

Construction Career Manual

Site of the house project at Kirkwood of Scio built by Ann Arbor Student Home Builders Industry Program, Inc.



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The Construction Industry
Plan for your future success and diversity
Apprentice and Journey Resource Guide

Distributed by:

Greater Michigan Plumbing & Mechanical Contractors Association, Inc

Michigan Chapter National Electrical Contractors Association (NECA)

Michigan Building and Construction Trades Council

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Plan for your future success and diversity
Apprentice and Journey Resource Guide

This Construction Career Manual is a resource compiled and distributed annually through Greater Michigan Plumbing and Mechanical Contractors Association, Inc. located in Ann Arbor, MI. We hope that you that you will find the information helpful and a good resource for career planning. While we do our best to supply accurate and up-to-date information, we are not perfect and welcome any suggestions or updates. Greater Michigan Plumbing and Mechanical Contractors Association, Inc. would like to thank all those who have contributed information and photos for use. Without the cooperation of the Locals and Joint Apprentice Training Committee's this information would not be available. We wish to thank the many local and national organizations that have provided us with information and facts. Particularly, we would like to thank Mike Crawford from NECA, who was always available to ask questions and offer opinions.

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THE CONSTRUCTION INDUSTRY- A CAREER YOU CAN COUNT ON

Look around you. Wherever you are, it doesn't matter, just take a look around and be aware of how the construction industry has literally shaped your surroundings.

The streets and sidewalks, utilities, factories, schools, office buildings, houses and apartment buildings, dams, bridges—possibly even the contour of the land—were produced by our industry. It's exciting, challenging, and very demanding work! Options for career opportunities in construction trades are almost limitless.

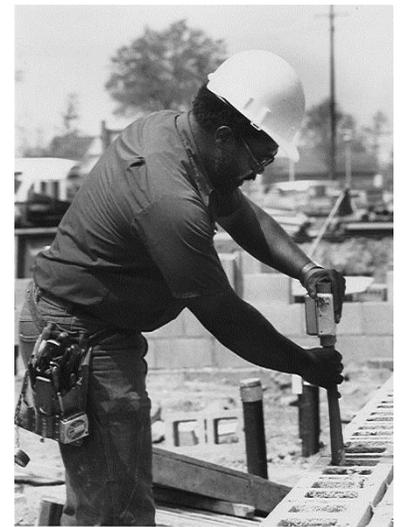
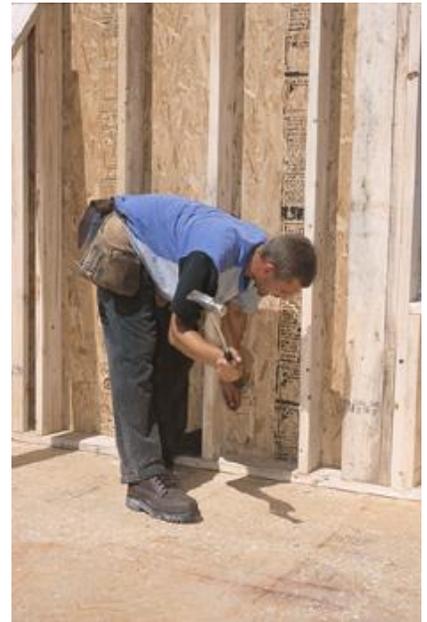
This booklet is designed to provide a quick glimpse of some of the trades involved in construction, along with information on how to

access the excellent training provided through union apprenticeship and journeyman training programs.

Basic requirements for most union apprenticeship programs are you need to be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License or State issued ID. Ability to work in the United States and pass a physical exam including a drug screen. Some utilize aptitude or other testing along with interviews to select applicants. Often, openings are advertised in local newspapers, trade newspapers and magazines, and to groups representing women and minorities.

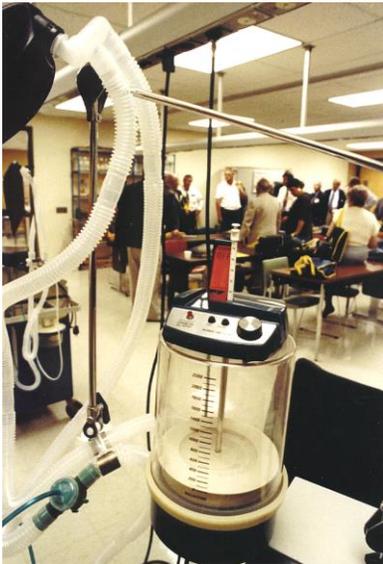
There are some things you should know when considering a career in construction, such as the seasonal nature of the work. Much of the work is outdoors in the heat/cold/wind/rain, and because construction sites are everywhere, dependable transportation is a necessity.

Additionally, contractors and unions alike expect their workers to be dependable, on time, every time, with no excuses.



Unlike days of old, today's construction workers need more than a strong back. Today, math and reading skills are important elements on the job where there are blueprints to read, grade stakes to interpret, installation and service manuals to follow, angles to calculate, material quantities to determine, and so on. Although it doesn't require a college degree, almost every trade demands good math and reading skills, dedication and caring, good work habits, and dependability.

The benefits, however, make it ***all worthwhile!*** The wage and benefit packages are, of course, excellent. Beyond that, there is the training, not only for apprentices, but on-going programs for journeymen to keep abreast of changes in technology, materials, methods and equipment.



Plumbers and pipefitters are, for example, training to install medical gasses in hospitals and they are keeping up with state-of the art technology in HVAC computer controls.

There is nothing that can compare with that special pride of seeing a building, bridge or highway that you helped to build still standing when you drive by years later. There is perhaps no other career that offers this special feeling of having made a lasting difference.

All in all, a career in the construction trades can be exceptionally rewarding. Plan now for one of these exciting career opportunities!

Stay in school. Develop a good attendance record. Take math and English classes seriously—you will use it someday. Keep your body and your mind healthy.

And remember, we look forward to seeing **you** on one of our crews in the future.



YOUR CAREER IS BUILDING IN THE CONSTRUCTION INDUSTRY



The Construction Industry offers you the opportunity to create and to build. Careers as craftworkers and professional management personnel cover a wide range of construction activities. The industry itself is diverse and embraces all kinds of projects such as office buildings, plants, schools, interstate highways, hospitals, churches, houses and tunnels. Large or small, the project is built carefully and capably by people with the ingenuity, skill and education to create. This could be your world.

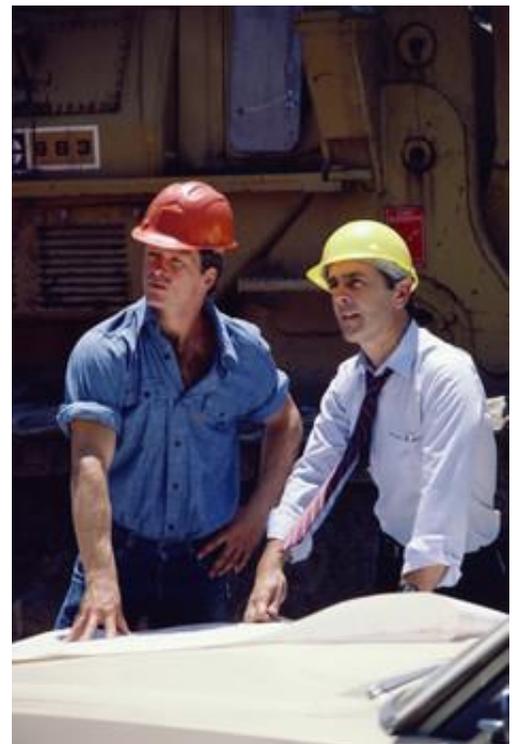


There are various ways to pursue careers in construction. The methods described herein involve a combination of education and hands-on training. This information will provide you with an introduction on how you can pursue a career in the construction industry which will be challenging, satisfying and financially rewarding.

