Trades & Pathways — Instructor Master (FULL, Verbatim from uploads)

Structure: Each trade is Heading 1. Sections are verbatim lines from your uploaded sources. If a section is empty, the uploads did not contain that info in a parseable way.

# Boilermaker (Local 104, 502)

## What the Trade Does

Alternative Pathways: Outside of the union, aspiring boilermakers can look for non-union industrial construction jobs or apprenticeships that involve welding and metal fabrication. Some local contractors or shipyards (such as maritime repair companies around Puget Sound) hire and train workers on the job. You could also consider the Ironworkers apprenticeship as a related path, since it involves structural steel work and welding similar to boilermaking. Another avenue is the open-shop apprenticeship programs through organizations like CITC of Washington, which offers training in related fields (e.g. welding, pipefitting) that can be a stepping stone​flysea.org​flysea.org. Gaining welding certifications (such as an AWS certified welder card) on your own at a community or technical college is a valuable backup route into the metal trades.

## Entry Requirements

## Application Steps

* Applying: The primary apprenticeship for Boilermakers in the Seattle area is through the International Brotherhood of Boilermakers (Local 104 in Seattle and Local 502 in Puyallup). Applications for Local 104 are typically accepted in person on specific days (e.g. Wednesdays mornings) and require completing an assessment test​flysea.org. Local 502 accepts applications on a rolling basis during business hours​flysea.org. Key requirements include being at least 18 years old (with a high school diploma or GED in Local 502’s program) and a valid driver’s license or state ID​flysea.org​flysea.org. Applicants who meet minimum qualifications may be placed in an eligibility pool and invited for an interview when openings arise​flysea.org.
* While Waiting: Boilermaker applicants often face a waiting period after testing and interviewing. While on the ranked list, you can bolster your skills by taking welding courses (since Boilermakers do extensive welding) or earning certifications like OSHA-10 safety training and aerial lift operation, which make you more job-ready. Seeking entry-level work in metal fabrication shops or shipyards is a smart move – any hands-on experience with steel, welding, or rigging can both increase your skills and show your commitment. For example, if you can get a job as a welder’s helper or in a metal shop, log those hours and keep documentation of your experience. Volunteer opportunities (such as building community projects or high school shop programs) that involve metal work could also keep you active in the trade during the wait.
* Standing Out: To rank higher in Boilermaker apprenticeship interviews, come prepared with proof of any relevant experience. Documented hours in welding, metal work, or machinery repair will set you apart. Having a Welding Certification or having completed a trade pre-apprenticeship program can earn you credit. For instance, graduates of programs like ANEW or PACE (pre-apprenticeships) are often looked upon favorably​seattlepipetrades.org. Emphasize your familiarity with tools, ability to work at heights and in confined spaces, and your commitment to safety. Letters of recommendation from instructors or employers in the metal trades can also boost your profile. Essentially, show the interviewers that you already have a foundation to “hit the ground running,” which indicates you’ll excel in the program.

## Contacts/Links

* Fast-Track Tips: One fast-track method into the Boilermakers is to get hired by a union contractor as a helper or trade assistant. If you can secure a job as a helper through Local 104 or 502 (even before being an official apprentice), you’ll gain on-site experience and could be first in line when apprentice slots open. Another strategy is to complete a welding course and obtain an AWS certified welder card – the union may allow direct entry or advanced standing for those with exceptional welding skills. Also, keep in close contact with the union hall; sometimes showing up and asking for “permit work” (temporary work for non-members) can get your foot in the door. By working as a permit worker, you prove yourself on real jobs and can earn sponsorship into the next apprenticeship class if you impress the contractors. Always stay drug-free (you’ll need to pass a drug test) and maintain a valid driver’s license so that nothing hinders you when an opportunity arises​flysea.org​flysea.org.

## Notes

﻿Boilermakers

# Bricklayer / BAC Allied (Brick/Tile/Terrazzo/Marble/PCC)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Carpenter (General)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Carpenter – Interior Systems

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Millwright

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Pile Driver

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Cement Mason (OPCMIA 528)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Drywall Finisher (IUPAT)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Electrician – Inside (01)

## What the Trade Does

Installs, maintains, and repairs electrical systems in all settings.

Blue Card – Telecommunications Installer

Installs and maintains data and communication networks.

Constructs and maintains power transmission lines and substations.

3. Northwest Line Construction Apprenticeship (Outside Linemen)

Construction Sites: Installing electrical systems in new buildings.

Industrial Facilities: Maintaining electrical equipment in factories.

Power Lines and Substations: Repairing and maintaining electrical grids.

