

A collection of construction tools including a yellow hard hat, a wooden hammer, a yellow tape measure, a clipboard with a silver clip, a pencil, and some electrical components like a switch and a plug, all arranged on a light-colored wooden surface.

CAREERS IN THE BUILDING TRADES

**Southeast
Michigan
Apprentice
Schools**

www.mustonline.org



21353 Bridge Street
Southfield, Michigan 48033
Phone: (248)352-9810
Fax: (248)352-9814
www.mustonline.org

Our Mission:

To ensure the highest standards on the M.U.S.T. label are met through the continuous improvement of safety, quality, and value on construction sites while completing jobs on-time and on-budget with the highest skilled and trained workforce prepared to meet the demands of construction users/developers in Southeast Michigan.

Together building trade unions (representing 30,000 building tradespersons) and contractor associations (representing 2,000 contractors) initiate joint programs designed to optimize performance and meet this mission on all M.U.S.T. construction sites in Southeast Michigan.

The extensive network of apprenticeship schools that M.U.S.T. supports, provide the most certifiable, qualified, and job ready candidates for the workforce. It is the M.U.S.T. label that symbolizes this quality craftsmanship that goes into our construction jobs.

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Registered Apprenticeship Training Programs

Registered Apprenticeship Programs operated jointly by management and labor are designed to provide workers entering the workforce with comprehensive training by exposing them to the practical and theoretical aspects of work required by the occupational area.

The following are some of the characteristics of the basic standards under Title 29, Code of Federal Regulations, Part 29.5 that govern Registered Apprenticeship Programs:

- Full and fair opportunity to apply for apprenticeship
- A schedule of work processes in which an Apprentice is to receive training and experience on the job
- Instruction designed to provide apprentices with knowledge in technical subjects related to their trade (e.g., a minimum of 144 hours per year is normally considered necessary)
- A progressively increasing schedule of wages
- Proper supervision of on-the-job training with adequate facilities to train Apprentices
- The Apprentice's progress, both in job performance and related instruction, is evaluated periodically and appropriate records are maintained
- No discrimination in any phase of selection, employment, or training

What are the benefits of Registered Apprenticeship Programs?

For employers, benefits include:

- Skilled workers trained to industry/employer specifications to produce quality results
- Reduced turnover
- Pipeline for new skilled workers
- Reduced worker compensation costs due to an emphasis on safety training

For apprentices and journeypersons, benefits include:

- Jobs that usually pay higher wages
- Higher quality of life and skills versatility
- Portable credentials recognized nationally and often globally
- Opportunity for college credit and future degrees

For the nation, benefits include:

- Highly skilled workforce
- Increased competitive edge in global economy
- System to contribute to and sustain economic growth
- Lessened need to import skilled workers

Students

Do you want a high-paying career?

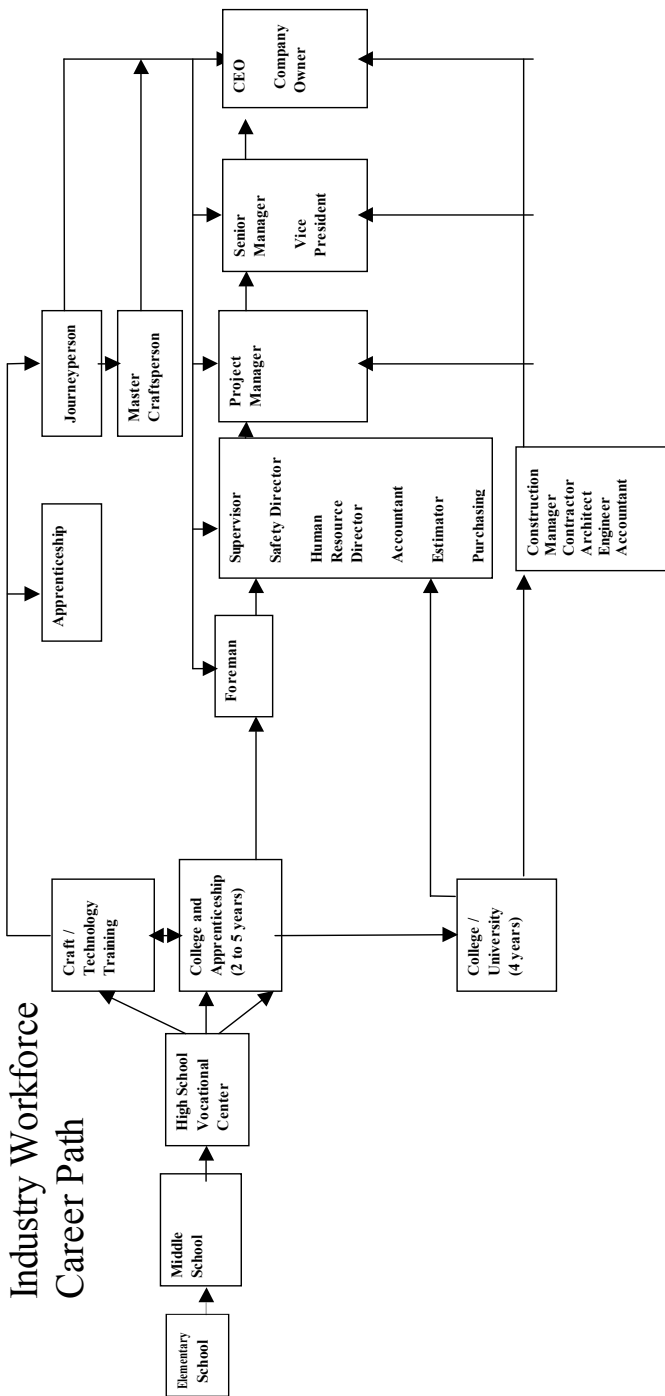
Entering a Registered Apprenticeship Program after high school could lead to a high-paying career in construction. The options are endless once you go through an apprenticeship program. Become a skilled tradesperson or own your own construction company.