This booklet will give you valuable information covering apprenticeship programs which are a combination of on-the-job training and related classroom instruction. In addition, we have listed Michigan Colleges and Universities' that have programs for those people interested in

pursuing an Associate's, Bachelor's or other advanced college degree. Some of these Colleges and Universities will give you college credits for classes taken with your apprenticeship/JATC training. Check with the school to see which classes and programs may qualify. We encourage those interested in pursuing a college degree to do so. Some advancement opportunities may require this. (Construction Management)

The first step! No matter which path you think you'd like to take, you must finish high school to be able to take full advantage of the opportunities the industry has to offer. This is true if you want to be an apprentice, and it's true if you plan to be a construction engineer. **A high school diploma is the key to your future in construction. After that, it's up to you.**





Nationwide, there are over 100 Colleges and Universities and more than 300 two-year schools that offer construction education and training opportunities. Many fine schools are located right here in Michigan.

A skilled workforce is critical for Michigan's economic future. Skilled workers attract employers to the state, and highly skilled workers earn higher wages. The right skills can help workers and their families achieve the American dream of prosperity through hard work. For much of the 20th Century, most workers could gain the skills needed to support a middle-class lifestyle with just completing high school. However, as the economy

has evolved, it has become increasingly more important for workers to have training beyond high school to be competitive in the workforce. Some level of postsecondary training is now necessary for most workers to be successful.

The Workforce Intelligence Network estimates that 37 percent of Michigan job growth, over the



next five years, will be in "Middle-Skills" occupations (2015). Middle-skills occupations require more than a high school degree, but less than a four-year degree. Community colleges serve as a provider of middle-skill training, but apprenticeship programs for the Construction Trades are important. And of course, classroom training at community colleges as an alternative training center can be important component of apprenticeship training.



YOU CAN BEGIN A CAREER IN CONSTRUCTION IN VARIOUS WAYS

High School followed by training in a State Approved Apprenticeship Program.

For those men and women who want to enter construction as a journeyman, local and state approved Apprenticeship Programs have been established. These programs normally run three to six years and combine on-the-job training with related instruction in a classroom environment. Apprenticeship Training is the major topic in this booklet. You will be learning much more about the crafts and their related apprenticeship programs.



High School combined with training in an Industry Approved Vocational Construction Program.

Those Individuals who determine early on that they want a career in construction can attend vocational programs in carpentry, bricklaying, plumbing, construction electrician, welding and other trades. Graduates are provided with lists of local employers and the employers are provided with the names of current graduates. Training in an approved program can make entrance into trade apprenticeship programs easier and can possibly reduce the length of apprenticeship.

High School followed by Technical School or Associate's Degree Program.

There are many two-year programs available to people wishing to enter construction at the management level. These programs provide a background in general practices found in the industry and include courses in surveying, drafting, blueprint reading, construction documents, estimating, construction materials and management techniques.

High School followed by College.

College programs in construction management, civil engineering and other related programs prepare graduates who are capable of entering corporate and project management positions with a minimum of on-the-job training. Many college programs have evolved from industry liaison groups and are tough yet practical. Competition for these programs can be intense, and classroom space is limited. Many college programs cover areas dealing with materials, mathematics, surveying, construction methods, hydraulics, planning and scheduling, estimating, cost control, accounting, construction law and labor relations.

Advancement after entering the industry depends on your effort and the needs of your employer. More and more projects of every kind are being planned and carried out, every day, in almost every part of the world. But remember...the construction industry needs qualified people and a high school diploma is a necessary first measure of quality. Stay in school, get your diploma, then start your career!

THE CONSTRUCTION INDUSTRY - AN OVERVIEW



The construction industry is a vital employer in the nation's economy and embraces hundreds of different types of activities, from the construction of hydroelectric dams and interstate highways to multi-story office buildings and large residential projects as well as major maintenance and alterations. Construction offers many different types of career paths, from semi-skilled and skilled craft careers covering over 20 different trades to jobs in management covering a wide scope of activities. The opportunities for advancement are virtually unlimited, regardless of where you choose to start.

The industry also offers national and international job markets, giving you the opportunity to select an employer in any city or town. Basically, anywhere in the world. Few other careers offer this type of opportunity. Who hires employees trained in the building trades or with degrees in construction science? Obviously, one answer would be general contractors and sub-contractors. These are the companies that do the greatest amount of new construction, rehabilitation, remodeling, and maintenance. Many men and women with construction backgrounds are hired by other companies and agencies to evaluate, plan and oversee construction performed for them. Prospective employers in this group include local, state and federal governments, hospitals, schools, and corporations that build and maintain warehouses, factories and offices.



CATEGORIES OF CONSTRUCTION

Contractors normally specialize in one or more of the following types of construction.

General Building Construction:

Erecting office buildings, houses, apartments, plants, schools, hospitals, churches, government buildings...virtually every type of shelter needed by man.

Highway Construction:

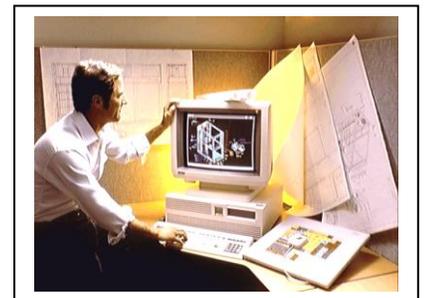
Highways and the related facilities such as bridges, grade separations, culverts, paving, earthmoving, traffic controls and landscaping.

Heavy Construction:

Tunnels, airports, dams, military bases, railroads and flood control projects.

Utilities Construction:

Power plants, pipeline installations, sanitation projects, waterworks and transmission stations.



CAREER OPPORTUNITIES

Career opportunities in construction are nearly unlimited. There are many different jobs for many different activities. Each job has its own advantages, responsibilities and rewards for those who are qualified. Salaries are flexible...they depend on the person; your abilities, effort, initiative and dedication are the deciding factors. Let's take a look at some of the many career positions



available to you in the construction industry. Some are available to you after specialized training; others require a broad understanding of the total project, gained only after years of preparation and experience. Remember, regardless of whichever career you'd like to follow, your success will depend on your abilities, your effort, your initiative and your dedication to the job.

Also, remember there are many people in the construction industry who want to see you succeed and are willing to voluntarily give their support and experience in encouraging capable people to enter the construction industry.

Some typical progressions - Shown here are some career paths that are open to you in the construction industry. You can get an idea of how members of the construction team move up in their jobs from the following common career progressions:

- High School Graduate: Apprentice, Journeyman, Foreman, Supervisor.
- Technical School Graduate: Assistant Expediter, Expediter, Purchasing Agent.
- Associate's Degree: Teaching, Train-the-Trainer, Superintendent.
- Bachelor's Degree: Construction Manager, Marketing Manager, Estimator, Project Manager, Engineer.



The following information gives you a little more detail on each type of job.

Journeyman: carpenter, mason, operating engineer, etc., a member of one of the building trades who performs the work of a particular craft as directed by the foreman. The term "journeyman" (previously "journeyman") dates back to medieval times when skilled craftspeople had to travel from place to place, or journey, to practice their craft. The word now refers to person who have served their apprenticeship.

Foreman: supervises all journeymen of a particular trade working on a project. Plans work, maintains schedules, ensures procedures as directed by the superintendent.

Draftsman: prepares working plans, drawings and diagrams for engineering and construction purposes.

Construction Engineer: responsible for technical aspects of a project including the design, testing and analysis of specifications and materials, planning, surveying, research and other critical factors in the building process.



Safety Engineer: responsible for setting up job site safety operations, ensuring safety consciousness of employees, ensuring that activities are conducted in accordance with federal and state safety and health regulations and procedures. Safety Engineers provide professional advice on safety in the various construction activities.

Estimator: prepares basic data concerning a proposed construction project (usually from plans and specifications) including quantities of materials, man-hours to perform items of work, methods to be used, equipment required, and with the assistance of other members of the office staff, computes the cost of construction which represents the contractors' competitive bid for the job.

Expediter: maintains construction schedules by reviewing deliveries, scheduling arrival of materials and men at job sites, establishing work priorities, and obtaining necessary clearances.

Purchasing Agent: determines most economical sources for materials, stores, supplies, equipment and parts. Ensures purchase at lowest price consistent with required delivery schedule.



Inspector: inspects the work of contractors to ensure that the requirements of the drawing, specifications and codes for the work are met.

Office Manager: performs or supervises the variety of support services required of a construction business, such as keeping books, preparing payroll, billing clients, and handling mail.



Superintendent: directs all construction functions for large projects according to established schedules, specifications, methods, and procedures; supervises job superintendent on very large projects or on a variety of smaller projects.