## Entry Requirements

* Electricians install, maintain, and repair electrical systems in residential, commercial, and industrial settings. In Washington State, electricians must complete a registered apprenticeship and obtain a state license. The trade offers multiple specializations, including high-voltage, low-voltage, and tree-trimming electrical work.
* 06 – Limited Energy (Low Voltage) Technician
* High-Voltage Lineworker (Outside Lineman)
* Clears vegetation around power lines to prevent outages and hazards.
* Inside Wireman (01 License) – 8,000 hours.
* Limited Energy Technician (06 License) – 4,000 hours.
* Residential Wireman (02 License) – 4,000 hours.
* Offers apprenticeship training for commercial, residential, and low-voltage electricians.
* Trains high-voltage lineworkers who work on transmission lines.
* Trains apprentices in powerline vegetation management.
* 1. Minimum Qualifications:
* Must be 18 years old.
* Have a high school diploma or GED.
* Have a valid driver’s license and reliable transportation.
* Covers algebra, mechanical reasoning, and reading comprehension.
* How do you determine the correct wire gauge for a circuit?  
  By calculating amperage, voltage drop, and National Electrical Code (NEC) requirements.
* Multimeter – Measures voltage, resistance, and current.
* IBEW Local 77 (Tree Trimmers & High Voltage):

## Application Steps

* Application: Apply at .
* Application Process
* Pass a basic aptitude test (math and reading comprehension).
* 2. Aptitude Test:
* 3. Interview Process:
* Scored based on mechanical aptitude, interest in the trade, and work ethic.
* Higher scores improve chances of selection for apprenticeship.
* 4. Placement on the Ranked List:
* Candidates are placed on a ranked waitlist for apprenticeship openings.
* Physical Test Requirements
* Interview Preparation and Sample Answers
* What are your greatest strengths?  
  I have a strong work ethic, attention to detail, and problem-solving skills.
* Describe a time when you solved a technical problem.  
  While troubleshooting a circuit, I systematically tested components and found a faulty breaker, which I replaced.
* Megger – A device for testing insulation resistance.

## Contacts/Links

* Homes and Offices: Wiring and troubleshooting electrical issues.

## Notes

Electrician Trade

Types of Electricians in Washington State:

01 – General Journeyman Electrician

Works in residential, commercial, and industrial environments.

Requires 8,000 hours (4 years) of on-the-job training.

02 – Residential Electrician

Specializes in home wiring, lighting, and electrical systems.

Requires 4,000 hours (2 years) of training.

Works on telecommunications, security systems, fire alarms, and HVAC controls.

Requires 1,500 hours (approximately 1 year) of training.

Works at great heights and in extreme weather conditions.

Requires 7,000 hours (3.5 years) of training.

Tree Trimmer Electrician

Uses specialized climbing and rigging techniques.

Requires 2,000 hours (1 year) of training.

Electrician Apprenticeship Programs in Washington

Most electricians enter the trade through a registered apprenticeship program. The primary programs include:

1. International Brotherhood of Electrical Workers (IBEW) - NECA Joint Apprenticeship

Location: Available at multiple JATCs in Washington (Seattle, Tacoma, Spokane, etc.).

Programs Offered:

2. Puget Sound Electrical JATC

Website:

4. Tree Trimmer Electrical Apprenticeship (IBEW Local 77)

Administered by the Electrical Training Alliance.

Wait times vary but typically range from 3 months to 2 years.

Work Environments of Electricians

Electricians work in diverse settings:

Tree Work: Climbing and trimming trees around power lines.

Electricians must demonstrate:

Strength: Lifting heavy conduit, wire, and equipment.

Stamina: Working in confined spaces or at heights.

Dexterity: Handling tools and working with small components.

Safety Awareness: Following OSHA and NEC safety standards.

General Questions and Answers:

Why do you want to become an electrician?  
I enjoy working with my hands, problem-solving, and learning a skilled trade with long-term career stability.

How do you handle working in hazardous environments?  
I always follow safety protocols, wear PPE, and communicate with my team.

Technical Questions and Answers:

What tools have you used in electrical work?  
Multimeter, conduit bender, wire strippers, fish tape, and power drills.

Explain the difference between a parallel and series circuit.  
In a series circuit, current flows through each component sequentially. In a parallel circuit, each component has its own path for current flow.

Tools Used by Electricians

Conduit Bender – Shapes electrical conduit.

Wire Strippers – Removes insulation from electrical wires.

Fish Tape – Guides wire through conduit.

Torque Wrench – Tightens electrical connections to specifications.

Safety Harness and PPE – Essential for fall protection and electrical safety.

Electrician Slang Terms

Electricians use specialized terms on the job. Here are some common ones:

Hot – A live wire carrying current.

Dead – A wire with no electrical charge.

Junction Box – An enclosure for connecting electrical wires.

Conduit – Protective tubing for electrical wiring.

Pigtail – A short wire used to connect circuits.

Breakout – Pulling individual wires from a conduit.

Looped Neutral – When a neutral wire is improperly shared between circuits.

Snaked – Feeding wire through walls or conduit.

Trip – When a breaker shuts off due to overload.

Additional Resources

Washington State Labor & Industries Licensing: lni.wa.gov

IBEW Local 46 (Seattle & Western Washington):

IBEW Local 191 (Everett & North Washington):

# Electrician – Limited Energy (06)

## What the Trade Does

Installs, maintains, and repairs electrical systems in all settings.