Apprenticeship training programs:

- Combine classroom training with on-the-job training
- Allows you to learn a skill from the best professionals in the field
- Provide pre-determined rates of training pay, with regular wage increases
- Provide you with the skills and credentials that are nationally recognized
- Provide an opportunity for more rapid career advancement
- May provide you with community college education credits that could lead to a college degree
- Have a duration of three to four years, after which an apprentice achieves official journeyman status and full-scale wages and benefits

Michigan Construction: A Career You Can Build On!

Industry Workforce Career Path



*“Give a man a fish; you have fed him for today.
Teach a man to fish; and you have fed him for a lifetime.”*
-Author Unknown

Apprenticeship Preparation Skills

Getting ready for apprenticeship

Do you like to work with your hands? Do you like working outdoors? Do you like tinkering with cars, electronics, or bikes? Then you may be interested in a career in construction.

Start getting ready in the 9th Grade...

- Get to school on time every day. This will establish you as a dependable person and valued employee.
- Plan a tentative apprenticeship preparation schedule for the next four years. It's not too early to begin planning.
- Talk to your parents about apprenticeship school. Get to know a professional construction worker and ask him/her to counsel you.
- Learn how to prepare for and take exams. Many of apprenticeship exams require basic knowledge in mathematics and mechanical aptitude.
- Get involved in extracurricular activities such as: woodworking, working on stage sets for theater, drawing, computers and science experiments.
- Work for your church or other community groups like Habitat for Humanity, where you can volunteer and simultaneously receive “hands-on” experience.

10th Grade

- Make sure you are following your apprenticeship-prep schedule. See your counselor if you have any doubts.
- Stop and watch a building being built. Ask for a tour.
- Become familiar with the career information in your school and community in those skilled trades you are considering.
- Go to career days. Find out information on your local Boy Scouts Explorer Program, which can expose you to the different aspects of a career in construction.

11th Grade

- Find out about school-to-registered apprenticeship programs where you can learn while doing.
- Call a contractor association in your area for a list of contractors to talk to regarding part-time jobs. Some crafts have shop helpers.
- Develop a Rolodex file of business cards of people you meet so that you have a network of people that you know in the industry.
- Find someone who would be willing to be a mentor to you. Talk to construction professionals in your area of interest.
- For your birthday, ask for a pair of good work boots, and maybe your own Carhartt jacket.

12th Grade

- Begin narrowing your choice of apprenticeship schools to two or three by mid-September.
- Get application forms for each of the schools you are interested in and fill them out as soon as possible.
- Request letters of recommendation from teachers or other professionals.
- Good Luck! Construction is an exciting career and the rewards can be great.

Example of a four-year high school curriculum plan for students considering a career in construction

<u>9th Grade</u>	<u>10th Grade</u>	<u>11th Grade</u>	<u>12th Grade</u>
Reading/English	Reading/Writing	Lit. Perspectives	Communication
Math	Math/Algebra	Math	Adv. Vocational
Physical Science	Science/Biology	Social Studies	Co-Op Elective
Soc. Studies	Physical Ed.	Applied Physics	Typing
Art	American Studies	Labor History	Welding
	Computers	Vocational Class	Math

BOILERMAKERS

Contact: Boilermakers Local 169
5936 Chase Road
Dearborn, Michigan 48126
(313) 584-8520 Fax: (313) 584-8777
www.boilermakerslocal169.com

Length of Program: 4 Years

Requirements: Applicants must have a High School Diploma or GED, and be a minimum of 18 years old. Also required are passage of an entrance exam, pre-physical evaluation and drug test.

Courses Required during Training: The Apprentice is expected to have a minimum of 600 hours classroom training in the following areas:

- Torch Cutting
- Gas Tungsten Arc
- Plasma Arc
- Tube Replacement
- Rigging
- Gas Metal Arc
- Submerging Arc
- Block Reeving
- Crane Setup
- Gouging
- Bevel Tube

Scope of Work: Construction and repair of utility plants, chemical plants, automotive plants, refineries, paper and steel manufacturing facilities, ore processing and mine plants throughout the entire State of Michigan.

Certifications Required:

- ASME Section IX Welding Code
- MOST Certification
- Annual drug test (sometimes random at customer request)

Retraining/Upgrading Courses for Journeymen:

- Medical emergencies/First Aid
- MIOSHA guidelines for fall and fire protection
- Confined Space
- Updates on portable hand and power tools, cutting and welding

BOILERMAKERS

Tools Used:

- Welding machines (torches and plasma arc)
- Chain hoist
- Conventional and hydraulic cranes
- Electric pneumatic hoists and grinders
- Tube rolling apparatus
- Inspection and care for rigging accessories



BRICKLAYERS & RESTORATION WORKERS

Contact: International Masonry Institute
Detroit Metropolitan Masonry Joint Apprentice Training Center
21031 Ryan Road
Warren, Michigan 48091
(586) 757-6668 Fax: (586) 757-7015
www.bricklayers.org (click on IMI Training)

Length of Program: 4 Years

Requirements: Applicants must be 18 or older, be in possession of a valid Michigan drivers license, have a High School Diploma or G.E.D. Must reside in either Wayne, Oakland, Macomb, Monroe or St. Clair Counties.

Courses Required during Training:

- Masonry Science I & II
- Safety
- Lay-out & Leveling
- Welding
- Blueprint I & II
- Craft Certifications

Scope of Work: Bricklayers construct walls, partitions, fireplaces, chimneys and other structures from brick. They use other masonry materials such as concrete, cinder or gypsum block; pre-cast panels made of brick, cement, tile, stone, marble, structural tile, or terra-cotta. They also install the brick linings of industrial kilns and furnaces and masonry restoration and repair.