Project Manager: directs all construction functions on very large projects; establishes and develops methods, procedures, schedules, and policies; coordinates the work of all units and divisions; performs such administrative duties as are required for proper completion of the project.

Contractor: often a company owner; a businessman and construction specialist in most cases; responsible for all construction activities; deals with all key individuals on a project...the architect, the owner, the subcontractors and company personnel.

BUILDING YOUR FUTURE

College isn't for everyone. Jobs are!

It's Your Job-How Far Can You Go? How far you go in this rapidly expanding industry depends not only on how well you prepare yourself for each job, but how well you do it. Responsibilities come early and with them, the chance to show what you can do, and the opportunity to advance toward your ultimate goal.

People come into construction in various ways. Many enter through craft apprenticeship programs and become skilled trades people. Some start out in the contractor's offices as skilled technicians, engineers, accountants, secretaries, or in other positions. However, advancement in all cases

after entering the industry depends on the efforts of the employee and the needs of the employer.



This booklet is designed to inform you about career opportunities in the construction industry and how to become a skilled journeyman through various crafts' apprenticeship programs.

For those of you considering going on to college, reference material is also included in this booklet to guide you to programs available for training people to be estimators, job superintendents, project managers and engineers.

APPRENTICESHIP PROGRAMS

Apprenticeship programs consist of a combination of the on-the-job training and formal but related classroom instruction in which workers learn the practical and theoretical aspects of a highly skilled occupation. Apprenticeship programs are operated on a voluntary basis by employers, employer associations or management and labor groups. The related classroom instruction is given in the program sponsor's training facility or a local technical school or junior college.

Two- and four-year colleges come to mind when most people think of postsecondary training. However, apprenticeship programs represent an important alternative to the college path. Two important aspects of apprenticeship programs make them an especially appealing way for workers to gain skills. First, workers receive practical, hands-on training at actual worksites doing real work with a highly skilled supervisor. Second, apprentices earn *wages* during their training, as opposed to college where workers pay to be trained. Earning a paycheck while being trained makes apprenticeship programs more accessible for many workers, particularly those from low-income families, and those who are already supporting a family. In a time of rapidly growing debt, apprenticeship programs can be a very important alternative to the college path.



What is an Apprentice?

Apprenticeship programs have their origins in the practice of European craft workers. As America was settled, Europeans brought with them, the practice of indenture and the system of master-apprenticeship relations. The term “indenture” comes from the English practice of tearing indentations, or notches, in duplicate copies of apprenticeship forms (Washington State Department of Labor and Industries 2016) Therefore, an apprentice is a worker who learns a craft skill through planned, supervised work on the job, plus related classroom instruction. Moreover, when working on the job, an apprentice is a regular part of the work force and earns wages while acquiring an important skill.



The apprenticeship training period for skilled occupations ranges from three to six years. Apprentices are taught the proper use, care and safe handling of the tools and equipment used in connection with their work. To round out their training, classroom work is required in subjects related to the trade.

Men and women 17 or 18 years old (depending on the trade) are eligible to apply. Applicants must be physically able to do work of the trade. Some trades require an entry examination. Most trades require applicants to be high school graduates or possess a General Education Development (GED) certificate. Apprenticeship programs provide **equal employment opportunity** to all persons interested without discrimination because of race, color, religion, national origin, sex (including pregnancy and gender identity), sexual orientation, age (18 and above), height, weight, marital status, genetic information or disability.

Equal opportunity in apprenticeship means that you will be considered for training.

It also means equal treatment in pay, promotions, layoffs and evaluations.

Women and minorities are strongly encouraged to find out about the wide range of jobs that can be learned through apprenticeship.

Apprenticeship in the building trades offers women and minorities excellent opportunities for employment in jobs that are both personally satisfying and well paid. The apprenticeship system provides the opportunity for learning to become a highly skilled worker while receiving wages during the training period.

Apprentices Earn College Credit.

Many apprenticeship programs now qualify for college credit. Speak with the individual Training Center to learn which area colleges participate.

Apprentices Get Regular Wage Increases.

Apprentices can earn while learning; the more they learn, the higher the pay. Most apprentices are paid 40% to 50% of a journeyperson's wage to start. As they climb the ladder to their final qualifications, their wages are increased at regular intervals. At the end of their term of apprenticeship, they become a journeyperson and draw full pay for their skill.



Training is Good Insurance.

Training in the skilled construction trades is good insurance. In addition to opportunities for promotion and steady employment, it gives you something that no one can ever take away from you - a lifelong increased earning capacity that will enable you to get and keep a well-paying job anywhere in the country. Skilled hands and a trained mind give the owner a strong feeling of security, which, in some ways, is better than money in the bank.

Upon completing a registered program, apprentices are awarded a nationally recognized credential that is portable and stackable-allowing them to document their skills to future employers. The Department of Labor (DOL) estimates that completing a registered apprenticeship program can increase lifetime earnings by more than \$300,000 (DOL 2014)



A point of interest to those entering the construction industry: at times because of the nature of the industry, jobs may not be available all year. Factors such as the state of the economy, weather, work jurisdiction and your own abilities can impact the number of hours you are employed in any given year.

Joint Apprenticeship Committees.

The actual selection of apprentices in every skilled building trade is done by members of a Joint Apprenticeship Committee. These are people with considerable experience representing both management and labor. Committee members do all the selecting of applicants.

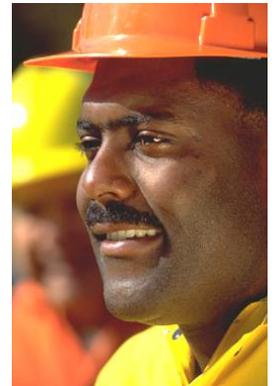
WOMEN AND MINORITY OPPORTUNITIES

From 2010 to 2020, the U.S. economy is projected to add 20.5 million new jobs as total employment grows from nearly 143.1 million to more than 163.5 million. Construction spending



through the first nine months of 2017, as reported by ConstructConnect (<https://www.constructconnect.com/>) totaled \$917.0 billion, a 4.3% increase over the same period in 2016. With this type of growth, labor shortages will continue to plague the construction industry. Close to 70% of firms will have trouble filling hourly skilled trades positions. More than half will be in work such as carpenters, plumbers, concrete workers, electricians and bricklayers.

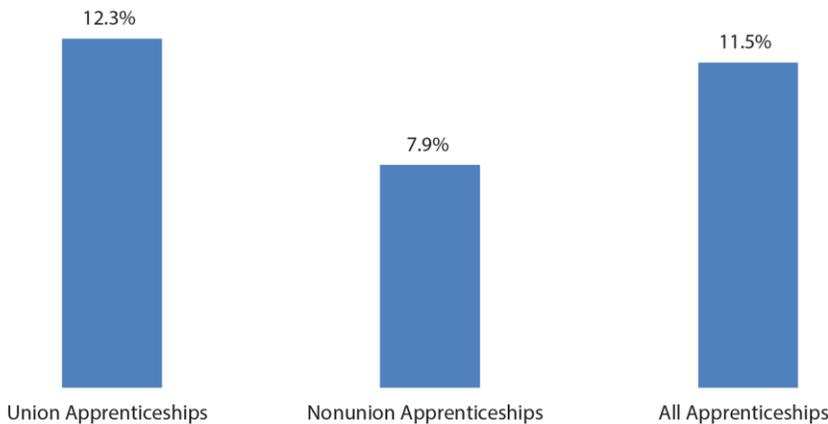
The construction industry offers many opportunities for rewarding careers, from general laborers and journeymen to management careers. In the construction process, there are other multiple career choices as well. Such as cost control, financial management, quality of construction, construction project administration, project control for complex commercial or industrial construction projects, business management, contractors and law.



All of the trades listed in the Career Opportunities section of this book are always actively seeking out both minorities and women to come in to their respective local unions.

