (Radial, Press, NC) ▪ Duct Prep and Fit (for Weld) ▪ Fastener Removal (Rivets, Hi-Loks, Screws, etc.) ▪ Flight Control/Control Surface Repair (Flaps, Rudders, Slats) ▪ Forming (Roll, Hydro, Stretch, or Brake) ▪ Grinding (Internal, External, Surface, Thread) ▪ Heat Treat | <ul style="list-style-type: none"> ▪ Jig Bore, Jig Grinder ▪ Lathes (Conventional, NC, CNC, Turret) ▪ Layout (Conventional, CMM) ▪ Layout & Lofting (Sheet Metal, Non-Metallic, Composite) ▪ Mills (Conventional, NC, CNC, Profile) ▪ Relocating, re-drilling, and reaming holes to size ▪ Sheet Metal Assembly, Sheet Metal Details ▪ Tool Grind ▪ Tooling, Tool Making ▪ Trade-related Bench Work |
|--|---|



Composite Manufacturing Technician

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Job: 74808 Composite Manufacturing Technician

Potential Locations: Tukwila and Frederickson

Composite Manufacturing Technicians will learn a wide range of composite processes and work on composite equipment at Frederickson and the Developmental Center. The on-the-job training skills include general, pre-cure, cure, trim, and assembly. Computer skills include Windows Navigation, Microsoft Desktop Applications, Computing Systems, Specific Application Navigation, Drawings/Blueprints, REDARS navigation, On Line Work Instructions, Sketches, CATIA V5, MSDS Navigation, Specification Boeing Production System, and MAPS.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Introduction to Composites
- CNC Machining (a course minimum of 80 hours, or 5 or more credits)
- See page 21 for examples of approved CNC, milling machine, and lathe courses.
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through a Vocational Training Certificate or Degree Program.** Applicants must complete a certificate or degree program that contains equivalent content to the examples noted below and assessment placement results or course completions as noted above.

- Composite Technician Certificate (15 Credits); Edmonds Community College, Edmonds, WA <https://www.edmonds.edu/>
- Manufacturing Composites Certificate (28 Credits); Washington Aerospace Research & Training (WATR) Center, Everett, WA <https://watrcenter.edmonds.edu/>
- Aerospace Composite Technician Certificate (40 Credits); Everett Community College, Everett, WA <https://www.everettcc.edu>
- Advanced Composites Manufacturing Technician Certificate (31 Credits), Skagit Valley College, Mount Vernon, WA <https://www.skagit.edu/>

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ Assembly/Bench Work ▪ Automated Water Jet ▪ Bagging/Thermal Couples ▪ Bulk Resin Infusion; Noodle Fabrication ▪ Compaction; Fiber Placement ▪ De-Bag; Autoclave/Oven ▪ Drape Forming, Heat Blankets | <ul style="list-style-type: none"> ▪ Hand or Automated Lay-up ▪ Hand Finish; De-Burr Machine ▪ Layout; Forming or Straightening ▪ Mills (Conventional, NC, CNC, Profile) ▪ Saw/Drills; Shaper ▪ Tool Prep/Clean/Mold Release ▪ Tracker Leveling/Laser Radar |
|---|--|



Facilities Crane Maintenance Mechanic

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Job: 81409 Crane Maintenance Mechanic A

Potential Locations: Everett, Renton, Seattle, Tukwila, Auburn, Frederickson

Facilities Crane Maintenance Mechanics perform maintenance on all types of cranes (e.g., cab-controlled overhead cranes, floor controlled (radio or pendant) overhead cranes, jib cranes). The Facilities Crane Maintenance Mechanic apprentice training includes, inspection, diagnoses, assemble, disassemble, adjust and test all types of cranes, used to lift, move and position aircraft assemblies, equipment and/or materials and troubleshooting. Mechanics in this position are required to work at extreme heights and become a Certified Crane Inspector.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through a Vocational Training Certificate or Degree Program.** Applicants must complete a certificate or degree program that contains equivalent content to the examples noted below and assessment placement results or course completions as noted above.