Blue Card – Telecommunications Installer

Installs and maintains data and communication networks.

Constructs and maintains power transmission lines and substations.

3. Northwest Line Construction Apprenticeship (Outside Linemen)

Construction Sites: Installing electrical systems in new buildings.

Industrial Facilities: Maintaining electrical equipment in factories.

Power Lines and Substations: Repairing and maintaining electrical grids.

## Entry Requirements

* Electricians install, maintain, and repair electrical systems in residential, commercial, and industrial settings. In Washington State, electricians must complete a registered apprenticeship and obtain a state license. The trade offers multiple specializations, including high-voltage, low-voltage, and tree-trimming electrical work.
* 06 – Limited Energy (Low Voltage) Technician
* High-Voltage Lineworker (Outside Lineman)
* Clears vegetation around power lines to prevent outages and hazards.
* Inside Wireman (01 License) – 8,000 hours.
* Limited Energy Technician (06 License) – 4,000 hours.
* Residential Wireman (02 License) – 4,000 hours.
* Offers apprenticeship training for commercial, residential, and low-voltage electricians.
* Trains high-voltage lineworkers who work on transmission lines.
* Trains apprentices in powerline vegetation management.
* 1. Minimum Qualifications:
* Must be 18 years old.
* Have a high school diploma or GED.
* Have a valid driver’s license and reliable transportation.
* Covers algebra, mechanical reasoning, and reading comprehension.
* How do you determine the correct wire gauge for a circuit?  
  By calculating amperage, voltage drop, and National Electrical Code (NEC) requirements.
* Multimeter – Measures voltage, resistance, and current.
* IBEW Local 77 (Tree Trimmers & High Voltage):

## Application Steps

* Application: Apply at .
* Application Process
* Pass a basic aptitude test (math and reading comprehension).
* 2. Aptitude Test:
* 3. Interview Process:
* Scored based on mechanical aptitude, interest in the trade, and work ethic.
* Higher scores improve chances of selection for apprenticeship.
* 4. Placement on the Ranked List:
* Candidates are placed on a ranked waitlist for apprenticeship openings.
* Physical Test Requirements
* Interview Preparation and Sample Answers
* What are your greatest strengths?  
  I have a strong work ethic, attention to detail, and problem-solving skills.
* Describe a time when you solved a technical problem.  
  While troubleshooting a circuit, I systematically tested components and found a faulty breaker, which I replaced.
* Megger – A device for testing insulation resistance.

## Contacts/Links

* Homes and Offices: Wiring and troubleshooting electrical issues.

## Notes

Electrician Trade

Types of Electricians in Washington State:

01 – General Journeyman Electrician

Works in residential, commercial, and industrial environments.

Requires 8,000 hours (4 years) of on-the-job training.

02 – Residential Electrician

Specializes in home wiring, lighting, and electrical systems.

Requires 4,000 hours (2 years) of training.

Works on telecommunications, security systems, fire alarms, and HVAC controls.

Requires 1,500 hours (approximately 1 year) of training.

Works at great heights and in extreme weather conditions.

Requires 7,000 hours (3.5 years) of training.

Tree Trimmer Electrician

Uses specialized climbing and rigging techniques.

Requires 2,000 hours (1 year) of training.

Electrician Apprenticeship Programs in Washington

Most electricians enter the trade through a registered apprenticeship program. The primary programs include:

1. International Brotherhood of Electrical Workers (IBEW) - NECA Joint Apprenticeship

Location: Available at multiple JATCs in Washington (Seattle, Tacoma, Spokane, etc.).

Programs Offered:

2. Puget Sound Electrical JATC

Website:

4. Tree Trimmer Electrical Apprenticeship (IBEW Local 77)

Administered by the Electrical Training Alliance.

Wait times vary but typically range from 3 months to 2 years.

Work Environments of Electricians

Electricians work in diverse settings:

Tree Work: Climbing and trimming trees around power lines.

Electricians must demonstrate:

Strength: Lifting heavy conduit, wire, and equipment.

Stamina: Working in confined spaces or at heights.

Dexterity: Handling tools and working with small components.

Safety Awareness: Following OSHA and NEC safety standards.

General Questions and Answers:

Why do you want to become an electrician?  
I enjoy working with my hands, problem-solving, and learning a skilled trade with long-term career stability.

How do you handle working in hazardous environments?  
I always follow safety protocols, wear PPE, and communicate with my team.

Technical Questions and Answers:

What tools have you used in electrical work?  
Multimeter, conduit bender, wire strippers, fish tape, and power drills.

Explain the difference between a parallel and series circuit.  
In a series circuit, current flows through each component sequentially. In a parallel circuit, each component has its own path for current flow.

Tools Used by Electricians

Conduit Bender – Shapes electrical conduit.

Wire Strippers – Removes insulation from electrical wires.

Fish Tape – Guides wire through conduit.

Torque Wrench – Tightens electrical connections to specifications.