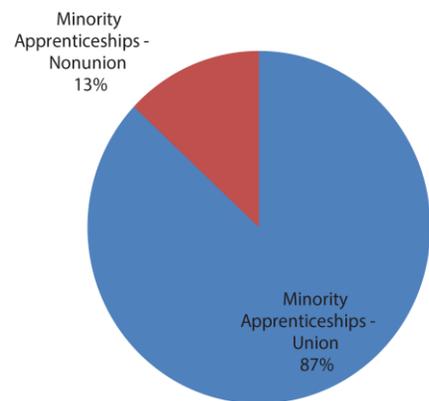
Michigan's Unionized Construction Industry Enrolls and Graduates the Majority of Minorities in the Construction Industry

Percent of Registered Apprenticeships Held by Minorities



SOURCE: PSC calculations using RAPIDS data.

Union Status of Minority Registered Apprenticeships

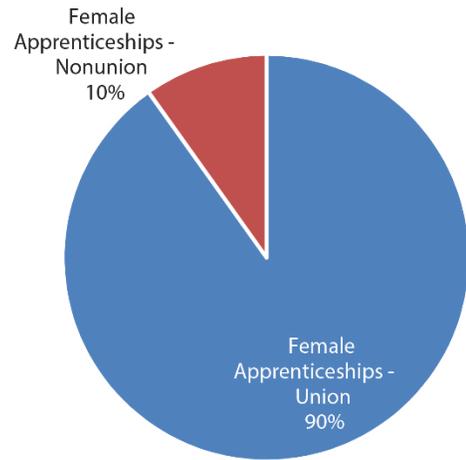


SOURCE: PSC calculations using RAPIDS data.

Michigan's Unionized Construction Industry Enrolls and Graduates the Majority of Women in Construction

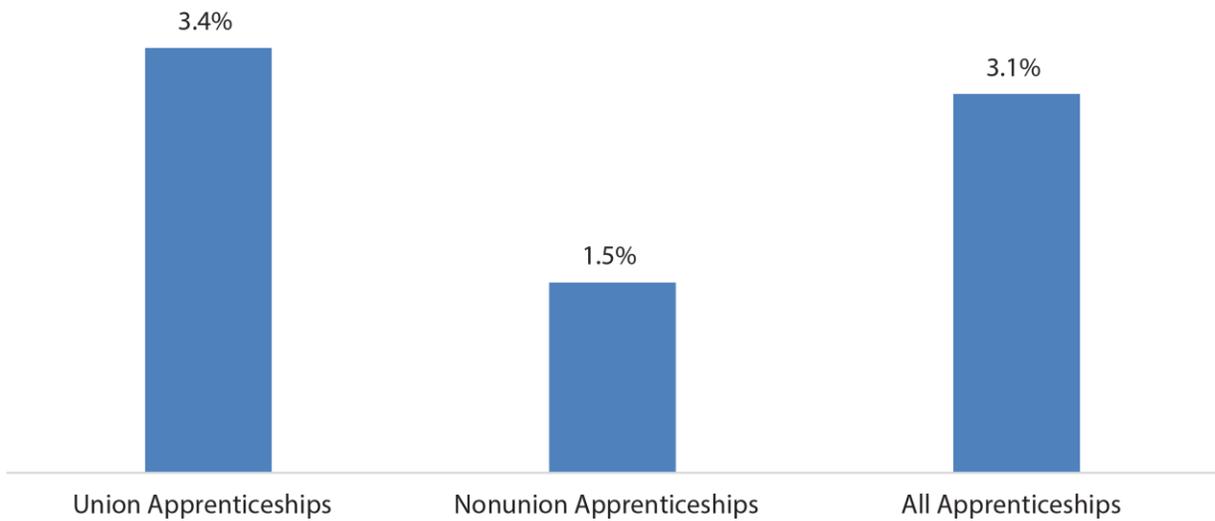


Union Status of Female Registered Apprenticeships



SOURCE: PSC calculations using RAPIDS data.

Percent of Registered Apprenticeships Held by Women



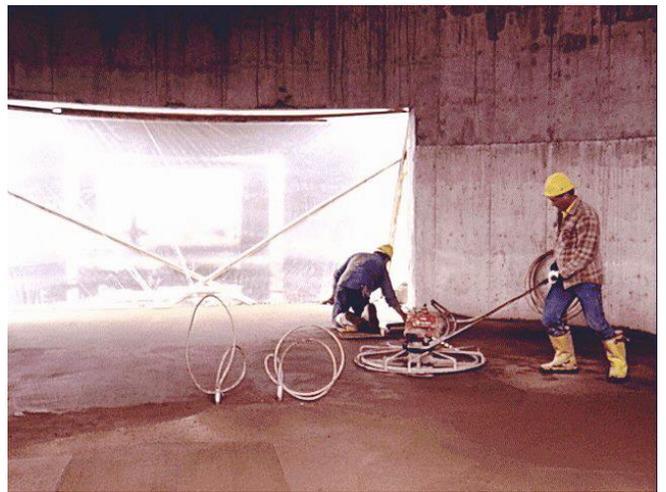
SOURCE: PSC calculations using RAPIDS data.

ALL ABOUT ADVANCEMENT

The Joint Apprenticeship Committee determines the needs for apprentices and sets the standards of education, experience and training. A high school education, or its equivalent, with courses in mathematics and science is very desirable. Often applicants are given tests by the Committee to determine their aptitude for a particular occupation. More specific requirements are described later in this section under each trade.

How to Prepare for Apprenticeship Training

Today, construction tradespeople are drawn from the ranks of high school graduates, college students, and college graduates. The importance of staying in school and learning all you can, cannot be overemphasized. The smart young person of today stays in school as long as possible. In the stiff competition of today's industry, a person must be able to do jobs requiring more than a few weeks' experience. A high school diploma or GED is required preparation for a young person interested in becoming a skilled journeyman.



How to Enter Apprenticeship

The most common way that a young person can enter an apprenticeship program is through indenturing. Indenturing is basically a written agreement to train for a craft as a learner, or apprentice. Agreements generally are with the Joint Apprenticeship Committee or JATC for the full term of apprenticeship – anywhere from 3 to 5 years. An agreement can also be with an employer who can provide the variety of work experience necessary to give the apprentice all-around instruction in the craft and relatively continuous employment.

WHAT TYPE OF SALARIES ARE AVAILABLE IN CONSTRUCTION?

What can I earn?

What you will earn will depend on your individual circumstances. Currently the **beginning Apprentice** in a Building Trades Apprenticeship Program begins at 45% to 50% of the current Journeyman rate. That percentage goes up every year you are in the program, until you reach your Journeyman status.

What does that mean in dollars and cents – You earn while you learn

Average First Year Journeyman Rate of the Trades in Michigan

\$22.21 per hour - Base Rate @ 50% -- \$ 11.10 - Per Hour
is an estimate of what you will earn during your first year

Fringe Benefits are over and above. They include, but are not limited to:

- **Insurance**
- **Pension**
- **Vacation**
- **Training Fund**

When you complete a four or five-year apprenticeship program, your journeyman card takes you to 100% of the current wages. Your training is part of your apprenticeship, so unlike someone who has gone to a two or four-year college program, **you won't have a college loan to pay-off with your income.**

Earning Potential in the Construction Industry

Wages in the Construction Industry vary. The following is an average representation of the earning potential of an individual entering into the Construction Industry:

- ◆ Beginning Apprentices earn \$500 a week.
- ◆ They also get medical insurance for their family, along with other fringe benefits.
- ◆ By the time they have completed a five-year Apprentice Program, they will have earned approximately \$220,000 and can anticipate earning from \$60,000 to \$70,000 per year as a journeyman.
- ◆ After working 30 years they will have approximately one million dollars in pension.



The following pages will give you all the specific information you need to learn about the various opportunities available in construction.

Prepare for Your Career!

You now know what the “construction industry” is. You’ve learned about apprenticeship in the building trades. You’re thinking . . . “maybe I’d like a career in construction. But what can I do now to prepare for the future?”