- Electronic Equipment Service Technician AAS Degree (91 Credits); Industrial Electronics and Robotics Technician AAS Degree (119 Credits). Bates Technical College, Tacoma, WA <https://www.batestech.edu/>
- Industrial Maintenance and Mechatronics AAS Degree (117 Credits); Industrial Maintenance and Mechatronics Certificate (44 Credits). Bellingham Technical College, Bellingham, WA <https://www.btc.edu/>
- Mechatronic AAS-T Degree or AAT Degree (7 Qtr.); Mechatronics Co-Op Certificate A – Power (33 Credits); Mechatronics Co-Op Certificate B – Control (30 Credits). Clover Park Technical College, Lakewood, WA <https://www.cptc.edu/>
- Advanced Manufacturing Technology – Mechatronics ATA Degree (90 Credits); Mechatronics Systems Certificate (19 Credits). Everett Community College, Everett, WA <https://www.everettcc.edu/>
- Mechatronics Technician AAS Degree (105-114 Credits.); Mechatronics Certificate 1 (13 Credits); Mechatronics Certificate 2 (13 Credits). Green River College, Auburn, WA <https://www.greenriver.edu/>
- Industrial Engineering AAS Degree (129 Credits); Industrial Engineering Certificate (114 Credits); Mechatronics AAS Degree (91 Credits.); Mechatronics Certificate (44 Credits). Renton Technical College, Renton, WA <https://www.rtc.edu/>
- Mechatronics AAS Degree (93 Credits); Mechatronics: Certificate of Proficiency (45 Credits); Machine Maintenance Certificate (16 Credits). Shoreline Community College, Shoreline, WA <https://www.shoreline.edu/>

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- A & P Mechanic
- Airframe Mechanic
- Any Factory Maintenance Repair Work
- Automotive Mechanic
- Fabrication Mechanic
- Lathes (Conventional, NC, CNC, Turret)
- Machine Rebuild
- Maintenance Mechanic
- Maintenance Oiler
- Mills (Conventional, NC, CNC, Profile)
- Millwright
- Portable Tool Repair



Flight Line Mechanic

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Job: 97109 Aviation Maintenance Technician and Inspector – Field

C2709 Aviation Maintenance Technician and Inspector – Flight Test

92309 Aviation Maintenance Technician and Inspector – AOG

Potential Locations: Everett, Renton and Seattle.

Flight Line Mechanic apprentices will learn to perform maintenance, preventative maintenance and alterations on production and experimental aircraft. Other training tasks may include troubleshooting, test, inspection, repair, and service of aircraft systems and sub-systems. This learning will include electrical, avionics, structural, engines, and any other systems, as required. Apprentices will learn to initiate and document any nonconforming materials, hardware, software, tools, parts assemblies, or parts thereof, according to specifications, processes and procedures. They will learn to perform audits/surveillance of all manufacturing and quality assurance processes per specifications, processes, and procedures.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Basic Electricity or Basic Electronics
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through a Vocational Training Certificate or Degree Program.** Applicants must complete a certificate or degree program that contains equivalent content to the examples noted below and assessment placement results or course completions as noted above.

- Basic Mathematics, Basic Physics, and Weight & Balance, Basic Electricity, Aircraft Drawings, Cleaning & Corrosion Control, Ground Operations & Servicing, and Fluid Lines & Fittings; Clover Park Technical College, Lakewood, WA <https://www.cptc.edu/>
- Aviation Maintenance Technology, certificate; Everett Community College, Everett, WA <https://www.everettcc.edu/>
- Aviation Maintenance Technology, Aviation Maintenance Airframe & Powerplant. South Seattle College, Seattle, WA, <https://southseattle.edu/>

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- | | |
|--|------------------------------|
| ▪ Electronics (Assy., Repair) | ▪ Structures Mechanic |
| ▪ Certified A & P Mechanic | ▪ Assembler Installer |
| ▪ Hydraulics (Installation, Repair) | ▪ Assembler Electric Systems |
| ▪ Operational Systems | ▪ Aircraft Test Technician |
| ▪ Trouble Shooting of Systems | ▪ Fuel Cell Assy. |
| ▪ Software Applications Trouble Shooting | |



Industrial Electronic Maintenance Technician

Term: 10,000 hours, 5 years (9,200 on-the-job hours and 800 school hours)

Target Jobs: 87110 Electronic Technician Infrastructure Maintenance

87210 Electronic Technician Precision Machine Tool Maintenance

Potential Locations: Everett, Renton, Seattle, Tukwila, Auburn and Frederickson

Electronic Maintenance Technicians install, diagnose, repair, maintain, rework, modify, test, and calibrate electronic and/or electrical systems related to plant facilities, process support equipment, and production machinery. The Electronic Maintenance Technician apprentice training includes analog and digital circuits, electrical and electronic test equipment, computer systems, process control systems, robotics, computer numerically controlled equipment, motor controllers, AC circuits, electrical safety, and techniques for troubleshooting and analyzing complex electronic circuits.