Safety Harness and PPE – Essential for fall protection and electrical safety.

Electrician Slang Terms

Electricians use specialized terms on the job. Here are some common ones:

Hot – A live wire carrying current.

Dead – A wire with no electrical charge.

Junction Box – An enclosure for connecting electrical wires.

Conduit – Protective tubing for electrical wiring.

Pigtail – A short wire used to connect circuits.

Breakout – Pulling individual wires from a conduit.

Looped Neutral – When a neutral wire is improperly shared between circuits.

Snaked – Feeding wire through walls or conduit.

Trip – When a breaker shuts off due to overload.

Additional Resources

Washington State Labor & Industries Licensing: lni.wa.gov

IBEW Local 46 (Seattle & Western Washington):

IBEW Local 191 (Everett & North Washington):

# Electrician – Residential (02)

## What the Trade Does

Installs, maintains, and repairs electrical systems in all settings.

Blue Card – Telecommunications Installer

Installs and maintains data and communication networks.

Constructs and maintains power transmission lines and substations.

3. Northwest Line Construction Apprenticeship (Outside Linemen)

Construction Sites: Installing electrical systems in new buildings.

Industrial Facilities: Maintaining electrical equipment in factories.

Power Lines and Substations: Repairing and maintaining electrical grids.

## Entry Requirements

* Electricians install, maintain, and repair electrical systems in residential, commercial, and industrial settings. In Washington State, electricians must complete a registered apprenticeship and obtain a state license. The trade offers multiple specializations, including high-voltage, low-voltage, and tree-trimming electrical work.
* 06 – Limited Energy (Low Voltage) Technician
* High-Voltage Lineworker (Outside Lineman)
* Clears vegetation around power lines to prevent outages and hazards.
* Inside Wireman (01 License) – 8,000 hours.
* Limited Energy Technician (06 License) – 4,000 hours.
* Residential Wireman (02 License) – 4,000 hours.
* Offers apprenticeship training for commercial, residential, and low-voltage electricians.
* Trains high-voltage lineworkers who work on transmission lines.
* Trains apprentices in powerline vegetation management.
* 1. Minimum Qualifications:
* Must be 18 years old.
* Have a high school diploma or GED.
* Have a valid driver’s license and reliable transportation.
* Covers algebra, mechanical reasoning, and reading comprehension.
* How do you determine the correct wire gauge for a circuit?  
  By calculating amperage, voltage drop, and National Electrical Code (NEC) requirements.
* Multimeter – Measures voltage, resistance, and current.
* IBEW Local 77 (Tree Trimmers & High Voltage):

## Application Steps

* Application: Apply at .
* Application Process
* Pass a basic aptitude test (math and reading comprehension).
* 2. Aptitude Test:
* 3. Interview Process:
* Scored based on mechanical aptitude, interest in the trade, and work ethic.
* Higher scores improve chances of selection for apprenticeship.
* 4. Placement on the Ranked List:
* Candidates are placed on a ranked waitlist for apprenticeship openings.
* Physical Test Requirements
* Interview Preparation and Sample Answers
* What are your greatest strengths?  
  I have a strong work ethic, attention to detail, and problem-solving skills.
* Describe a time when you solved a technical problem.  
  While troubleshooting a circuit, I systematically tested components and found a faulty breaker, which I replaced.
* Megger – A device for testing insulation resistance.

## Contacts/Links

* Homes and Offices: Wiring and troubleshooting electrical issues.

## Notes

Electrician Trade

Types of Electricians in Washington State:

01 – General Journeyman Electrician

Works in residential, commercial, and industrial environments.

Requires 8,000 hours (4 years) of on-the-job training.

02 – Residential Electrician

Specializes in home wiring, lighting, and electrical systems.

Requires 4,000 hours (2 years) of training.

Works on telecommunications, security systems, fire alarms, and HVAC controls.

Requires 1,500 hours (approximately 1 year) of training.

Works at great heights and in extreme weather conditions.

Requires 7,000 hours (3.5 years) of training.

Tree Trimmer Electrician

Uses specialized climbing and rigging techniques.

Requires 2,000 hours (1 year) of training.

Electrician Apprenticeship Programs in Washington

Most electricians enter the trade through a registered apprenticeship program. The primary programs include:

1. International Brotherhood of Electrical Workers (IBEW) - NECA Joint Apprenticeship

Location: Available at multiple JATCs in Washington (Seattle, Tacoma, Spokane, etc.).

Programs Offered:

2. Puget Sound Electrical JATC

Website:

4. Tree Trimmer Electrical Apprenticeship (IBEW Local 77)

Administered by the Electrical Training Alliance.

Wait times vary but typically range from 3 months to 2 years.

Work Environments of Electricians

Electricians work in diverse settings:

Tree Work: Climbing and trimming trees around power lines.

Electricians must demonstrate:

Strength: Lifting heavy conduit, wire, and equipment.

Stamina: Working in confined spaces or at heights.