Certifications Required:

- International Union of Bricklayers & Allied Craft Workers
- Department of Labor–Bureau of Apprenticeship & Training

Retraining/Upgrading Courses for Journeymen:

- Cross-Craft Training
- Foreman Training
- Craft Certifications



CARPENTERS

Contact: Detroit Carpenters Apprenticeship School
1401 Farrow
Ferndale, Michigan 48220
(248) 541-2740 Fax: (248) 541-1660
www.detcarpapp.org

Length of Program: 4 Years

Requirements: A High School Diploma or GED, birth certificate, social security card and picture identification are required at the time of application. Applicants must be at least 17 years of age and be able to pass a drug screen.

Courses Required during Training:

- Mathematics for Carpentry
- Light Gauge Welding
- Basic Prints
- Tool & Material Handling
- Builders Level & Transit
- Stationary Power Equipment
- Footings & Foundations
- Floor & Wall Framing
- Roof Framing
- Interior Trim
- Stair Building
- Laminating Formica
- Column & Deck Framing
- Metal Studs & Drywall
- Blue Print & Estimating
- Cutting & Arc Welding
- Exterior Trim
- Advanced Math
- Advanced Roof Framing
- Advanced Interior Trim
- Advanced Stair Building
- Advanced Millwork
- Scaffold Training

Scope of Work: Carpenters erect a building's wood frame, including subflooring, sheathing, partitions, floor joists, studs and rafters. They install heavy timbers, build forms, erect scaffolding and install molding, wood paneling, cabinets, window sashes, door frames, doors, hardware, build stairs, and lay floors. In addition, as part of their job, carpenters saw, fit and assemble plywood, wallboard and many other materials.

CARPENTERS

Retraining/Upgrading Courses for Journeymen:

- Basic Computers
- Basic Welding
- CPR/First Aid & Defibrillator
- Laminating
- Math-Construction Pro Calculator
- Total Station
- Scaffold Qualification
- Welding Certification
- Lock & Hardware Certification
- Solid Surface Certification

Special Classifications/Job Descriptions: Commercial and Residential Carpenters, Pile Drivers, Resilient Floor Layers, Lathers

Tools used:

- Hammers
- Portable power saws
- Drills
- Nail drivers
- Saws
- Planes
- Chisel



CARPENTERS/FLOOR LAYERS

Contact: Detroit Carpenters Apprenticeship School
1401 Farrow
Ferndale, Michigan 48220
(248) 541-2740 Fax: (248) 541-1660
www.detcarpapp.org

Length of Program: 4 Years

Requirements: A High School Diploma or GED, birth certificate, social security card and picture identification are required at the time of application. Applicants must be at least 17 years of age and be able to pass a drug screen.

Courses Required during Training:

- Mathematics for Carpentry
- Basic Prints/Resilient Floor
- Inlay/Sculpture
- Cove/Heat Welding
- Prints/Estimating Resilient Floor
- Level & Transit/Resilient Floor

And the following INSTALL Certification Courses:

- Flooring - General Skills
- Carpet I
- Carpet II
- Carpet III
- Carpet IV
- Vinyl I
- Vinyl II
- Vinyl III
- Vinyl IV

Scope of Work: The installation of carpeting, hardwood flooring, soft tiles and “Linoleum type” products made of vinyl and rubber is the work of the floor layers. This is a specialized occupation which is attracting many young men and women. Floor layers install a wide range of decorative floor coverings in commercial buildings, hotels, homes and churches.

CARPENTERS/LATHERS

Contact: Detroit Carpenters Apprenticeship School
1401 Farrow
Ferndale, Michigan 48220
(248) 541-2740 Fax: (248) 541-1660
www.detcarpapp.org

Length of Program: 4 Years

Requirements: A High School Diploma or GED, birth certificate, social security card and picture identification are required at the time of application. Applicants must be at least 17 years of age and be able to pass a drug screen.

Courses Required during Training:

- Mathematics for Carpenters
- Light Gauge Welding
- Basic Prints
- Builders Level & Transit
- Stationary Power Equipment
- Footings & Foundations
- Floor & Wall Framing
- Lathers Class 1-4
- Metal Studs & Drywall
- Blueprint & Estimating
- Cutting & Arc Welding
- Advanced Math
- Advanced Roof Framing
- Advanced Interior Trim
- Advanced Lathers Class

Scope of Work: Interior Systems Carpenter/Lather:

Involves the installation of all sorts of modern equipment and material in commercial buildings - acoustical ceilings, raised floors for computers, metal framing, wall partitions, and office furniture systems, just to name a few.



CEMENT MASONS

Contacts:

Cement Masons BAC Local 1
International Masonry Institute Training Centers
21031 Ryan Road
Warren, Michigan 48091
(586) 757-6668 Fax: (586) 757-7015
www.bricklayers.org (click on IMI Training)

Cement Masons OPCMIA Local 514
1154 E. Lincoln Ave.
Madison Heights, MI 48071
(248) 548-0800 Fax: (248) 548-0700

Length of Program: 3 Years

Requirements: Applicants must be 18 or older, have a valid Michigan drivers license, High School Diploma or GED, must reside in either Wayne, Oakland, Macomb, Monroe or St. Clair Counties. Pre-job training is required.

Courses Required during Training:

- Masonry Science I & II
- Advancement Training
- Estimating
- CPR - First Aid
- Safety
- Blueprint I & II
- Theory & Practice
- Trade Certifications

Scope of Work: The principal work of Cement Masons is finishing the exposed concrete surfaces on many types of construction projects. These projects range from small jobs, such as the finishing of patios, floors and sidewalks, to work on dams, concrete highways, foundations and walls of buildings, and airport runways.

Retraining/Upgrading Courses for Journeymen:

- Cross-Craft Training/Trowel Trades
- Foreman Training



DRYWALL FINISHERS/TAPERS

Contact: Painters Apprenticeship School
14587 Barber Street
Warren, Michigan 48088
(586) 552-4481 Fax: (586) 552-4482

Length of Program: 2 years

Requirements: A High School Diploma or GED is required.
A drug test must be taken and passed.