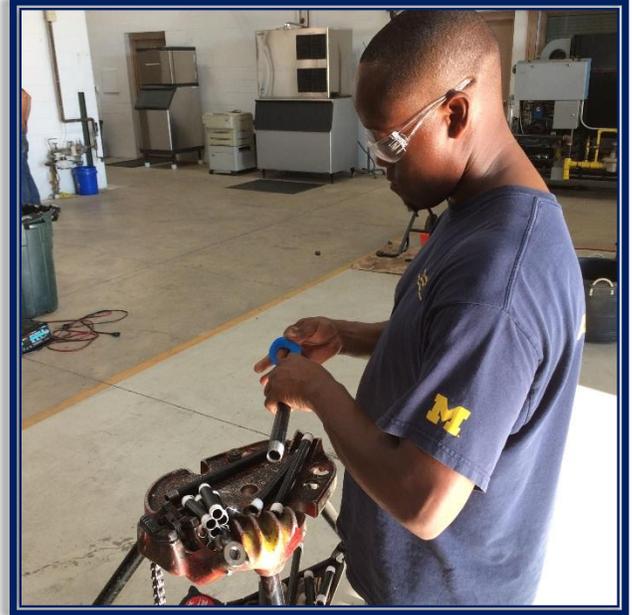
Here are a few things you can do to prepare for your career.

- ✓ **Stay in school and learn.** The smart young person of today stays in school as long as possible.
- ✓ **Work hard in school!** A good work ethic is important when you are on the jobsite.
- ✓ **Take classes that will really help you prepare –** Math, Science, Technology Education, CAD, etc.
- ✓ **Pay attention to the world around you!** Learn about construction projects and building projects that are occurring in your town or community.
- ✓ **Talk to a building trades representative, contractor or tradesperson.** Learn about different jobs in the industry.
- ✓ **To learn about skilled craft and management positions in construction,** visit our website at: www.miconstructioncareers.org.



Industry Billboard Campaign

INTERESTING TO NOTE: The completion rate for registered apprenticeship programs is greater than the graduation rate of all but two of Michigan's public community colleges per the report submitted by Public Sector Consultants, Inc. (www.pscinic.com) "Benefits of Michigan Apprenticeship Programs" (April 2017) This same report states that union programs tend to be more successful. Union programs train 80 percent of apprentices. They also train a disproportionate share of women (90%) and minorities (87%). The completion rate for union programs are 42% compare to 22% of non-union programs. And, completing a union apprenticeship program significantly raises a worker's wage, from \$22.21 per hour compared to \$14.55 per hour. Veterans make up approximately 6% of Michigan apprenticeships. (See Helmets to Hard Hats on page 7) Since its inception in 2003, the program has helped place over 20,000 veterans in skilled craft apprenticeship programs.



According to LiUNA (Laborers' International Union of North America) The current High-Demand Apprenticeship Occupations for the United States are: Bricklayer, Carpenter, Electrician, Elevator Constructor Mechanic, Pipe Fitter and Plumber. Nationally, the top ten occupations for apprenticeships were all in the construction trades, with electrician, carpenter and plumber representing the top three. The Department of Labor (DOL) compiles data on registered apprenticeships and this data is available through the Registered Apprenticeship Partners Information Data System (RAPIDS). This report analyzes data for Michigan. According to the RAPIDS database the TOP five apprenticeship occupations in Michigan are Electrician, Laborer, Carpenter, Roofer and Pipe Fitter. Keep in mind, that these reports are based on prior years and there is always a high demand in the Construction Trades,



As you will see in the following pages, there are a lot of different types of construction positions available. And while we have covered many, it is not a complete and comprehensive list of available work.

Career Pathways in the Construction Industry

Craft Careers



Boilermaker	Laborer
Bricklayer	Operating Engineer
Carpenter	Painter
Cement Mason	Plumber/Pipefitter
Electrician	Roofer
Elevator Constructor	Sheet Metal Worker
Insulator	Teamster
Iron Worker	

Union Careers



- Business Manager
- Business Agent
- Dispatcher
- Foreman
- International Union Representative
- Instructor
- Legislative Representative
- Organizer
- Political Action Representative
- Safety and Health Director
- Training Director

Graduate from High School then consider:

**Apprenticeship
or
Apprenticeship
and College**

Management Careers



- Business Owner
- Construction Engineer
- Executive Manager
- Estimator
- Field Representative
- General Contractor
- Labor Relations Representative
- Subcontractor
- Superintendent

Related Careers



Architect	Interior Designer
Construction Manager	Labor Attorney
Environmental Scientist	Landscape Architect
Field Engineer	Management Attorney
Industrial Designer	Mechanical Engineer
Inspector	Urban Planner



Prepared by the Building and Construction Trades Department, AFL-CIO

www.bctd.org



Construction

Industry

Career

Opportunities

ABATEMENT WORKERS

Scope of Work - The work of Abatement workers covers a wide-variety of abatement related projects ranging from industrial, commercial, nuclear and electrical power plants, ethanol plants, automotive manufacturing facilities, hospitals, food processing plants, schools and cryogenics. Industrial applies to all types of industries such as chemical process and petrochemical. The commercial field includes building, building services and refrigerated spaces. Transportation includes the abatement of trucks, trailers, railroad cars and ships. Cryogenics is the field of low temperature service, such as required by the liquefied gases. Abatement workers work with many types of materials, such as Asbestos, Lead and Mold. They abate materials on hot and cold piping, refrigerant lines, ductwork, boilers, towers and tanks. Abatement workers also ensure that asbestos, lead and mold is safely removed from buildings during renovation or demolition processes. They are responsible for identifying and disposing of asbestos-containing materials; complying with state and federal laws regarding the disposal.

Working Conditions - Abatement work indoors and outside. They spend most of the workday on their feet, either standing, bending, or kneeling. Abatement work is often dusty and dirty. The minute particles from the insulation materials, especially when blown, can irritate the eyes, skin, and respiratory system. Removing cancer-causing asbestos insulation is a hazardous task and is done by specially trained workers. To protect themselves from the dangers of asbestos and irritants, workers follow strict safety guidelines, wear protective masks and respirators, take decontamination showers and keep work areas well ventilated. Abatement work can be at ground level or in the air.

Apprenticeship Requirements

Length of Program – One year and 600 hours

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Courses Required – OSHA30, Asbestos

Asbestos Abatement Workers Local 207

Asbestos training since 1995
26453 Northline Road
Taylor, MI 48180
(734) 947-1745
Kevinm@local207.org
www.local207.org

Doug Ripple, Training Director

Kevin Meagher,
(937) 684-5214

Territories Covered: The entire State of Michigan and Northern Ohio

BOILERMAKERS

Scope of Work – Construct, assemble and maintain boilers, tanks, pressure vessels, metal stacks, liners, blast furnaces, pollution control equipment, baghouses, precipitators and duct work according to blueprint specifications, using power tools and hand tools. The duties of the boilermaker include welding, acetylene burning, riveting, caulking, rigging, fitting up, grounding, reaming and impact machine operating. Construction and inspection 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.

Working Conditions - Active and strenuous. Stand for prolonged periods. Indicate no fear of height or hazardous work, confined space work or work in the nuclear industry. Frequently work in dirty conditions on dirty equipment. Working indoors or outdoors.

Apprenticeship Requirements

Length of Program – 4 years.

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Courses Required – Minimum of 600 hours classroom training in the following areas: Torch Cutting, Gouging, Gas Tungsten Arc, Gas Metal Arc, Plasma Arc, Submerged Arc, Bevel Tube, Tube Replacement, Rigging, Crane Set-Up and Block Reeving, Orbital Welding and Metal Plate Fitting.

Boilermakers Local 169 Boilermakers Training Center

1755 Fairlane Dr.

Allen Park, MI 48101

(313) 584-8520

FAX (313) 584-8777

ashley@boilermakerslocal169.com

www.boilermakerslocal169.com

Michael Card, Administrator

Applications accepted in person only on the 2nd Tuesday of each month from 1-3 pm or call to receive application by mail.

Territories Covered: Entire state, except counties of Hillsdale, Lenawee and Monroe.

Great Lakes Area Boilermakers Apprenticeship Program

(GLABAP) Boilermakers Local 85

319 Glenwood Road

P.O. Box 95

Rossford, OH 43460

(419) 666-7761

FAX (419) 666-1933

ron@bl85tc.net

www.bl85tc.net

Ron Hammond, Training Coordinator

Tim Timmons, Business Manager

Territories Covered: Monroe

BRICKLAYERS

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. Bricklayers also install the brick linings of individual kilns and furnaces. They understand and work from blueprints. They also use measuring, leveling and aligning tools to check their work.