Dexterity: Handling tools and working with small components.

Safety Awareness: Following OSHA and NEC safety standards.

General Questions and Answers:

Why do you want to become an electrician?  
I enjoy working with my hands, problem-solving, and learning a skilled trade with long-term career stability.

How do you handle working in hazardous environments?  
I always follow safety protocols, wear PPE, and communicate with my team.

Technical Questions and Answers:

What tools have you used in electrical work?  
Multimeter, conduit bender, wire strippers, fish tape, and power drills.

Explain the difference between a parallel and series circuit.  
In a series circuit, current flows through each component sequentially. In a parallel circuit, each component has its own path for current flow.

Tools Used by Electricians

Conduit Bender – Shapes electrical conduit.

Wire Strippers – Removes insulation from electrical wires.

Fish Tape – Guides wire through conduit.

Torque Wrench – Tightens electrical connections to specifications.

Safety Harness and PPE – Essential for fall protection and electrical safety.

Electrician Slang Terms

Electricians use specialized terms on the job. Here are some common ones:

Hot – A live wire carrying current.

Dead – A wire with no electrical charge.

Junction Box – An enclosure for connecting electrical wires.

Conduit – Protective tubing for electrical wiring.

Pigtail – A short wire used to connect circuits.

Breakout – Pulling individual wires from a conduit.

Looped Neutral – When a neutral wire is improperly shared between circuits.

Snaked – Feeding wire through walls or conduit.

Trip – When a breaker shuts off due to overload.

Additional Resources

Washington State Labor & Industries Licensing: lni.wa.gov

IBEW Local 46 (Seattle & Western Washington):

IBEW Local 191 (Everett & North Washington):

# Elevator Constructor (IUEC/NEIEP)

## What the Trade Does

Elevator mechanics install, repair, and maintain elevators, escalators, moving walkways, and other vertical transportation systems. The trade requires mechanical knowledge, electrical expertise, and problem-solving skills. Elevator mechanics typically work for unionized contractors affiliated with the International Union of Elevator Constructors (IUEC).

Installation Mechanics: Assemble and install new elevators, escalators, and lifts in buildings.

Repair Technicians: Diagnose and fix mechanical, electrical, and hydraulic issues in elevators.

The primary path to becoming a union elevator mechanic is through the International Union of Elevator Constructors (IUEC) Local 19 Apprenticeship Program in Washington State. This program provides paid on-the-job training combined with classroom instruction.

Construction Sites: Installing new elevators in high-rise buildings.

Residential Buildings: Installing and maintaining home elevators or lifts.

Conduit Bender – Shapes electrical conduit for wiring installations.

Hoists and Rigging Equipment – Lifts heavy elevator components during installation.

Controller – The main electrical panel that operates the elevator.

## Entry Requirements

* 1. Minimum Qualifications:
* Must be at least 18 years old.
* Possess a high school diploma or GED.
* Required documentation: ID, diploma/GED, proof of residency.
* Mathematical Skills: Algebra, geometry, and mechanical equations.
* Review basic algebra and geometry (percentages, fractions, angles, volume calculations).
* What tools have you worked with in mechanical or electrical projects?  
  I have experience with multimeters, wrenches, screwdrivers, conduit benders, and power drills.
* Multimeter – Measures voltage, resistance, and current in electrical systems.
* Hand Tools – Wrenches, screwdrivers, and pliers for mechanical work.

## Application Steps

* Modernization Specialists: Upgrade outdated elevator systems with newer, more efficient technology.
* Application Process
* Pass a basic aptitude test (math and mechanical reasoning).
* 2. Application Submission:
* Applications are available periodically through NEIEP (National Elevator Industry Educational Program).
* Apply online at neiep.org when applications open.
* Pay the application fee (varies by location).
* 3. Screening and Testing:
* Aptitude Test: Covers mechanical comprehension, mathematics, and problem-solving.
* Interview Process: Scored on industry knowledge, work ethic, and mechanical aptitude.
* Placement on the Ranked List: Candidates are placed on a ranked list based on their test and interview scores.
* Waiting List: Applicants may remain on a waitlist for 1-2 years before placement in an apprenticeship.
* Aptitude Testing
* Candidates must pass an aptitude test covering:
* Mechanical Aptitude: Understanding of gears, pulleys, circuits, and hydraulics.
* Take online mechanical aptitude practice tests.
* Physical Test Requirements
* Interview Preparation and Sample Answers
* What are your greatest strengths?  
  I have strong problem-solving skills, attention to detail, and the ability to work well under pressure.
* Describe a challenging situation and how you resolved it.  
  While troubleshooting an electrical issue, I systematically tested components and found a faulty relay, which I replaced to restore function.
* How do you troubleshoot an electrical circuit?  
  I start by checking the power source, then use a multimeter to test voltage, continuity, and resistance to isolate the issue.
* Brake Test – A safety test to ensure the elevator brakes function properly.

## Contacts/Links

* Commercial Buildings: Performing routine maintenance and repairs in offices, hospitals, and malls.