Courses Required during Training:

- History of the trade
- Joint compounds & metal trim
- Taping applications-hand tools
- Blueprint reading
- Butt joint concealment and wet sanding
- Sanding
- Basic Mathematics
- Automatic & Power Tools
- PPE/Safety/First Aid/CPR
- Tools, equipment and techniques of the trade

Scope of Work: Drywall finishers apply drywall taping compounds and tape to wall surfaces, making a finished wall in preparation for painters, paperhangers, carpenters and tile layers. The finishers use hand tools as well as power tools to apply the drywall compounds and tape to the surface.

Tools Used:

- Sanding poles
- Various size hand scrapers
- Stilts
- Pans and corner tools
- Mixer
- Spray Gun



ELECTRICAL WORKERS

Contact: Detroit Electrical JATC /
Electrical Industry Training Center
2277 E. Eleven Mile Rd., Suite #1
Warren, MI 48092
(586) 751-6600 Fax: (586) 751-6699
www.ibewlocal58.org

Length of Program: Inside Wireman (Electrician) - 5 Years
Telecom Installer Technician - 3 Years
Residential Wireman (Electrician) - 3 Years

Requirements: Applicants must have a High School Diploma or GED, with a minimum of one year of algebra (preferably math through high school algebra or basic college algebra).

Courses Required during Training:

- National Electrical Code
- Motor Controls
- Math
- Blueprint Reading
- Process Control
- CPR
- Transformers & Motors
- Welding
- Telephone
- Computer/Security Systems
- Safety
- Electrical Grounding
- Electronics
- Instrumentation
- High Voltage Testing
- Safety Training
- Conduit Bending
- Use of Tools & Ladders
- First Aid
- Programmable Controllers

Scope of Work: Electrical Workers lay-out, assemble, install and test electrical fixtures, apparatus, high voltage, medium voltage and low voltage electrical systems. They also install and connect electrical machinery, equipment, controls, signal and communication systems, fire alarm, instrumentation, security and Audio Visual systems, switches, conduits, circuit breakers, wires, lights and other electrical components.

ELECTRICAL WORKERS

Certifications attained:

Journeyman Electrical license - State of Michigan, City of Detroit, OSHA 10/30, CPR/First Aid and various specialty certifications.

Retraining/Upgrading Courses for Journeymen:

- Electricians must take a 15-hour NEC Update once every 3 years
- Journeyman training is available
- Wind Turbines (Alternative Energy)
- Fire Alarm
- BICSI
- Cable Splicing
- Instrumentation
- Photovoltaics
- Welding
- CISCO
- OSHA 10/30 Hr

Tools Used:

- Mechanical / Hydraulic Benders
- Variety of Hand Tools & Power Tools
- Power Tools for Cable Pulling & Lifting
- Safety Equipment
- Test Instruments
- Computers



ELEVATOR CONSTRUCTORS

Contact: Elevator Constructors Local 36
1640 Porter Street
Detroit, Michigan 48216
(313) 961-0717

Length of Program: Six months probationary period. Four years of classroom and on-the-job training.

Requirements: Interested persons must have a High School Diploma or GED and be a minimum of 18 years of age. Also required are a pre-physical evaluation and a drug test. A strong mathematical background in high school is very helpful in classes taken to obtain journey person status.

Scope of Work: Elevator constructors handle the installation, repair, and maintenance of elevators escalators, moving walks, dumbwaiters, shuttles, temporary elevators, private residence elevators, man-lifts and all types of handicap lifts and stair climbers.

Retraining/Upgrading Courses for Journeymen:
Upgrading courses are taught annually for journeypersons.

Certifications Required: Passage of a test to obtain State of Michigan and City of Detroit Elevator Journey person License is required.



GLAZIERS AND GLASS WORKERS

Contact: Glaziers Apprenticeship School
Located at: Painters Apprenticeship School
14587 Barber Street
Warren, Michigan 48088
(586) 552-4483 Fax: (586) 552-4482

Length of Program: 4 Years

Requirements: Applicants must have a High School Diploma or GED. They must have mechanical aptitude, good math skills and have the ability to work well with their hands. Applicants also must live in the geographic jurisdiction one year prior to application. Applicants will be supplied a signatory contractor listing for employment.

Courses Required during Training:

- Math
- Safety Procedures
- Power Equipment
- Glazing History & Laws
- Reading
- Hand Tool Usage
- Blue Print Reading and Sketching
- Scaffolding and Man Lifts
- Caulking
- Swing Stages

Scope of Work: Glaziers install glass and aluminum building components in new construction, residential and remodeling projects.

Certifications Required:

- First Aid/CPR
- Operator's license for power equipment and tools.

Special Classifications: Commercial, Residential Services.



HEAT AND FROST INSULATORS

Contact: Heat and Frost Insulators, Local 25 Joint
Apprentice Training Center
21353 Bridge Street
Southfield, Michigan 48033
(248) 352-1850 Fax: (248) 352-1851
Email: asbwrkrs25@aol.com

Length of Program: 4 years

Requirements: Applicants must have a High School Diploma or GED, be a minimum 18 years old, possess a valid drivers license and live in the geographical area (Wayne, Oakland, Macomb, St. Clair and Eastern Washtenaw Counties).

Courses Required during Training:

- Pattern Cutting
- Metal Cutting
- Math
- Pattern and Blueprint Readings
- Scaffold Building

Scope of Work: Includes application of insulation, wrapping pipes and tanks for heat, frost and condensation insulation in industrial settings (factories, power plants, etc.)

Tools Used:

- Tape Measures
- Scissors
- Squares
- Tin Snips
- Knives
- Dividers
- Staple Guns
- Drill Guns





IRON WORKERS

Contact: Iron Workers Local 25 Training Center
50490 West Pontiac Trail
Wixom, Michigan 48393
(248) 960-2130 Fax: (248) 960-0980



Length of Program: 3 or 4 Years

Requirements: Applicants must have a High School Diploma or GED. Applicants must be 18 years or older, have a valid drivers license, pass a physical exam, submit to drug testing and pass an aptitude test.

