

2010/2011 Apprenticeship Program Curriculum

Associated Builders and Contractors of Western Pennsylvania
Western Pennsylvania Apprenticeship Training Trust Fund
3500 Spring Garden Avenue
Pittsburgh, PA 15212
(412) 231-1446

- Do you like working with tools?
- What environment best suits your work habits and needs?
- Do you need to travel in order to obtain work?
- Do you enjoy the working conditions associated with your preferred craft?
- Do you have the necessary tools, equipment and clothing?
- Do you qualify as an applicant?
- In your location, is there a market for the work you do?
- Do you currently have access to training opportunities?

Carpentry

Level One: Basic Safety, Basic Math, Introduction to Hand Tools, Introduction to Power Tools, Introduction to Blueprints, Basic Rigging, Orientation to the Trade, Wood Building Materials, Fasteners, & Adhesives, Hand & Power Tools, Floor Systems, Wall & Ceiling Framing, Roof Framing, Windows & Exterior Doors

Level Two: Reading Plans & Elevations, Site Layout I – Distance Measurements & Leveling, Introduction to Concrete & Reinforcing Materials, Foundations & Flatwork, Concrete Forms, Reinforcing Concrete, Handling & Placing Concrete, Manufactured Forms

Level Three: Exterior Finishing, Roofing Applications, Thermal and Moisture Protection, Stairs, Framing with Metal Studs, Drywall One: Installation, Drywall Two: Finishing, Interior Finish One: Doors, Interior Finish Two: Suspended Ceilings, Interior Finish Three: Window, Door, Floor, and Ceiling Trim, Interior Finish Four: Cabinet Installation.

Level Four: Site Layout Two: Angular Measurement, Advanced Roof Systems, Advanced Floor Systems, Advanced Wall Systems, Advanced Stair Systems, Introduction to Light Equipment, Introductory Skills for the Crew Leader.

Construction Craft Laborer

Level One: Basic Safety, Basic Math, Introduction to Hand Tools, Introduction to Power Tools, Introduction to Blueprints, Basic Rigging, Orientation to the Trade, Wood Building Materials, Fasteners, and Adhesives, Site Layout One: Distance Measurements and Leveling, Introduction to Concrete and Reinforcing Materials, Foundations and Flatwork, Reinforcing Concrete, Handling and Placing Concrete Level Two: Carpentry Level Two: Concrete Forms, Manufactured Forms; Masonry Level Two: Elevated Work; Mobile Crane Operations Level One: Orientation to the Trade; Ironworking Level One: Introduction to the Trade; Electrical Level One: Electrical Safety; Metal Building Assembly Level Two: Forklifts; Welding Level One: Oxyfuel Cutting; Masonry Level Three: Masonry in High-Rise Construction

Electrical

Level One: Basic Safety, Basic Math, Introduction to Hand Tools, Introduction to Power Tools, Introduction to Blueprints, Basic Rigging, Electrical Safety, Hand Bending, Fasteners & Anchors, Electrical Theory One, Electrical Theory Two, Electrical Test Equipment, Introduction to the NEC, Raceways, Boxes, & Fittings, Conductors, Introduction to Electrical Blueprints, Electrical Wiring: Commercial & Industrial, Electrical Wiring: Residential Level Two: Alternating Current, Motors: Theory & Application, Grounding, Conduit Bending, Boxes & Fittings, Conductor Installations, Cable Tray, Conductor Terminations & Splices, Installation of Electric Services, Circuit Breakers & Fuses, Contactors & Relays, Electric Lighting

Level Three: Load Calculations—Branch Circuits, Conductor Selection & Calculations, Overcurrent Protection, Raceway, Box & Fitting Fill Requirements, Wiring Devices, Distribution Equipment, Distribution System Transformers, Lamps, Ballasts, & Components, Motor Calculations, Motor Maintenance, Part I, Motor Controls, Hazardous Locations

Level Four: Load Calculations—Feeders & Services, Practical Applications of Lighting, Standby & Emergency Systems, Basic Electronic Theory, Fire Alarm Systems, Specialty Transformers, Advanced Motor Controls, HVAC Controls, Heat Tracing & Freeze Protection, Motor Maintenance, Part II, High Voltage Terminations/Splices

HVAC

Level One: Basic Safety, Basic Math, Introduction to Hand Tools, Introduction to Power Tools, Introduction to Blueprints, Basic Rigging, Introduction to HVAC, Trade Mathematics, Tools of the Trade, Copper & Plastic Piping Practices, Soldering & Brazing, Ferrous Metal Piping Practices, Basic Electricity, Introduction to Cooling, Introduction to Heating Level Two: Air Distribution Systems, Chimneys, Vents, & Flues, Maintenance Skills for the Service Technician, Alternating Current, Basic Electronics, Electric Heating, Introduction to Control Circuit Troubleshooting, Accessories and Optional Equipment, Metering Devices, Compressors, Heat Pumps, Leak Detection, Evacuation, Recovery, and Charging

Level Three: Planned Maintenance, Troubleshooting Gas Heating, Troubleshooting Electric Heating, Troubleshooting Oil Heating, Troubleshooting Cooling, Troubleshooting Heat Pumps, Troubleshooting Accessories, Troubleshooting Electronic Controls, Hydronic Heating and Cooling Systems, Airside Systems, Properties and Air System Balancing

Level Four: Construction Drawings and Specifications, Indoor Air Quality, Energy Conservation Equipment, Building Management Systems, Water Treatment, System Start-Up & Shut-Down, Heating & Cooling System Design, Commercial & Industrial Refrigeration

Sheet Metal

Level One: Basic Safety, Basic Math, Introduction to Hand Tools, Introduction to Power Tools, Introduction to Blueprints, Basic Rigging, Introduction to the Trade, Trade Math, Tools of the Trade, Fasteners, Hangers, & Supports, Installation of Air Distribution Accessories, Insulation, Introduction to Sheet Metal Layout and Processes, Trade Math One, Fabrication One – Parallel Line Development Level Two: Trade Math Two, Basic Piping Practices, Fabrication II – Radial Line Development, Bend Allowances, Blueprints & Specifications, Air Properties and Distribution, Sheet Metal Duct Fabrication Standards, Soldering

Level Three: Trade Math Three: Field Measuring and Fitting, Air Systems, Introduction to Welding, Brazing, and Cutting, Principles of Refrigeration, Principles of Airflow, Comprehensive Blueprint and Specification Reading, Fabrication Three: Triangulation

Level Four: Shop Production & Organization, Air Balance, Louvers, Dampers, and Access Doors, Fume and Exhaust System Design, Fabrication IV – Comprehensive Review, Introductory Skills for the Crew Leader

Sprinkler Fitter

Level One: Introduction to the Trade, Hangers, Supports, Restraints, and Guides, Threaded Steel Pipe, Flanged, Grooved, and Plain-End Fittings, Plastic Pipe, Copper Tube Systems, Underground Pipe. Level Two: Introduction to Sprinklers, Standard Sprinklers, Special Sprinklers and Nozzles, General Purpose Valves, Wet Fire Sprinkler Systems, Dry-Pipe Systems

Level Three: General Trade Math, Construction and Plans, Water Supplies, Standpipes, Preaction/Deluge Systems

Level Four: Fire Pumps, Special Extinguishing Systems, System Design, Inspection and Maintenance