- **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.
 - Basic Electronic/Electrical precision measuring tools. Examples include: digital multimeters, current clamp meters, oscilloscopes, meggers and surge testers, LCR meters, frequency meters, etc.
 - Basic Electricity or Basic Electronics
 - All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

- **I plan to qualify through a Vocational Training Certificate or Degree Program.** Applicants must complete a certificate or degree program that contains equivalent content to the examples noted below and assessment placement results or course completions as noted above.
 - Electronic Equipment Service Technician AAS Degree (91 Credits); Industrial Electronics and Robotics Technician AAS Degree (119 Credits). Bates Technical College, Tacoma, WA <https://www.batestech.edu/>
 - Mechatronic AAS-T or AAT Degree (6 – 7 Qtr.); Mechatronics Co-Op Certificate A – Power (33 Credits); Mechatronics Co-Op Certificate B – Control (30 Credits). Clover Park Technical College, Lakewood, WA <https://www.cptc.edu/>
 - Advanced Manufacturing Technology – Mechatronics ATA Degree (90 Credits); Mechatronics Systems Certificate (19 Credits). Everett Community College, Everett, WA <https://www.everettcc.edu/>
 - Mechatronics Technician AAS Degree (105-114 Credits.); Mechatronics Certificate 1 (13 Credits); Mechatronics Certificate 2 (13 Credits). Green River College, Auburn, WA <https://www.greenriver.edu/>
 - Industrial Engineering AAS Degree (129 Credits) or Certificate (114 Credits); Mechatronics AAS Degree (91 Credits.); Mechatronics Certificate (44 Credits). Renton Technical College, Renton, WA <https://www.rtc.edu/>
 - Mechatronics AAS Degree (93 Credits); Mechatronics: Certificate of Proficiency (45 Credits); Machine Maintenance Certificate (16 Credits). Shoreline Community College, Shoreline, WA <https://www.shoreline.edu/>

- **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Aircraft Simulator Technician
- A & P Mechanic
- Broadcast Technician
- Communications Technician
- Computer Controlled Machine
- Controls Technician
- Electrical or Electronics Technician
- Electrician
- Fire Control Technician
- HVAC Technician
- Industrial Maintenance Electrician or Technician
- Instrumentation Technician
- Machine Rebuild Technician
- Machine Tool Maintenance Mechanic
- Military Electrician or Technician
- Postal Equipment Technician
- Robotics Technician
- Semiconductor Plant Maintenance Technician



Machine Tool Maintenance Mechanic

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Job: 89509 Machine Repair Mechanic A

Potential Locations: Everett, Renton, Seattle, Tukwila, Auburn, Frederickson

Machine Tool Maintenance Mechanics perform repairs, alignments, modifications, preventative maintenance and predictive maintenance on various types of production machinery and process support equipment. The Machine Tool Maintenance Mechanic apprentice training includes basic machine operations, machine lubrication, machine alignment, hydraulic and pneumatic systems, precision measuring equipment, hand and power tools, automated test equipment, and safety training in all aspects of machine maintenance.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through a Vocational Training Certificate or Degree Program.** Applicants must complete a certificate or degree program that contains equivalent content to the examples noted below and assessment placement results or course completions as noted above.

- Electronic Equipment Service Technician AAS Degree (91 Credits); Industrial Electronics and Robotics Technician AAS Degree (119 Credits). Bates Technical College, Tacoma, WA <https://www.batestech.edu/>
- Industrial Maintenance and Mechatronics AAS Degree (117 Credits); Industrial Maintenance and Mechatronics Certificate (44 Credits). Bellingham Technical College, Bellingham, WA <https://www.btc.edu/>
- Mechatronics AAS-T Degree or AAT Degree (7 Qtr.); Mechatronics Co-Op Certificate A – Power (33 Credits); Mechatronics Co-Op Certificate B – Control (30 Credits). Clover Park Technical College, Lakewood, WA <https://www.cptc.edu/>
- Advanced Manufacturing Technology – Mechatronics ATA Degree (90 Credits); Mechatronics Systems Certificate (19 Credits). Everett Community College, Everett, WA <https://www.everettcc.edu/>
- Mechatronics Technician AAS Degree (105-114 Credits.); Mechatronics Certificate 1 (13 Credits); Mechatronics Certificate 2 (13 Credits). Green River College, Auburn, WA <https://www.greenriver.edu/>
- Industrial Engineering AAS Degree (129 Credits); Industrial Engineering Certificate (114 Credits); Mechatronics AAS Degree (91 Credits.); Mechatronics Certificate (44 Credits). Renton Technical College, Renton, WA <https://www.rtc.edu/>
- Mechatronics AAS Degree (93 Credits); Mechatronics: Certificate of Proficiency (45 Credits); Machine Maintenance Certificate (16 Credits). Shoreline Community College, Shoreline, WA <https://www.shoreline.edu/>