There are many benefits to be gained through the Iron Workers Apprenticeship Program, including:

1. An opportunity to learn a trade in the most respected craft of the building and construction trades.
2. An opportunity to become a union member of the International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers.
3. The opportunity to “earn” journeyman status which is recognized throughout the U.S. and Canada. This journeyman status is security for you and your family for life.
4. The advantage of earning fair and reasonable wage and fringe benefits such as the health and welfare, pension, and vacation savings plans.

Apprentices attend classes of related and supplemental instructions one week every three months.

The road to becoming a journeyman Iron Worker is through apprenticeship training. The Iron Workers apprenticeship is a well organized and supervised method of training people with little or no knowledge of the craft. Apprenticeship is necessary to become a journeyman Iron Worker qualified in all segments of the trade.

Courses Required during Training:

- | | |
|-----------------------------|--------------------------------|
| • Concrete reinforcing | • Concrete post tensioning |
| • Metal building erection | • Machinery moving and rigging |
| • Structural steel erection | • Ornamental Iron |
| • Welding | • Sheeting |
| • Transits | • OSHA Safety Training |

IRON WORKERS

Courses Required during Training (Continued):

- Finishing
- Trade Related Math
- Oxy-Acetylene Cutting
- Plasma Arc Welding
- Conveyors
- Blue Print Reading
- Carbon Arc Cutting

Scope of Work: Iron Workers are employed in five segments of the trade, working in commercial, industrial and residential areas:

- **Structural Iron Workers.** Assemble, erect and install fabricated iron sections using bolts and by welding.

- **Ornamental Iron Workers.** Install metal stairways, cat walks, gratings, iron ladders, metal window sashes, glass, curtain walls, window walls, doors, gates, fences, screens, elevator fronts, platforms and railings. They also install decorative iron work.

- **Reinforcing Iron Workers.** Employed wherever reinforced concrete is used in the construction of such things as buildings, freeways, bridges and drainage channels. Rodbusters fabricate and place steel bars in concrete forms to reinforce concrete structures.

- **Special Building Erectors.** Erect pre-engineered buildings. A pre-engineered building has structural members that are factory built and standardized for ease of construction from one building to another.

- **Rigging and Machinery Movers.** Load, unload, move and set machinery, equipment and material using cranes, derricks, forklifts or by hand, utilizing a series of blocks and tackle. Riggers have a knowledge of fiber line rope, hooks, skids, rollers, proper hand signals and hoisting equipment.

Retaining/Upgrading Courses for Journeymen: Call the Training Center for information at (248) 960-2130.

Tools Used: Spud wrenches, tool belts, crescent wrench, spud scabbard, bolt bag, 25' tape, rod pliers, 6' folding rule, rod tool holder, snips, vise grips, screw drivers, mallet.

CONSTRUCTION CRAFT LABORERS

Contact:

Michigan Laborers' Training and Apprenticeship Institute Perry Training Facility

11155 S. Beardslee Road

Perry, Michigan 48872

(517) 625-4919 Fax: (517) 625-4046

www.mltai.org

Michigan Laborers' Training and Apprenticeship Institute Iron Mountain Training Facility

W-8008 South US 2

P.O. Box 163

Iron Mountain, Michigan 49801

(906) 774-5703 Fax: (906) 774- 5703

Michigan Laborers' Training and Apprenticeship Institute Wayne Training Facility

5555 Cogswell

Wayne, Michigan 48184

(734) 729-7005 Fax: (734) 729-8792

Length of Program: Apprenticeship requires 4,000 hours of diversified work and training, no less than 400 hours of related instructional classes.

Requirements: Applicants must be a minimum of 18 years of age and drug free. Applicants must be physically able to perform the work of the trade. No entrance requirements, but several courses require math and reading skills. Applicants must have reliable transportation.

Scope of Work: Laborers work jurisdiction is divided into four general categories:

- **Commercial** - the Laborer may tend mason, place concrete, work with operators in site preparation, tend carpenters, clean up site.
- **Highway** - the Laborer may lay sewer and water mains, check road grade for operators, place concrete and asphalt, break and remove old concrete.

CONSTRUCTION CRAFT LABORERS

- **Underground** - the Laborer works as a pipe layer, tailman, top man while installing sewer, water and gas lines.
- **Industrial Construction** - involves all new construction, remodeling and demolition in factory type buildings.

Laborers must have common knowledge of all work performed by building tradespeople, for they are the tenders or helpers in the industry. They are called up to operate and maintain power tools such as a chain saw, tamping machine, concrete vibrator, chipping hammer, cutting and burning demolition, mixing for and tending of bricklayers and plasterers.

Working Conditions: Laborers are exposed to all weather conditions. Sometimes they are called upon to work at heights and also depths, sometimes hundreds of feet underground on subways, tunnels and storage reservoirs. In their work, there is much bending, walking, standing, lifting and carrying.



MILLWRIGHTS

Contact: Millwrights Local 1102
Apprenticeship and Training
27555 Mound Road
Warren, Michigan 48092
(586) 573-4660 Fax: (586) 573-2468

Length of Program: 4 Years. Minimum hours of related classroom instruction per year: 672 hours. There is a thirty day probationary period.

Requirements: A High School Diploma or GED is required. Applicants must be a minimum of 18 years of age with U.S. citizenship. Drivers license and reliable transportation to travel throughout the southern half of Michigan are required. Applications must be picked up by the applicant usually during the beginning of the year for two weeks ONLY. Please phone us in late December/early January for the exact time and dates.

Apprenticeship is guided by the United Brotherhood of Carpenters and Joiners of America Apprenticeship and Training.