Working Conditions - Much of the work is outdoors and generally depends on suitable weather conditions. Active and often strenuous, with stooping and lifting. Prolonged standing required. Should have the ability to work at heights.

Apprenticeship Requirements

Length of Program - 4-year apprenticeship.

Requirements – Must be at least 17 years old, have a high school diploma or GED. Dependable transportation is required for entry into the program. Ability to work in the United States and pass a physical exam including drug screen.

Contact either the IMTEF Detroit Training Center or MI BAC Training Center to apply for a 12-week pre-apprenticeship training program. Preference to live in the geographical area as specified for each individual training program.

Subjects Covered – Math, Masonry Science, Piers, Windows, Door Openings. Apprentices train with all of the different Masonry units being used in today's industry. Additionally, subjects such as Safety, Structural and Decorative Bonds, Blueprint Reading, Layout, etc., are all integrated into a full scope of the masonry trade.

International Masonry Training and Education Foundation (IMETF Detroit)

Bricklayers & Allied Craftworkers Local 2

Tom Ward, Career Opportunity Consultant

Detroit Training Center

21031 Ryan Road

Warren, MI 48091

(586) 757-6658

FAX (586) 757-7015

tom.ward@bricklayers.org

www.bricklayers.org

Territories Covered: Metro Detroit (Counties of Wayne, Oakland, Macomb, Monroe & St. Clair)

Bricklayers & Allied Craftworkers Local 2

Michigan BAC Training Center

Howard Hipes Apprentice &

Training Coordinator

119 S. Front Street

Marquette, MI 49855

(906) 226-3015

FAX (517) 226-5252

hhipes@tds.net

www.michiganbricklayers.org

Territories Covered: State of Michigan except Metro Detroit

**Michigan Bricklayers & Allied Craftworkers Local 2
Michigan BAC Training Center**

3321 Remy Drive
Lansing, MI 48906

(517) 886-2221

FAX (517) 886-5450

hhipes@tds.net

www.michiganbricklayers.org

**Howard Hipes, Apprentice &
Training Coordinator**

Territories Covered: State of Michigan, except Metro Detroit

CARPENTERS

Scope of Work – Carpenters measure, cut, level and nail wood and other building materials. They install tile and insulation, acoustical ceiling, cabinets, siding and much more. They work with many hand tools, power tools, measurement and design layout. Carpenters work with materials to build houses, erect skyscrapers, construct bridges, tunnels and highways. Carpenters make up the largest single group of skilled workers in the country. Work includes rough and finish carpentry, forms for concrete, framing (foundations and walls), roofs, exterior mill work, interior wall coverings, floor, stairs and interior finish.

Working Conditions – The typical workday for a carpenter begins early. He/she is often on the job site with a tool box before daybreak and he/she is hard at work before the sun is high in the sky. Much of the work is outdoors, but modern construction methods have eased the problems of the summer's heat and the winter's cold. The average carpenter usually wears a hard hat, tough, durable work clothes and safety shoes or sturdy high-top shoes.

Apprenticeship Requirements

Length of Program – 4-year apprentice program, classes one day every two weeks.

Requirements – Must be at least 18 years old, can be 17 years old with written approval of parent or guardian, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Prefer strong math skills, especially shop or vocational math, or geometry.

To apply, contact school to schedule written exam (mathematics aptitude). High scorers are given an interview, then placed on an availability list in order by test and interview score and referred to contractors as need arises.

Courses Required – Mathematics for Carpentry, OSHA30, Basic Prints, Rigging & Signaling, Builders Level & Transit total station, Stationary Power Equipment, Footings and Foundations, Floor and Wall Framing, Roof Framing, Interior Trim, Stair Building, Column and Deck Framing, Metal Studs and Drywall, Blueprint Reading, Cutting and Arc Welding, Exterior Trim, Ceilings, Advanced Roof Framing, Advanced Stair Building, Advanced Millwork, Scaffold Training and Infection Control for Hospitals.

Special Classifications – Commercial and Residential, Pile Drivers, Resilient Floor Layers, and Millmen.

Completion of apprenticeship program may qualify for credit hours toward Construction Technology Degree Program at various Community Colleges.

Michigan Statewide Carpenters and Millwrights JATF

Main Office

23401 Mound Road

Warren, MI 48091

(586) 756-3610

dpoletis@hammer9.com

www.millwrights.org

Dave Poletis, State Training Director

Detroit Carpentry Apprenticeship

1401 Farrow Avenue
Ferndale, MI 48220
(248) 541-2740
FAX (248) 541-2740
george@detcarpapp.org
www.realapprenticeship.com

David Pehrson, Business Agent - (313) 832-3887

Millwright Institute of Technology

27555 Mound Rd.
Warren, MI 48092
(586) 573-4660
JATC@millwrights1102.org
www.realapprenticeship.com

Michael Barnwell, Business Agent - (586) 756-3610

Saginaw Carpentry Training Center

3160 Commerce Center Dr.
Saginaw, MI 48601
(989) 755-5856
saginawjatc2@speednetllc.com
www.realapprenticeship.com

Leon Turnwald, Business Agent - (989) 753-1487

Wayland Carpentry and Millwrights Training Center

500 Reno Drive
PO Box 457
Wayland, MI 49348
(269) 561-8115
waylandJATC@hammer9.com
www.realapprenticeship.com

Vinnie Dawe, Carpenter Business Agent - (616) 384-2775

Marquette Training Center

1221 Division Street
Marquette, MI 49855
(906) 225-0703
marquettejatc@att.net
www.realapprenticeship.com

Brian Kerrigan, Business Agent - (906) 362-9002

George Gillis, Training Director

Philip Garofalo, Training Coordinator

David Sincissen, Training Coordinator

Tod Sandy, Facility Coordinator
Jose Sanchez, Carpentry Training Coordinator

Robert Goodson, Instructor Coordinator

Grayling Carpentry Training Center

2410 Industrial Dr.

Grayling, MI 49738

(989) 348-8452

saginawjtc2@speednetllc.com

www.realapprenticeship.com

David Sincissen, Training Coordinator

Leon Turnwald, Business Agent - (989) 753-1487

ELECTRICIANS

Scope of Work – The work of Electrical Construction Workers (Inside Wiremen) can be divided into broad categories such as new construction, remodeling, maintenance, and repair of electrical wiring, equipment, and fixtures. While the jobs differ, the mental and physical skills acquired in a properly designed and administered training program prepare the electrical worker for this entire range of work. During a career as a Journeyman, a person will likely be involved in many different types of jobs presenting many new and different challenges, working with his or her hands as well as with their mind. Much of the work involves installation, assembling, testing, repairing, layout, and design of electrical wiring, fixtures, and apparatus used for power, light, heating, air conditioning, and many types of control systems. Most aspects of the career involve the use of computers on the job and during apprenticeship. Due to the work, above average math and reading skills are essential. To ensure that work is completed in accordance with relevant codes, licensing is required in most cities and some municipalities.

Working Conditions – Work is done both indoors and outdoors in all temperatures, weather, and environmental conditions. The trade, at times, requires considerable physical effort for lifting, carrying materials, ladders, and tools, and climbing ladders and scaffolds. Since most of the work is performed from ladders, scaffolds, or powered lifts, the Electrical Construction Worker must be comfortable working at a variety of heights. Most job functions require the use of hands and power tools. May cut and weld steel structural members, using flame-cutting and welding equipment.

Apprenticeship Requirements

Length of Program – 5-year apprenticeship, class one day every two weeks.

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License or ID. Ability to work in the United States and pass a physical exam including drug screen. Attendance record is important.

Preference to live in the geographical area as specified for each individual training program.

Aptitude Test required. Covers Algebra and Reading Comprehension.

Courses Required – Classes include Safety, Electrical Codes, Code Calculations, Motor Controls, Transformers and Motors, Programmable Controllers, Grounding, Journeyman Upgrading - Review of Electric Theory, Codes, Math, etc.

Electrical Workers IBEW Local 58 Detroit Electrical JATC

Electrical Industry Training Center
2277 East Eleven Mile Rd., Suite 1
Warren, MI 48092
(586) 751-6600
FAX (586) 751-6699
www.detroiteitc.org

Jason Dahl, Training Director

Brain D. Richard, Business Manager- IBEW Local 58 - (313) 963-2130 ext. #3043

Territories Covered: Wayne, Oakland, Macomb, Huron, Sanilac, St. Clair and part of Livingston.