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- A & P Mechanic
- Airframe Mechanic
- Any Factory Maintenance Repair Work
- Automotive Mechanic
- Fabrication Mechanic
- Lathes (Conventional, NC, CNC, Turret)
- Machine Rebuild
- Maintenance Mechanic
- Maintenance Oiler
- Mills (Conventional, NC, CNC, Profile)
- Millwright
- Portable Tool Repair



Machinist

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Job:

C4608 NC Multiple Tool & Milling Machine Operator A

Potential Locations: Everett, Seattle, Auburn and Frederickson

Machinists set up and operate various conventional and numerical control machine tools to fabricate close tolerance, high quality parts from metals, plastics, and composite materials, often in a cellular manufacturing environment. In addition to machine training, the Manufacturing Machinist apprenticeship includes use of precision measuring tools, trade-related bench work, inspection, numerical machine programming, heat treat, layout operations, tool grinding, and machine-related processes.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Milling Machine: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits)
- Lathe: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits).
See page 21 for examples of approved milling machine and lathe courses.
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Boring Mills (Vertical, Horizontal)
- Computer Numerical Control
- Drills (Radial, Press, NC)
- Grinding (Internal, External, Surface, Thread)
- Heat Treat
- Jig Bore, Jig Grinder
- Lathes (Conventional, NC, CNC, Turret)
- Layout (Conventional, CMM)
- Mills (Conventional, NC, CNC, Profile)
- Tool Grind



Maintenance Machinist

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Job: 89709 Maintenance Machinist A

Potential Locations: Auburn

Maintenance Machinists perform all necessary bench and machine operations to make new machines or new and replacement parts for the rebuilding of precision-built fabrication machines and machine tools. They breakdown and sequence work assignments to insure proper machining and assembly operations; devise, improvise and fabricate facilities equipment to accomplish work; and perform work in other maintenance classifications when incidental but necessary to accomplish tasks.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Milling Machine: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits)
- Lathe: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits).
See page 21 for examples of approved milling machine and lathe courses.
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through a Vocational Training Certificate or Degree Program.** Applicants must complete a certificate or degree program that contains equivalent content to the examples noted below and assessment placement results or course completions as noted above.

- Industrial Maintenance and Mechatronics AAS Degree (117 Credits); Industrial Maintenance and Mechatronics Certificate (44 Credits). Bellingham Technical College, Bellingham, WA <https://www.btc.edu/>
- Mechatronics Co-Op Certificate A – Power (33 Credits); Mechatronics Co-Op Certificate B – Control (30 Credits). Clover Park Technical College, Lakewood, WA <https://www.cptc.edu/>
- Advanced Manufacturing Technology – Mechatronics ATA Degree (90 Credits); Mechatronics Systems Certificate (19 Credits). Everett Community College, Everett, WA <https://www.everettcc.edu/>
- Mechatronics Certificate 1 (13 Credits); Mechatronics Certificate 2 (13 Credits). Green River College, Auburn, WA <https://www.greenriver.edu/>
- Mechatronics AAS Degree (91 Credits.); Mechatronics Certificate (44 Credits). Renton Technical College, Renton, WA <https://www.rtc.edu/>
- Mechatronics: Certificate of Proficiency (45 Credits); Machine Maintenance Certificate (16 Credits). Shoreline Community College, Shoreline, WA <https://www.shoreline.edu/>

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- | | |
|--|--|
| <ul style="list-style-type: none"> ▪ Boring Mills (Vertical, Horizontal) ▪ Certified A & P Mechanic ▪ Drills (Radial, Press, NC) ▪ Grinding (Internal, External, Surface, Thread) ▪ Jig Bore, Jig Grinder ▪ Lathes (Conventional, NC, CNC, Turret) | <ul style="list-style-type: none"> ▪ Layout (Conventional, CMM) ▪ Machine Rebuild ▪ Machine Tool Maintenance Mechanic ▪ Mills (Conventional, NC, CNC, Profile) ▪ Portable Tool Repair |
|--|--|



Manufacturing Machinist

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Jobs:

73809 FMS Operator

N0309 General Machinist

C3809 Machinist Assembler Precision

Potential Locations: Everett, Seattle and Auburn

Manufacturing Machinists set up and operate various conventional and numerical control machine tools to fabricate close tolerance, high quality parts from metals, plastics, and composite materials, often in a cellular manufacturing environment. In addition to machine training, the Manufacturing Machinist apprenticeship includes use of precision measuring tools, trade-related bench work, inspection, numerical machine programming, heat treat, layout operations, tool grinding, and machine-related processes.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Milling Machine: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits)
- Lathe: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits).
See page 21 for examples of approved milling machine and lathe courses.
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of "C" or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Boring Mills (Vertical, Horizontal)
- Computer Numerical Control
- Drills (Radial, Press, NC)
- Grinding (Internal, External, Surface, Thread)
- Heat Treat
- Jig Bore, Jig Grinder
- Lathes (Conventional, NC, CNC, Turret)
- Layout (Conventional, CMM)
- Mills (Conventional, NC, CNC, Profile)
- Tool Grind



Metal Structures Technician

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Jobs: 17208 Metal Structures Technician

Potential Location: Auburn

Metal Structures Technicians work in a product cell, utilizing predetermined setups and operating methods, adjust and simultaneously operate a variety of numerically controlled and/or conventional equipment capable of performing various functions such as, but not limited to, forming, bonding, welding, machining, drilling, cutting, robotic and otherwise automated and/or manual assembly.

- **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.
 - Basic Blueprint Reading or Machine Blueprint Reading
 - Basic Precision Measuring Tools
 - All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

- **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Assembly
- Boring Mills (Vertical, Horizontal)
- Computer Numerical Control
- Drills (Radial, Press, NC)
- Grinding (Internal, External, Surface, Thread)
- Heat Treat
- Jig Bore, Jig Grinder
- Lathes (Conventional, NC, CNC, Turret)
- Layout (Conventional, CMM)
- Mills (Conventional, NC, CNC, Profile)
- Tool Grind
- Trade-related Bench Work



Model Maker

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Jobs: 03609 Model Maker B

Potential Locations: Seattle

Model Makers machine, fabricate, and assemble close tolerance, high quality aircraft models and components for testing in wind tunnels. Models are constructed of metals, plastics, and composite materials. The Model Maker apprenticeship, in addition to conventional and NC machine operation training, also includes the use of precision measuring tools, plaster and plastic tooling, layout, elementary electronics, numerical machine programming, model construction, assembly, testing and wind tunnel maintenance.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Milling Machine: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits)
- Lathe: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits).
See page 21 for examples of approved milling machine and lathe courses.
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of "C" or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

I plan to qualify through Work Experience. One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Boring Mills (Vertical, Horizontal)
- EDM Operator (Wire Feed, Non-Wire Feed)
- Electrical (Elementary)
- Grinding (Internal, External, Surface, Thread)
- Heat Treat
- Inspection, Machine/Detail Fabrication
- Jig Bore, Jig Grinder
- Lathes (Conventional, NC, CNC, Turret)
- Machine Layout
- Mills (Conventional, NC, CNC, Profile)
- Model Construction (Finish, Install, Test)
- Part Railing, Saws
- Remote Terminal
- Trade-related Bench Work
- Wind Tunnel Maintenance



NC Skin Mill Operator

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Jobs: 17709 NC Skin Mill Operator

Potential Locations: Auburn and Frederickson

NC Skin Mill Operators machine close tolerance, high quality spars for aircraft assembly. A graduate NC Skin Mill Operator will have the knowledge of all facets of skin and spar fabrication. An NC Skin Mill Operator apprentice receives training in all phases of conventional and NC/CNC milling machines, including skin and spar mills and layout, shot peen operations, hand work, heat treat, tank lines, assembly, prep, and spar handling processes.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Milling Machine: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits)
- Lathe: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits).
See page 21 for examples of approved milling machine and lathe courses.
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Crane Operator
- De-Burr Machine Operator
- Drill Router (NC, CNC)
- Forming, Straightening
- Hand Drill Operator
- Hand Sand (Spar, Skin)
- Heat Treat
- Layout
- Mills (Conventional, NC, CNC, Profile)
- Mills (Spar, Skin, Pull-Through)
- Shot Peen Operator
- Tool and Cutter Grinder



NC Spar Mill Operator

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Jobs: 17908 Spar Mill Operator A NC

Potential Locations: Auburn and Frederickson

NC Spar Mill Operators machine close tolerance, high quality spars for aircraft assembly. A graduate NC Spar Mill Operator will have the knowledge of all facets of spar fabrication. An NC Spar Mill Operator apprentice receives training in all phases of conventional and NC/CNC milling machines, including skin and spar mills and layout, shot peen operations, hand work, heat treat, tank lines, assembly, prep, and spar handling processes.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Milling Machine: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits)
- Lathe: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits).
See page 21 for examples of approved milling machine and lathe courses.
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