## Notes

Elevator Mechanic Trade

Types of Elevator Mechanics:

Maintenance Mechanics: Perform routine inspections, lubrication, and adjustments to keep elevators running smoothly.

Elevator Mechanic Apprenticeship Program (IUEC Local 19)

Have proficiency in reading, writing, and speaking English.

Be physically capable of performing the work, including lifting heavy objects and working at heights or in confined spaces.

Work Environments of Elevator Mechanics

Elevator mechanics work in various environments, including:

Industrial Facilities: Servicing freight elevators and heavy-duty lifting systems.

Reading Comprehension: Ability to interpret technical manuals and blueprints.

Preparation Tips:

Study mechanical systems and simple machines (levers, pulleys, gears).

Apprentices must demonstrate:

Strength: Lift and carry heavy tools and equipment (up to 100 lbs).

Endurance: Work in confined spaces, on ladders, and in elevator shafts.

Coordination: Perform precise work in small spaces while handling electrical components.

Safety Awareness: Follow strict safety protocols when working with electrical and mechanical systems.

General Questions and Answers:

Why do you want to become an elevator mechanic?  
I enjoy working with mechanical and electrical systems, and I want a hands-on career that provides stability and long-term growth.

How do you handle working at heights or in tight spaces?  
I stay calm and follow safety procedures. I am comfortable using harnesses, ladders, and confined spaces due to my previous experience.

Technical Questions and Answers:

Can you explain how a pulley system works?  
A pulley system reduces the amount of force needed to lift an object by distributing the load across multiple pulleys.

Tools Used by Elevator Mechanics

Elevator mechanics rely on various tools, including:

Torque Wrench – Ensures bolts are tightened to the correct specifications.

Laser Level – Helps with precise alignment of elevator rails and components.

Safety Harness and PPE – Essential for fall protection and working in confined spaces.

Elevator Mechanic Slang Terms

Elevator mechanics use specialized slang on job sites. Here are some common terms:

Pit – The lowest part of the elevator shaft.

Hoistway – The vertical space where the elevator moves.

Car Top – The top of the elevator cab where mechanics perform maintenance.

Buffer – The shock absorber at the bottom of the hoistway.

Duck Work – Protective metal covers for electrical components.

Sheave – A pulley that guides elevator cables.

Jack Hole – The underground hole for hydraulic elevator pistons.

Governor – A safety device that controls the elevator's speed.

Additional Resources

IUEC Local 19 (Seattle):

National Elevator Industry Educational Program (NEIEP):

Washington State Apprenticeship & Training Council: lni.wa.gov

# Floor Layer (IUPAT)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Glazier (IUPAT 188)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Heat & Frost Insulator (Local 7)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Ironworker (Local 86)

## What the Trade Does

Ironworkers play a crucial role in constructing and reinforcing structures by working with iron and steel. The different types of ironworkers include:

Erect steel frameworks for buildings, bridges, and other structures.

Install columns, beams, and girders using cranes and welding techniques.

Install and secure steel bars or mesh in concrete forms to reinforce structures.

Install metal windows, curtain walls, stairways, railings, and other decorative metal elements.

Ironworkers operate in diverse and often challenging environments:

Construction Sites: Working outdoors on building sites, erecting steel frameworks for structures such as skyscrapers, bridges, and industrial facilities.

Foot Placement: Use slow, deliberate movements to maintain stability.

Grip Strength: Maintain a firm hold on support structures while climbing.

Erector Set: A collection of tools used to assemble steel frameworks.

Alternative Pathways: Outside of the union, aspiring boilermakers can look for non-union industrial construction jobs or apprenticeships that involve welding and metal fabrication. Some local contractors or shipyards (such as maritime repair companies around Puget Sound) hire and train workers on the job. You could also consider the Ironworkers apprenticeship as a related path, since it involves structural steel work and welding similar to boilermaking. Another avenue is the open-shop apprenticeship programs through organizations like CITC of Washington, which offers training in related fields (e.g. welding, pipefitting) that can be a stepping stone​flysea.org​flysea.org. Gaining welding certifications (such as an AWS certified welder card) on your own at a community or technical college is a valuable backup route into the metal trades.

## Entry Requirements

* 1. Minimum Qualifications:
* Must be at least 18 years old.
* Possess a high school diploma or GED.
* Hold a valid driver’s license.
* Mathematical Skills: Understanding of basic arithmetic, geometry, and algebra.
* Core Stability: Engage your core muscles for better balance.