Courses Required during Training:

- History of the Trade
- Shaft Alignment
- General Millwright Theory
- Metal Cutting/Burning
- Machinery Installation
- Optical/Laser Alignment
- Rigging, Turbines and Generators
- Orientation
- Layout Tasks
- Shop Math
- Safety
- Machinery Repair
- Blueprint Reading
- Metallurgy
- Power Tools
- Precision Tools
- Gears/Bearings
- Lubrication
- Conveyors I, II
- Welding

Certifications Required: The Apprenticeship Program is registered with the U.S. Department of Labor (Bureau of Apprenticeship & Training) and the Michigan Department of Education.

MILLWRIGHTS

Scope of Work: The Millwright is a construction mechanic whose skills are in the areas of moving, leveling, aligning and installing large machinery. Also incorporated into the Millwright's scope is rigging, erecting, splicing of belts, cleaning, lubricating and replacing gears, and fabrication and installation of conveyor systems, turbines and generators, automated systems and welding. Millwrights also repair all of the above systems as well as install them.

Tools Used:

Apprentices are trained to utilize a variety of tools and equipment, some of which require other tradesmen to operate.

The Millwrights must be knowledgeable in the meaning of hand signals and the use of mechanical hand tools. Precision alignment tools, optical levels, hydraulic jacks, oxyacetylene torches and chain falls are common equipment found on the jobsite.



OPERATING ENGINEERS

Contact: Operating Engineers Local 324
Journeyman & Apprentice Training Fund,
Inc. (JATF)
275 E. Highland Road
Howell, MI 48843
(517) 546-9610 Fax: (517) 546-9793
www.oe324jatf.org



Length of Program: A minimum of three years and 6,000 hours of classroom and hands-on training.

Location: Operating Engineers Local 324 is a statewide organization with its 515 acre training and education center located in Howell, Michigan. State-of-the-art technical and classroom training is offered at the facility.

Requirements: Apprentice applicants must be high school graduates or possess a GED certificate and must be at least 18 years old at the time of application. Michigan residency is required. Applicants must have reliable transportation and possess a Michigan drivers license. Applicants must pass a physical examination, meet drug screening requirements and take a written aptitude test.

Courses Required during Training:

- Apprentice Block Training
- Safety and Emergency First Aid
- Fuels, Oils/Lubricants, Coolant
- Brakes and Steering
- Crane Types and Applications
- Introduction to Engines, Power Trains, Hydraulics
- Construction and Shop Equipment Orientation
- Grade Stakes and their use in construction
- Soils and Materials
- Introduction to Welding, Welding Applications

Scope of Work: Operating Engineers operate and maintain heavy and portable construction equipment. Work includes operation and maintenance of construction equipment such as bulldozers, graders, cranes, scrapers, loaders, asphalt plants, rollers and pumps, etc., on all types of projects. The Operating Engineer is generally employed in the building of highways, airports, buildings, sewers, waterways and stadiums.

OPERATING ENGINEERS

Job Functions: Using JATF equipment, Apprentices perform digging, hauling and leveling operations to build roads; excavate material for basements and footings; excavate sewer, pipeline and utility trenches; unload heavy material on building projects; and maintain the equipment (grease, fuel and attend to machines under the supervision of qualified Journeyman Operating Engineers, foremen and superintendents).

Retraining/Upgrading Courses for Journeymen: Classes are available in the use and maintenance of all construction equipment and in the following areas:

- Field Training
- OSHA 500
- Grade Stakes & Planning
- Crane Operation
- Welding
- Distribution
- Schematics
- Asbestos Training
- Mine Safety
- Foreman/Supervisor Training

Certification Required during Apprentice Training:

- Crane Certification
- HazMat 40-Hour
- Emergency First Aid and CPR
- Commercial Drivers License
- Forklift Certification



PAINTERS

Contact: Painters Apprenticeship School
14587 Barber Street
Warren, Michigan 48088
(586) 552-4481 Fax: (586) 522-4482

Length of Program: 3 years

Requirements: High School Diploma or GED, no color blindness and no aversion to heights.

Courses Required during Training:

- Color Mixing/Matching
- Lead Abatement
- Paper/Vinyl Hanging
- Sand/Water Blasting
- Spray Painting
- Blueprint Reading
- Wood Finishing
- Ladders/Scaffolds
- Decorative Finishes
- Special Coatings

Scope of Work: Painters prepare the surfaces of buildings and other structures and then apply paint, varnish, enamel, lacquer, and similar materials to these surfaces. A painter must be skilled in handling brushes and other painting tools in order to apply paint thoroughly, uniformly and rapidly to any type of surface.

Tools Used:

- Spray guns
- Brushes
- Scaffolding (including “swing stages” and “bosun chairs”)
- Scrapers
- Wallpaper tools
- Rollers



PAINTERS



PIPEFITTERS, REFRIGERATION & AIR CONDITIONING SERVICE

Contact: Pipefitting Industry Training Center
636 Executive Drive
Troy, Michigan 48084
(248) 585-0636 Fax: (248) 585-3907

Length of Program: 5 Years

Requirements: High School Diploma or GED. Applicants must be 18 years old and have a valid Michigan drivers license. The following academic courses are preferred: High School math, science, architectural drawing, welding, auto mechanics and machine shop.

Courses Required during Training:

- Steam/Hydronic Heating
- Safety
- Welding
- Use of Hand Tools
- Basic Pneumatics
- Rigging
- Hazardous Waste
- Refrigeration
- Drafting

Scope of Work: Pipefitters install both high and low-pressure pipes that carry hot water, steam and other liquids and gases, especially those in industrial and commercial buildings.