Kalamazoo Joint Apprenticeship and Training Committee Local 131

3641 East Cork Street
Kalamazoo, MI 49001
(269) 388-4434
FAX (480) 247-4341
mapplebey@ibew131.com
www.kalamazoojatc.com

Morris A. Applebey, Training Director

Territories Covered: Allegan, Kalamazoo, St. Joseph, and Van Buren counties.

Electrician Local 252 Ann Arbor Electrical Apprenticeship Training Center

Ann Arbor Electrical JATC

13400 Luick Drive
Chelsea, MI 48118
(734) 475-1180
FAX (734) 475-1209
www.aaejatc.org

John Salyer, Training Director

Ryan Husse, Career Opportunity Consultant/Business Manager - (734) 424-0978

Territories Covered: Washtenaw and Jackson Counties, parts of Livingston & Ingham Counties.

Electrician Local 275 West Michigan Electrical JATC

140 N. 64th Ave. #4
Coopersville, MI 49404
(616) 837-7149
FAX (616) 837-1785
wmjatc@gmail.com
www.wmejatc.org

Dave Kitchen, Training Director

Jonas Talbot, Business Manager

MUST have a VALID MICHIGAN DRIVERS LICENSE TO APPLY

Territories Covered: Kent, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Ottawa; Laketon, Fillmore, Overisel, Salem, Dorr, Leighton in Allegan; Thornapple, & Irving in Barry; Otisco, Orleans, Ronald, North Plains, Keene, Easton, Ionia, Lyons, Boston, Berlin, Campbell & Odessa in Ionia; Coldwater, Gilmore, Sherman, Nottawa, Bloomfield, Deerfield, Rolland & Fremont in Isabella; Sweetwater, Webber, Cherry Valley, Pinora Lake, Yates, Pleasant Plains, & Chase in Lake; Victory, Sherman, Sheridan, Hamlin, Amber, Pere Marquette, Custer, Branch, Summitt, Riverton, Eden & Logan in Mason; Richmond, Hersey, Evert & Orient in Osceola.

Electrician Local 445 Battle Creek Electrical JATC

1375 West Michigan Avenue
Battle Creek, MI 49037
(269) 964-4545
FAX (269) 964-4040
chris@bcejatc.com
www.bcejatc.com

Chris MacCreery, Training Coordinator

Lance Dougherty, Business Manager

Territories Covered: Branch, Calhoun and some of Barry and Eaton.

Electrician Local 498 JATC

3912 Blair Townhall Road
Traverse City, MI 49685
(231) 943-4193
FAX (231) 943-8000
tcjatc@local498.net

Timothy R. Babcock, Training Director

Territories Covered: Charlevoix, Antrim, Kalkaska, Missaukee, Wexford, Grand Traverse, Leelanau, Benzie, Manistee, Clare, Lake, Mason, Cheboygan, Emmet, Crawford, Osceola, Otsego, Roscommon.

Saginaw Electrical JATC Local 557

7303 Gratiot Rd.
Saginaw, MI 48609
(989) 781-0516
FAX (989) 781-0563
evan@ibew557.org
www.ibew557.org

Rick Mason, Training Director
810-720-0583**Evan Allardyce, Business Manager**

Applications Accepted Monday-Friday, 8 AM - 4 PM

Territories Covered: Gratiot, Tuscola and Saginaw.

Electrician Local 665 Lansing Electrical JATC

5708 Corner Stone Drive
PO Box 40010 MC 4102W
Lansing, MI 48901
(517) 483-9688
FAX (517) 483-9696
dale@lejatc.org
www.lejatc.org

Dale Goerge, Training Coordinator

Tom Eastwood, Business Manager - (517) 393-5530 tom@ibew665.org

Territories Covered: Eaton, Clinton, Gratiot, Ingham, Ionia, Livingston, Shiawassee.

Electrician Local 692 Bay City Electrical Apprenticeship Program

1206 W. Thomas St.
Bay City, MI 48706
(989) 686-4890
FAX (989) 686-5416
stevepahl1995@gmail.com
www.IBEW692.org

Steve Pahl, Training Coordinator
Ryan Charney, Career Opportunity Consultant

Travis Brady, Business Manager - (989) 684-4510

MUST have a VALID MICHIGAN DRIVERS LICENSE TO APPLY

Territories Covered: Alcona, Alpena, Arenac, Bay, Gladwin, Montmorency, Oscoda, Ogemaw, Presque Isle, Iosco, Cheboygan (except Mentor), Midland (except Mt. Haley, Jasper, Porter & Ingersoll), Frost, Franklin, Hayes, Hamilton, Hatton, Arthur, Grand, & Sheridan Township in Clare; Lovells in Crawford; Wawatan in Emmett; Roscommon, Backus & Nester in Roscommon; Vernon, Wise, Isabella, Denver Union & Chippewa in Isabella; Dover, Chester & Charlton in Otsego, Wisner & Akron in Tuscola.

The Flint Electrical JATC
IBEW, Local 948 NECA, Flint Division
5209 Exchange Drive
Flint, MI 48507
(810) 720-0583
FAX (810) 720-0584
flint.saginaw.jatc@sbcglobal.net

Territories Covered: Genesee, Lapeer, Shiawassee, Tuscola, Millington

Electrician Local 906 Upper Peninsula JATC
304 Avenue A
Gwinn, MI 49841
(906) 346-2717
FAX (906) 346-2718
lbew906director@gmail.com

Thomas Hogan, Business Manager - (906) 226-7497

Territories Covered: All Upper Peninsula

Toledo Electrical JATC Local 8
Joint Apprenticeship & Training Committee
803 Lime City Road
Rossford, OH 43460
(419) 666-8088
FAX (419) 666-0336
neaton@tejatc.org
www.tejatc.org

Roy B. Grosswiler, Career Opportunity Consultant - (419) 666-8920
Fax (419) 666-3984

Territories Covered: Hillsdale, Lenawee and Monroe.

South Bend Vicinity Electrical Apprenticeship & Training
Electrician Local 153
56365 Peppermint Road
South Bend, IN 46619
(574) 233-1721
FAX (574) 233-1947
segyed@jatc153.com
www.jatc153.com

Tawny Smith, Career Opportunity Consultant - (574) 233-1721

Territories Covered: Berrien and Cass.

Rick Mason, Training Director
Kellogg Dipzinski, Membership
Development Coordinator

Bruce A. Theo, Director
Beth Leutz, Administrative Assistant
Rod Trudell, Instructor

Nathan Eaton, Training Coordinator

Steve Egyed, Training Coordinator

ELEVATOR CONSTRUCTORS

Scope of Work – Elevator constructors handle the installation, repair, and maintenance of elevators, escalators, moving walks, dumbwaiters, and all types of handicap lifts. Work can be with electric or hydraulic type lifts.

Apprenticeship Requirements

Length of Program – 4-years of classroom and on-the-job training.

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Elevator Constructors Local 36

1640 Porter Street
Detroit, MI 48216
(313) 961-0717
FAX (313) 961-0986
local36@sbcglobal.net

David Kuras, Business Manager

International Union of Elevator Constructors Local 85

15694 South US 27
Lansing, MI 48906
(517) 882-0100
FAX (517) 882-1970
mike@iuec85.org
www.iuec85.org

Mike Janca, Business Manager

IUEC Local 44

Elevator Constructors
2300 Ashland Avenue Room 206
Toledo, OH 43620
(419) 242-7902
FAX (419) 242-6627
iuec44@aol.com
www.neiep.org

**Joseph M. Gwin, Career Opportunity
Consultant**

GLAZIERS

Scope of Work – Glaziers engaged in construction work cut and install all types and sizes of glass, such as plate glass of all kinds and thickness, clear and heat absorbing window glass, obscure glass, mirrors, leaded glass panels and insulating glass units. They also fabricate and install aluminum entrances, sidelights and show windows. Work can be done on building fronts, interior walls, ceilings and tabletops. They fit and install plastic and porcelain panels in metal and wood frames. Glaziers install glass and aluminum (windows, curtain walls, shower doors, mirrors, hand rails, skylights, entrances, store fronts, etc.) in new construction of commercial and residential buildings and remodeling.