## Application Steps

* Application Process
* 2. Application Submission:
* In-Person Applications Only: Monday – Friday, 9:00 AM – 3:00 PM.
* 3. Screening and Testing:
* Final test.
* Drug test.
* Waiting Lists for Apprenticeship Programs
* Aptitude Testing
* Candidates may be required to undergo aptitude tests assessing:
* Mechanical Aptitude: Understanding of basic mechanical principles and tools.
* Preparation resources, such as practice tests and study guides, are available to help candidates succeed.
* Physical Test Requirements
* Candidates may be required to pass a physical abilities test, which could include:
* Balance Assessment: Walking across a steel beam to test balance, crucial for working at heights.
* Stamina Test: Demonstrating physical fitness and endurance.
* Applying: The primary apprenticeship for Boilermakers in the Seattle area is through the International Brotherhood of Boilermakers (Local 104 in Seattle and Local 502 in Puyallup). Applications for Local 104 are typically accepted in person on specific days (e.g. Wednesdays mornings) and require completing an assessment test​flysea.org. Local 502 accepts applications on a rolling basis during business hours​flysea.org. Key requirements include being at least 18 years old (with a high school diploma or GED in Local 502’s program) and a valid driver’s license or state ID​flysea.org​flysea.org. Applicants who meet minimum qualifications may be placed in an eligibility pool and invited for an interview when openings arise​flysea.org.
* While Waiting: Boilermaker applicants often face a waiting period after testing and interviewing. While on the ranked list, you can bolster your skills by taking welding courses (since Boilermakers do extensive welding) or earning certifications like OSHA-10 safety training and aerial lift operation, which make you more job-ready. Seeking entry-level work in metal fabrication shops or shipyards is a smart move – any hands-on experience with steel, welding, or rigging can both increase your skills and show your commitment. For example, if you can get a job as a welder’s helper or in a metal shop, log those hours and keep documentation of your experience. Volunteer opportunities (such as building community projects or high school shop programs) that involve metal work could also keep you active in the trade during the wait.
* Standing Out: To rank higher in Boilermaker apprenticeship interviews, come prepared with proof of any relevant experience. Documented hours in welding, metal work, or machinery repair will set you apart. Having a Welding Certification or having completed a trade pre-apprenticeship program can earn you credit. For instance, graduates of programs like ANEW or PACE (pre-apprenticeships) are often looked upon favorably​seattlepipetrades.org. Emphasize your familiarity with tools, ability to work at heights and in confined spaces, and your commitment to safety. Letters of recommendation from instructors or employers in the metal trades can also boost your profile. Essentially, show the interviewers that you already have a foundation to “hit the ground running,” which indicates you’ll excel in the program.

## Contacts/Links

* Applicants must fill out and submit the application themselves at the apprenticeship office.
* Apprenticeship programs, such as those offered by Ironworkers Local 86, may have waiting lists due to high demand and limited intake capacities. The duration on a waiting list can vary based on factors like the number of applicants and the availability of training slots. It’s advisable to contact the apprenticeship office directly to inquire about current waiting times and any upcoming application periods.
* Fast-Track Tips: One fast-track method into the Boilermakers is to get hired by a union contractor as a helper or trade assistant. If you can secure a job as a helper through Local 104 or 502 (even before being an official apprentice), you’ll gain on-site experience and could be first in line when apprentice slots open. Another strategy is to complete a welding course and obtain an AWS certified welder card – the union may allow direct entry or advanced standing for those with exceptional welding skills. Also, keep in close contact with the union hall; sometimes showing up and asking for “permit work” (temporary work for non-members) can get your foot in the door. By working as a permit worker, you prove yourself on real jobs and can earn sponsorship into the next apprenticeship class if you impress the contractors. Always stay drug-free (you’ll need to pass a drug test) and maintain a valid driver’s license so that nothing hinders you when an opportunity arises​flysea.org​flysea.org.

## Notes

Ironworking Trade

1. Structural Ironworkers:

Work at heights and in all weather conditions.

2. Reinforcing Ironworkers (Rodbusters):

Ensure stability and strength in concrete bridges, roads, and buildings.

3. Ornamental Ironworkers:

Work on architectural metal components that enhance the aesthetic appeal of structures.

Ironworkers Local 86 Apprenticeship Program

Ironworkers Local 86 offers a structured apprenticeship program that combines classroom instruction with on-the-job training. The four-year program ensures apprentices gain the necessary skills and knowledge to excel in the trade.

Ability to read, write, and speak English.

Have reliable transportation.

Be physically capable of lifting heavy objects and working at heights.

Location: 4550 South 134th Place, #102, Tukwila, WA 98168.

Physical tasks evaluation.

Classroom study assessment.

Work Environments of Ironworkers

Heights: Performing tasks at significant elevations, requiring a strong sense of balance and adherence to safety protocols.

Weather Conditions: Exposure to varying weather conditions, including extreme heat, cold, wind, and precipitation.

Physical Demands: Engaging in physically demanding tasks, including lifting heavy materials, climbing, and operating machinery.

Reading Comprehension: Ability to interpret written instructions and safety protocols.

Strength Evaluation: Lifting and carrying heavy objects (up to 50 lbs or more).

How to Climb the Beam

One of the key physical skills for ironworkers is the ability to climb and balance on steel beams. Here’s what to focus on:

Safety First: Always use a harness and follow proper safety procedures.