Certifications Required:

- CFC Reclaim
- Welding (United Association Cert.)
- Valve Repair

Upgrading Courses available for Journeymen:

- Centrifugal Compressor
- Steam/Hydronic Heating
- Absorption Refrigeration
- Ammonia Systems
- Orbital Welding
- HAZWOPER
- Welding
- Supervisory Safety Training
- Leadership Training

PIPEFITTERS, REFRIGERATION & AIR CONDITIONING SERVICE

Tools Used:

- Wrenches
- Braces and Bits
- Saws
- Meters
- Hammers
- Drills
- Chisels

Power machines are often used to cut, bend and thread pipe. Hand-operated hydraulic pipe benders are also used. Pipefitters use gas torches, as well as welding, soldering and brazing equipment.



PLASTERERS

Contact: Plasterers Local 67
1154 E. Lincoln Avenue
Madison Heights, Michigan 48071
(248) 591-6700 Fax: (248) 591-0671

Length of Program: 3 Years

Requirements: High School Diploma or GED. Applicants must be 18 years old.

Scope of Work: Plasterers finish interior walls and ceilings by using a one, two or three-coat system over interior lathe. They install insulated finish systems, apply stucco to exterior walls and ceilings and soundproof and fireproof buildings.

Plasterers also create specialized molds and often have a major role in the renovation of historic buildings.

Certifications Required:
EIFS Mechanic Certification

Retraining/Upgrading Courses for Journeymen:
January and February every year at apprentice school

Tools Used:
• Hawk Trowel • Pointing Trowel • Mitre Tools



PLUMBERS

Contact: Plumbing Industry Training Center
1911 Ring Drive
Troy, Michigan 48083
(248) 585-1435 Fax: (248) 585-1437

Length of Program: 5 Years

Requirements: High School Diploma or GED. Applicants must be 18 years old. The following academic courses are preferred: High School math, science, architectural drawing, welding, auto mechanics and machine shop.

Scope of Work: Plumbers alter, repair, maintain and install plumbing systems, plumbing fixtures and appliances, water distribution and waste disposal systems. Plumbers also install the medical gas systems in health care facilities.

Certifications Required:

- Medical Gas Installation Certification
- Cross Connection Control
- Welding (Certified by the United Association)
- HAZWOPER
- Brazing Certification

Retraining/Upgrading Courses for Journeymen:

- Blueprint reading
- Code
- Math

Tools Used:

- Wrenches
- Reamers
- Drills
- Braces and bits
- Hammers
- Chisels
- Saws

Power machines are often used to cut, bend and thread pipe. Hand-operated hydraulic pipe benders are also used. In addition, plumbers use welding, soldering and brazing equipment.



ROOFERS & WATERPROOFERS

Contact: Roofers Local 149/SMRCA Apprenticeship School
21200 Schoenherr
Warren, Michigan 48089
(586) 772-4271 Fax: (586) 772-4577

Length of Program: 3 Years

Requirements: Applicants must be 18 years of age and have a dependable vehicle to get to work.

Scope of Work: A commercial roofer works on...

All types of commercial buildings, from the small corner store to the huge “square miles” of automotive plants, buildings ranging in height from one story to the tallest 100 story skyscrapers.

The commercial roofer installs a wide variety of roofing materials, generally on flat roofs. The roofs are generally made up of hot tar, hot asphalt, modified bitumen, or rubber membrane.

You need the desire to work hard and develop good work ethics, including showing up for work on time, maintaining a positive attitude, and the ability to work as part of a team. The tools and clothing required are very basic.

Courses Required during Training:

- Roofing Systems
- First Aid with CPR
- Equipment Maintenance
- Estimating
- Blueprint Reading
- Asbestos/Lead Awareness
- Safety
- Math

Clothing Required:

- Cotton Pants
- Safety Glasses
- Cotton Gloves
- Long-Sleeve Shirts
- High-Top Work Boots

Tools Used:

- Claw Hammer
- Utility Knife
- Pointed Trowel



SHEET METAL WORKERS

Contact: Sheet Metal Workers
Local 80 Training Center
32700 Dequindre Road
Warren, Michigan 48092
(586) 979-5190
Fax: (586) 979-4282
www.smw80jac.org

Contact: Sheet Metal Workers
Local 292 Training Center
64 Park Street
Troy, Michigan 48083
(248) 589-3237
Fax: (248) 589-0071

Length of Program: 5 Years

Requirements: A High School Diploma or GED. Applicants must be at least 18 years old, take and pass the three part entrance exam. Information concerning the entrance exam can be found by clicking entrance exam at www.smw80jac.org.

Courses Required during Training:

- Architectural Sheet Metal
- Welding
- Detailing
- Computer-Aided Drafting
- Field Measuring
- Testing/Adjusting/Balancing
- Visualization
- Sheet Metal Layout
- Air Conditioning
- Technical Math
- Computer Technology

Scope of Work: Sheet Metal Workers make, install and maintain air-conditioning, heating, ventilation and pollution control duct systems; roofs, siding; rain gutters and downspouts; skylights; restaurant equipment; outdoor signs; and many other building parts and products made from metal sheets. They also work with fiberglass and plastic materials. Although some workers specialize in fabrication, installation of maintenance, most do all three jobs. Sheet Metal Workers also fabricate metal used in paint ovens and spray booths.

Certifications:

- Various Welding Certifications
- National Testing, Adjusting & Balancing (both are optional)

SHEET METAL WORKERS

Retraining/Upgrading Courses for Journeymen:

- Intro to Computers/Windows
- Specialty Welding
- Reading Plans & Specifications
- Architectural Sheet Metal I
- CAD Detailing I, II & III
- Air Conditioning Service I & II
- First Aid
- Electrical I & II
- OSHA 30
- Gas Heating Service I
- Welding I & II
- Trade Mathematics
- Welding Certification
- Sheet Metal Layout
- Testing, Adjusting & Balancing I - V

Tools Used:

- Computer/Auto CAD
- Hand/Press Brakes
- Hammers
- Power-Driven Shears
- Welding Tools
- Soldering Tools
- Cutting Torches
- Tin Snips
- Air & Water Measuring Instruments



SPRINKLER FITTERS

Contact:

Sprinkler Fitters Apprenticeship School
32500 W. Eight Mile Road
Farmington, Michigan 48336
(248) 474-8259 Fax: (248) 474-0798
www.local704.com

Length of Program: 5 years

Requirements: High School Diploma or GED; math skills stressed. Also necessary is the ability to manage heavy equipment and lift loads in excess of 100 lbs. Sprinkler Fitters work in narrow spaces on ladders and high scaffolding.