I plan to qualify through Work Experience. One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Crane Operator
- De-Burr Machine Operator
- Drill Router (NC, CNC)
- Forming, Straightening
- Hand Drill Operator
- Hand Sand (Spar, Skin)
- Heat Treat
- Layout
- Mills (Conventional, NC, CNC, Profile)
- Mills (Spar, Skin, Pull-Through)
- Shot Peen Operator
- Tool and Cutter Grinder



Quality Assurance Inspector

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Jobs: 54808 Inspector Tooling and Machined Parts B

Potential Locations: Everett, Renton, Seattle and Auburn

Inspectors in this position inspect all types of tooling from initial fabrication of tooling components to the final assembly of major assembly jigs. This may include patterns, dies, jigs, templates, press plates, master models and gauges of various types for conformance with applicable drawings, specifications, quality standards, 3-D measurement systems, Using Coordinate Measuring Machines (CMM), audits, manufacturing plans for workmanship. Tooling, machined parts. Inspectors also perform various in-process Inspections, audits, and check order on productions parts.

- **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.
 - Basic Blueprint Reading or Machine Blueprint Reading
 - Basic Precision Measuring Tools
 - Introduction to Composites
 - All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

- **I plan to qualify through a Vocational Training Certificate or Degree Program.** Applicants must complete a certificate or degree program that contains equivalent content to the examples noted below and assessment placement results or course completions as noted above.
 - Composite Technician Certificate (15 Credits); Edmonds Community College, Edmonds, WA <https://www.edmonds.edu/>
 - Manufacturing Composites Certificate (28 Credits); Washington Aerospace Research & Training (WATR) Center, Everett, WA <https://watrcenter.edmonds.edu/>
 - Aerospace Composite Technician Certificate (40 Credits); Everett Community College, Everett, WA <https://www.everettcc.edu/>
 - Advanced Composites Manufacturing Technician Certificate (31 Credits), Skagit Valley College, Mount Vernon, WA <https://www.skagit.edu/>

- **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Blue Streak/Bench Mechanic
- Composites
- Computer Numerical Control Programming
- Inspection (Machine detail; Fabrication)
- Jig Bore, Jig Grinder
- Layout & Lofting (Sheet Metal, Non-metallic)
- Manufacturing Engineering
- Tool & Die
- Tooling, Tool Maker; Tool Inspector
- Trade-related Bench Work



Tool and Cutter Grinder

Term: 8,000 hours, 4 years (7,360 on-the-job hours and 640 school hours)

Target Jobs: 40708 Tool Grinder A

Potential Locations: Auburn

Tool & Cutter Grinders set up and operate a variety of conventional and CNC machines to modify, fabricate, and re-sharpen precision, high quality machine cutting tools to tight tolerance specifications. Tool & Cutter Grinder apprentices receive training in all aspects of the Tool and Cutter Grind trade, including a wide variety of drill/reamer grinding, high speed cutting tools, and carbide cutting tools utilizing conventional universal tool and cutter grind equipment, and CNC tool and cutter grind machines. Tool and Cutter Grind apprentices also receive training on our new state of the art CemeCon tool coating process, as well as learn most aspects of the Cutting Tool business.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Milling Machine: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits)
- Lathe: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits).

See page 21 for examples of approved milling machine and lathe courses.

- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Boring Mills (Vertical, Horizontal)
- Computer Numerical Control
- Drills (Radial, Press, NC)
- Grinding (Internal, External, Surface, Thread)
- Heat Treat
- Jig Bore, Jig Grinder
- Lathes (Conventional, NC, CNC, Turret)
- Layout (Conventional, CMM)
- Mills (Conventional, NC, CNC, Profile)
- Tool Grind



Tool and Die Maker

Term: 10,000 hours, 5 years (9,200 on-the-job hours and 800 school hours)

Target Jobs: 76010 Tool and Die/Deep Draw

Potential Locations: Auburn

Tool and Die Makers machine, plan, layout, fabricate, make, assemble, maintain and repair tools, dies, and molds. Tools and/or dies are constructed of metals, plastics and composite materials. In addition to conventional and NC machine operation training, The Tool and Die Maker apprenticeship also includes the use of precision measuring tools, involving coordinated tolerances in more than one working plane and/or involving obtuse, acute or right-angle construction; with dies such as push-through, blanking, piercing, cut-off, forming, joggle, deep and compound dies and numerical machine programming. Assembly of tools and/or dies may include the creation and repair of pneumatics, hydraulic plumbing, and performing functional checks, testing and wind tunnel maintenance.