Ironworker Slang Terms

Ironworkers use a variety of slang words on the job site. Here are some common terms:

Spud Wrench: A wrench with a tapered end used for aligning holes in steel beams.

Bull Gang: A crew assigned to heavy lifting and rigging tasks.

Choker: A type of sling used for lifting steel.

Rope Off: To secure an area with caution tape or safety rope.

Rat Hole: A small opening or temporary cut in the steel structure.

Pancake: A very thin steel plate.

Christmas Tree: A method of lifting multiple steel beams at once using a crane.

Maggot: A new apprentice ironworker.

Goat: A nickname for an ironworker who is particularly skilled at climbing steel structures.

Tie Off: To secure oneself with a safety harness when working at heights.

Skywalker: An ironworker who walks on high steel beams with confidence.

Widow Maker: A loose piece of steel or unsecured beam that poses a serious hazard.

Additional Resources

Ironworkers Local 86 Apprenticeship:

North Seattle College Apprenticeship Program:

ANEW Pre-Apprenticeship Program:

# Laborer (LIUNA 242/252/292)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Operating Engineer (IUOE 302/612)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Painter (IUPAT DC5)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Plasterer (OPCMIA 528)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Plumber / Steamfitter / HVAC-R (UA 32 / UA 26)

## What the Trade Does

4. Pipefitting & Pipe Layout Fundamentals (Free)

8. Water Heater Installation & Wiring (Free)

10. Gas Piping Installation & Codes (Paid)

14. Plumbing System Troubleshooting - Real Case Studies (Free)

## Entry Requirements

* MONTH 1: Foundation - Mechanical & Math Skills
* Objective: Strengthen mechanical reasoning, applied math, and physics—essential for plumbing work.
* 1. Basic Mechanical and Math Skills for Trades (Free or Low-Cost)
* Objective: Learn plumbing fundamentals, pipefitting, and drainage system layout.
* 5. Drainage & Water Distribution Systems (Free)

## Application Steps

* 2. Mechanical Aptitude Test Preparation (Free)
* Objective: Move beyond residential plumbing into hydronic heating and commercial applications.
* MONTH 6: Hands-On Simulations & Real-World Application
* Objective: Apply what you’ve learned in real-world plumbing scenarios and troubleshooting.

## Contacts/Links

* • Course: Khan Academy - Basic Algebra & Geometry - https://www.khanacademy.org/math
* • Course: JobTestPrep - Trade Math and Mechanical Reasoning - https://www.jobtestprep.com/trade-apprenticeship-exam-sample-questions
* • Course: iPrep - Trade Entrance Aptitude Test - https://www.iprep.online/courses/trade-entrance-aptitude-test/
* • Course: Alison - Introduction to Plumbing - https://alison.com/course/introduction-to-plumbing
* • Course: Free Training - Basic Pipefitting - https://www.pipetraining.com/
* • Course: Plumbing Basics - Water Distribution - https://www.plumbingcourses.com/
* • Course: Khan Academy - Electrical Engineering - https://www.khanacademy.org/science/electrical-engineering
* • Course: HVACRedu.net - Pump Systems and Troubleshooting - https://hvacredu.net/
* • Course: HVAC School - Water Heater Basics - https://hvacrschool.com/
* • Course: NEWWA - Backflow Prevention Certification - https://www.newwa.org/Training/BackflowPrevention.aspx
* • Course: NITC - Gas Piping Installation Training - https://www.nationalitc.com/
* • Course: NCI - Hydronic Heating Systems Training - https://nationalcomfortinstitute.com/
* • Course: PHCC - Commercial Plumbing Training - https://www.phccweb.org/education/
* • Course: UA - Advanced Pipefitting Training - https://www.ua.org/
* • Course: Plumbing Troubleshooting Basics - https://www.plumbingcourses.com/

## Notes

6-Month Online Training Roadmap for Plumbing Professionals

MONTH 2: Plumbing System Basics & Pipefitting

3. Introduction to Plumbing Systems (Free or Low-Cost)

MONTH 3: Electrical for Plumbing & Water Systems

Objective: Understand electrical circuits, pumps, and motorized components used in plumbing.

6. Basic Electrical Theory for Plumbing (Free)

7. Pump Systems & Controls (Paid, but useful)

MONTH 4: Advanced Plumbing & Specialized Systems

Objective: Learn about backflow prevention, gas piping, and hydronic systems.

9. Backflow Prevention & Cross-Connection Control (Paid)

MONTH 5: Hydronic Heating & Commercial Plumbing

11. Hydronic Heating Systems (Paid)

12. Advanced Commercial Plumbing Systems (Paid)

13. Advanced Pipefitting & System Performance (Paid)

# Roofer (Local 54/153)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Sheet Metal (SMART 66)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Sprinkler Fitter (UA 699)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# High Voltage – Outside Lineman (NW Line JATC)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes

# Power Line Clearance Tree Trimmer (NW Line JATC)

## What the Trade Does

## Entry Requirements

## Application Steps

## Contacts/Links

## Notes