Courses Required during Training:

- Underground Piping
- Fire Pumps
- Soldering
- Emergency Response
- Brazing
- Safety
- OSHA 500
- Testing and Maintenance of Sprinkler Systems, etc.
- National Fire Protection Association Codes

Scope of Work: Sprinkler Fitters install fire suppression systems of all types including wet and dry, carbon dioxide and foam. They work in both commercial and residential buildings. Work includes unloading, handling and installing piping, tubing and related materials. Sprinkler Fitters install overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections, sprinkler tank heaters, air lines and thermal systems connected to sprinkler and alarm systems. Fire suppression systems include Tri-Water, CO₂, Halon, Dry Chemicals, Foam and others.

Certifications Required:

- Asbestos Awareness
- OSHA 500
- CPR

SPRINKLER FITTERS

Retraining/Upgrading Courses for Journeymen:

- Retrain/Upgrade for Asbestos Awareness, OSHA 500
- NFRA Code Classes - Sprinkler System Testing/Maintenance
- Soldering/Brazing

Tools Used:

- Pipe Cutting Machines
- Torches
- Threading Machines
- Testing equipment



TILE, MARBLE AND TERRAZZO MASONS

Contact:

Tile, Marble and Terrazzo Masons
BAC Local 1, Michigan
21031 Ryan Road
Warren, Michigan 48091
(586) 757-6668 Fax: (586) 757-7015
www.bricklayers.org (Click on IMI Training)

Length of Program: 4 Years

Requirements: Applicants must be at least 18 years of age, be in possession of a drivers license and have a High School Diploma or GED. Residency in Wayne, Oakland, Macomb, Monroe, St. Clair, Sanilac, Washtenaw, Lenawee and Livingston counties is required. Twelve weeks of pre-apprentice training is required.

Courses Required during Training:

- | | | |
|-----------|------------------|----------|
| • Math | • Blueprints | • Safety |
| • Masonry | • Swimming Pools | • Stairs |

Scope of Work: Tile Layers construct walls, partitions, fireplaces, swimming pools and other structures from tile, marble and terrazzo. They use other materials such as cement, epoxy, tile, stone, marble, terrazzo and terra cotta.

Certifications Required:

- Bureau of Apprenticeship Training
- Bricklayers Union

Tools Used:

- | | | |
|-----------------|----------------|------------------|
| • Chisels | • Trowels | • Floats |
| • Tile Hammers | • Gage Lines | • Plumb Bobs |
| • Mason's Level | • Tile Nippers | • Straight Edges |

Retraining/Upgrading Courses for Journeymen:

- | | | |
|--------------|----------------|----------------|
| • Welding | • Terrazzo | • Marble/Stone |
| • Blueprints | • Ceramic Tile | |



MUST STEERING COMMITTEE – LABOR REPRESENTATIVES

BAC TROWEL TRADES LOCAL 1

21031 Ryan Road
Warren, MI 48091
(586) 754-0888
(586) 754-5889 Fax:
www.bricklayers.org



MICHIGAN BUILDING TRADES COUNCIL



1640 Porter St.
Detroit, MI 48216
(313) 965-5080
(313) 965-3232 Fax:
www.detroitbuildingtrades.org

INTERNATIONAL UNION OF OPERATING ENGINEERS LOCAL 324

500 Hulet Drive
Bloomfield Twp., MI 48302-0316
(248) 451-0324
(248) 454-1766 Fax:
www.iuoe324.org



IRON WORKERS LOCAL UNION 25

25150 Trans X Drive
Novi, MI 48376
(248) 344-9494
(248) 344-4851 Fax:
www.ironworkers.org

MICHIGAN LABORERS' DISTRICT COUNCIL

302 S. Waverly Road, Suite 8
Lansing, MI 48917-3631
(517) 321-2349
(517) 321-3266 Fax:
www.mi-laborers.org



MICHIGAN REGIONAL COUNCIL CARPENTERS AND MILLWRIGHTS



3800 Woodward Avenue
Suite 1200
Detroit, MI 48201
(313) 832-3887
(313) 832-1578 Fax:
www.hammer9.com

ARCHITECTURAL CONTRACTORS TRADE ASSOCIATION

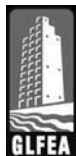
34405 West 12 Mile Road, Suite 196
Farmington Hills, MI 48331
(248) 324-1998
(248) 324-2509 Fax:
www.actmich.org

**ASSOCIATED GENERAL CONTRACTORS OF MICHIGAN**

2323 N. Larch
Lansing, MI 48906
(517) 371-1550
(517) 371-1131 Fax:
www.agcmichigan.org

CONSTRUCTION ASSOCIATION OF MICHIGAN

43636 Woodward Ave.
Bloomfield Hills, MI 48302
(248) 972-1000
(248) 972-1001 Fax:
www.cam-online.com

**GREAT LAKES FABRICATORS & ERECTORS ASSOCIATION**

28411 Northwestern Highway, Suite 825
Southfield, MI 48034
(248) 354-0001
(248) 354-0005 Fax:
www.glfea.org

MECHANICAL CONTRACTORS ASSOCIATION OF DETROIT

14801 West 8 Mile Road
Detroit, Michigan 48235
(313) 341-7661
(313) 341-1007 Fax:
www.mcadetroit.org

**SMACNA METROPOLITAN DETROIT CHAPTER**

3221 W Big Beaver Rd., Ste 305
Troy, MI 48084-2812
(248) 649-5450
(248) 649-2024 Fax:
smacnad@bignet.net

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