□ **I plan to qualify through Vocational Training Courses.** All courses must be completed prior to the time of application.

- Basic Blueprint Reading or Machine Blueprint Reading
- Basic Precision Measuring Tools
- Milling Machine: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits)
- Lathe: Conventional or CNC (a course minimum of 80 hours, or 5 or more credits).
See page 21 for examples of approved milling machine and lathe courses.
- All applicants must complete an assessment or courses at a Community/Technical College, or University, with minimum assessment placement results or equivalent course completions as follows: 1) English 90 or better. 2) Intermediate Algebra or better, taken within the last 5 years.

A passing score of at least 80% is required for all Boeing classes or challenge tests, and a grade of “C” or better for all non-Boeing educational transcripts. Boeing employees can challenge most courses at an ERT Lab. Documentation for all course completions and test challenges must be provided upon request, and completed prior to the time of application. Any course of equivalent content is an acceptable substitute to the noted courses.

□ **I plan to qualify through Work Experience.** One year of trade-related work experience and assessment placement results or course completions as noted above. Examples of qualifying trade-related work experience are listed below. The one-year minimum requirement may be composed of a combination of trade-related work experiences. A resume listing your work experience must be provided upon request.

Work Experience Examples:

- Boring Mills (Vertical, Horizontal)
- EDM Operator (Wire Feed, Non-Wire Feed)
- Grinding (Internal, External, Surface, Thread)
- Heat Treat
- Inspection, Machine/Detail Fabrication
- Jig Bore, Jig Grinder
- Lathes (Conventional, NC, CNC, Turret)
- Machine Layout
- Mills (Conventional, NC, CNC, Profile)
- Saws
- Trade-related Bench Work



Suggested Milling Machine, Lathe and CNC Courses

The colleges listed in this section offer conventional milling machine, conventional lathe and CNC machining courses. A minimum of 80 hours of instruction is suggested for each required course. Please verify all course information prior to enrolling. Current and eligible former Boeing employees can apply for tuition assistance for eligible

classes and certificates through the IAM/Boeing Joint Programs Education Assistance Program. Current Boeing employees can also apply for Boeing tuition assistance for eligible classes and certificates through the Learning Together Program (LTP) via Worklife.

Qualifying Vocational Training Courses - A Suggested Guide

Clover Park Technical College

4500 Steilacoom Blvd. SW, Lakewood, WA 98499, <http://www.cptc.edu> 253-589-5800

Apprenticeship conventional lathe and milling machine requirement: MET 121 - Manual Machining (5 Credits) and MET 299 Training & Practice (5 Credits) – both courses required;

Apprenticeship CNC Machining requirement: MET 131 - CAD/CAM/CNC Mills (5 Credits).

<https://www.cptc.edu/programs/manufacturing> Nathan Baker, 253-571-8410, Nathan.Baker@cptc.edu

Everett Community College

2000 Tower St, Everett, WA 98201, <https://www.everettcc.edu> 425-388-9100

Apprenticeship conventional lathe and milling machine requirement: MFG T 104 Machine Operator 1 (20 Credits) and MFG T 105 Machine Operator 2 (20 Credits) – both courses required.

Contact faculty for CNC Machining options.

Darin Chase, 425-388-9390, dchase@everettcc.edu

Green River College

12401 SE 320th Street, Auburn, WA 98092-3622, <http://www.greenriver.edu> 253-833-9111

Apprenticeship conventional lathe and milling machine requirement: MFG 101 Intro to Machining and Manufacturing (13 Credits).

Apprenticeship CNC Machining requirement: MFG 103 Conventional and Computer Numerical Control (CNC) Machine Level 1 (80 Hours/6 Credits).

Tom Tagliente, 253-833-9111 ext. 4261, tagliente@greenriver.edu

Lake Washington Institute of Technology

11605 132nd Avenue NE, Kirkland, WA 98034-8506, <http://www.lwtc.ctc.edu> 425-739-8100

Apprenticeship conventional lathe and milling machine requirement: MACH 105 Intro. to Manual Machining (4 Credits) and MACH 111 Intro. to Measuring Applications (3 Credits).

Contact faculty for CNC requirement options.

Josh Meramore, 425-739-8357, Josh.Meramore@lwtech.edu Steven Weaver, 425-739-8365, steven.weaver@lwtech.edu

Machinists Institute

9125 15th Place S. Seattle, WA 98108, <https://www.machinistsinstitute.org> (206) 331-4648

Contact: info@machinistsinstitute.org for course options that will satisfy the 80 hour Conventional Milling Machine, 80 hour Lathe, and/or 80 CNC Machining Apprenticeship requirement.

Renton Technical College

3000 NE Fourth Street, Renton, WA 98056-4195, <http://www.rtc.edu> 425-235-2352

Contact David Schoenmakers, dschoenmakers@rtc.edu and/or Bao Dao, bdao@rtc.edu for course options that will satisfy the 80 hour Conventional Milling Machine, 80 hour Lathe, and/or 80 CNC Machining Apprenticeship requirement.

Shoreline Community College

16101 Greenwood Ave N, Shoreline, WA 98133-5696, <http://www.shoreline.edu> 206-546-4101 Apprenticeship conventional lathe and milling machine requirement: MFGT105 (20 Credits) Manufacturing Technology: Conventional Milling Machines & Lathes;

Contact faculty for CNC Machining options.

Keith Smith, 206-546-6969, ksmith2@shoreline.edu



Current (and Eligible Former) Boeing Employees

Options to Complete Apprenticeship Vocational Requirements

An IAM/Boeing Joint Programs Career Advisor can help you determine which Apprenticeship Vocational Requirements can be satisfied through the Boeing ERT course completion or ERT challenge test process.

- Complete Boeing ERT Courses: Obtain ERT self-paced course materials from ERT Labs; use My Learning to enroll in instructor-led or Web-based ERT courses. All ERT self-paced courses require a final test administered at an ERT Lab for course completion credit.
- Complete Boeing ERT Challenge Tests: Current Boeing employees already possessing knowledge and skills for required apprenticeship vocational training requirements can take a challenge test for some of these requirements at an ERT lab. For ERT lab and course information see <http://loc.web.boeing.com/sites/mgs/index.html?id=coursesuppert> Call an ERT Lab ahead of time to confirm availability and allow up to 3 hours for testing. Passing a challenge test is considered the equivalent of taking and passing the course.
- Complete non-Boeing Courses and/or Certificates/Degrees: Generally, required apprenticeship courses and certificates/degrees offered through area colleges can satisfy apprenticeship application requirements. Consult the Apprenticeship Prep Pack for certificate/degree and college examples. Before enrolling in courses, consider speaking with a college instructor and/or advisor to help ensure you will learn the needed knowledge and skills. Current and eligible former Boeing employees can apply for tuition assistance for eligible classes and certificates through the IAM/Boeing Joint Programs Education Assistance Program. See <http://iamboeing.web.boeing.com> (internal website) or <http://www.iam-boeing.com> (external website) for tuition assistance and eligibility information. Current Boeing employees can also apply for Boeing tuition assistance for eligible classes and certificates through the Learning Together Program (LTP) via Worklife. Funding approval is required prior to the course/certificate start date.



Non-Boeing Employees

Options to Complete (and Learn About) Apprenticeship Vocational Requirements

For non-Boeing applicants, required apprenticeship vocational requirements may be taken (or challenged) at many area colleges (consult this Prep Pack for certificate/degree and college examples). A grade of "C" or better is required unless the course is pass/fail. Documentation for all challenges, tests, courses, and degree completions must be provided upon request.

Who Can Apply, How and When?

All Boeing and non-Boeing candidates may apply for open positions posted through the Boeing Global Staffing online requisition system (<https://jobs.boeing.com>) during advertised application acceptance periods. Regularly monitor the Boeing Careers and IAM/Boeing Joint Apprenticeship websites for new apprenticeship opportunities.

Contact Information

IAM/Boeing Joint Apprenticeship

Office: PO Box 3707, MC 5M-202, Seattle WA 98124-2207
Internal web: <http://iamboeing.web.boeing.com>
External web: <http://www.iam-boeing-apprenticeship.com>

I AM District 751

Office: 9125 15th Place South, Seattle, WA 98108
Web: <http://www.iam751.org>
Hours: M-F 8:00 AM to 5:00 PM
Office: 206-763-1300 or 1-800-763-1301
Auburn Hall: 201 A Street SW, Auburn, WA 98001. 253-833-5590
Renton Hall: 233 Burnett Avenue N, Renton, WA 98057. 425-235-3777
Seattle Hall: 9125 15th Place S, Seattle, WA 98108. 206-764-0324
Everett Hall: 8729 Airport Road, Everett, WA 98204. 425-355-8821



Scan for a digital copy of this Prep Pack