Working Conditions – Glaziers work both indoors and outside depending on the job. Window fabricating and some installations are done indoors; however, glaziers do much of their work outdoors or in unheated areas. Glaziers do a great deal of standing, lifting and carrying with some work at heights.

Apprenticeship Requirements

Length of Program – 4-year apprenticeship.

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Must have mechanical aptitude, good math skills (basics: add, subtract, multiply and divide), and be good with hands. To apply to Apprenticeship program, you must be hired by a union contractor and be referred to the school by the contractor.

Courses Required – Math, Reading, Safety Procedures, Glazing History and Laws, Blue Print Reading and Sketching, Usage of Hand Tools, Power Equipment, Caulking, and Swing Stages.

Glassworkers Local 357 Michigan Glass & Glazing Industry

14587 Barber Avenue
Warren, MI 48088
(586) 552-4478
FAX (586) 552- 4477

Jeff Flynn, Apprentice Coordinator

Donald Stepp, Business Representative - (586) 335-6480

Territories Covered: Sanilac, St. Clair, Macomb, Oakland, Wayne, Washtenaw, Monroe, Lenawee and the Eastern half of Livingston County including the city of Howell, in the State of Michigan.

Glass & Architectural Metal Workers (Glazier) Local 826

419 S. Washington Ave.
Lansing, MI 48933
(810) 569-6818
FAX (989) 695-6889

Rocky Ackerman, Business Representative

Territories Covered: All counties, except those around the Detroit Area.

HEAT AND FROST INSULATORS

Scope of Work - The work of the Heat and Frost Insulator covers a wide-variety of insulation related projects ranging from industrial, commercial, nuclear and electrical power plants, ethanol plants, automotive manufacturing facilities, hospitals, food processing plants, schools and cryogenics. Industrial applies to all types of industries such as chemical process and petrochemical. The commercial field includes building, building services and refrigerated spaces. Transportation includes the insulation of trucks, trailers, railroad cars and ships. Cryogenics is the field of low temperature service, such as required by the liquefied gases. The Heat and Frost Insulator works with many types of materials, such as fiberglass, foam glass, rubber, sound proofing and calcium silicate. They insulate hot and cold piping, refrigerant lines, ductwork, boilers, towers and tanks. Heat and Frost Insulators may also ensure that asbestos is safely removed from buildings during renovation or demolition processes. They are responsible for identifying and disposing of asbestos-containing materials; complying with state and federal laws regarding the disposal.

Working Conditions - Heat and Frost Insulators work indoors and outside. They spend most of the workday on their feet, either standing, bending, or kneeling. Insulation work is often dusty and dirty. The minute particles from the insulation materials, especially when blown, can irritate the eyes, skin, and respiratory system. Removing cancer-causing asbestos insulation is a hazardous task and is done by specially trained workers. To protect themselves from the dangers of asbestos and irritants, workers follow strict safety guidelines, wear protective masks and respirators, take decontamination showers and keep work areas well ventilated. Insulation work can be at ground level or in the air.

Apprenticeship Requirements

Length of Program – 4 or 5-year apprenticeship, some training schools train one evening a week, others have a week-long block training and is typically scheduled between September and May. 400 hours of block school is paid by the employer.

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License or ID. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Courses Required – Pattern Cutting, Math, Scaffold Building, Metal Cutting, Pattern and Blueprint Reading.

Heat and Frost Insulators and Allied Workers Local 25

Joint Apprenticeship Training Committee
21353 Bridge St.
Southfield, MI 48033
(248) 352-1850
FAX (248) 352-1851
awl25@insulators.org

Mike Lassen, JAC Coordinator

Territories Covered: Wayne County, Oakland County, Macomb County, St. Clair County and Eastern Washtenaw County.

Toledo Area Heat and Frost Insulators Local 45 JATC

Northwest Ohio Construction Education Center
4535 Hill Avenue
Toledo, OH 43615
(419) 531-5911
FAX (419) 531-4392
awl45@insulators.org

Khris Shively, Business Manager - (419) 726-4683

Territories Covered: County of Monroe & Portions of Lenawee County.

International Association of Heat and Frost Insulators & Allied Workers Local Union 47

419 S. Washington Square
Suite 301
Lansing, MI 48933
(517) 708-0665
awl47@insulators.org

Phillip Wilson, Training Coordinator

Local 47 – JATC Training Center
906 Terminal Rd.
Lansing, MI 48906

Patrick Welch, Business Manager

Territories Covered: 60 Counties of Lower Michigan, Chippewa, Luce and Mackinac Counties in the Upper Peninsula.

Heat and Frost Insulators & Asbestos Workers Local 75

St. Joe Valley Building Trades Building
1345 Northside Blvd.
South Bend, IN 46615
(574) 282-1650
FAX (574) 282-8032
awl75@insulators.org

David Clark, Training Coordinator

Andrew Miller, Career Opportunity Consultant

Territories Covered: Berrien and Cass Counties in Michigan.

Heat and Frost Insulators Local 49 JATC

2002 London Road
Room 210
Deluse, MN 55812
(218) 821-0236
dave@insulatorslocal49.org

Mark Lindholm, Training Coordinator

David Cartwright, Business Manager

Territories Covered: Ontognon, Gogebic

JATC training is accredited and some colleges and universities will transfer classes for credit towards degree program.

Heat and Frost Insulators & Allied Workers Local 127

33 East 3rd St.

PO Box 185

Clintonville, WI 54929-1707

(715) 823-5669

Fax (715) 823-9144

awl127@insulators.org

www.insulators127.org

Jeremy Wicke, Business Manager

To apply, follow directions posted at <http://www.insulators127.org/apprenticeship.html>

Territories Covered: Alger, Baraga, Delta, Dickinson, Houghton, Iron, Keweenaw, Marquette, Menominee, Schoolcraft and Isle Royal.

Jeremy Wicke, Training Coordinator

IRON WORKERS

Scope of Work – Iron Workers are skilled workers who erect, assemble, or install fabricated structural metal products, usually large metal beams, in the erection of industrial, commercial or large residential buildings. Structural Iron Workers erect the steel framework of bridges and buildings. Reinforcing Rod Iron Workers set steel bars or steel mesh in concrete forms to strengthen concrete in buildings and bridges. Ornamental Iron Workers install metal stairways, catwalks, gratings, grills, screens, fences and decorative ironwork. The Rigger is an Iron Worker whose job is to move heavy machinery, using rollers, forklifts and other sources of power.

Working Conditions – Most of the work is done outdoors, with the exception of some of the ornamental ironwork, remodeling and repair work. Most iron work can be carried on year-round except in instances of very severe weather. Because Iron Workers risk injury from falls from great heights, safety devices such as nets, safety belts and scaffolding are used. They do a great deal of climbing, balancing and reaching.

Apprenticeship Requirements

Length of Program – 4-year apprenticeship, attend a fifty (50) hour week once every three (3) months.

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Entrance level testing is needed using ACT Workkeys. Math, reading and writing skills are important to succeed in the program.

Courses Required – OSHA 30 hr., math, blueprint reading, First Aid/CPR, cranes, rigging, precast, conveyors, metal building erection, structural steel erection and welding.

Ironworkers Local 8 - Apprenticeship & Training

12034 W. Adler Lane
Milwaukee, WI 53214
(414) 476-9372
Upper Peninsula (906) 228-6450
FAX (414) 476-9742
rhanson@iwl8.org
www.iwl8.org

Richard D. Hanson, Training Coordinator

ONLY online applications accepted

Territories Covered: All Counties of the Upper Peninsula and Eastern Wisconsin.

Ironworkers Local 25 - Iron Workers Apprentice Training Center

50490 West Pontiac Trail
Wixom, MI 48393
(248) 960-2130
FAX (248) 960-0980
val.templeton@iw25tc.org
www.ironworkers25.org

Matt Rajda, Training Coordinator

Michael Randick, Business Manager/FST - (248) 344-9494
FAX (248) 305-8468

Territories Covered: Lower Peninsula, except Monroe, Cass, Berrien and Lenawee counties.

To apply, go to the website www.ironworkers25.org to print out your application. Applicants are ranked according to their ATC Workkeys test scores and called into class as demand requires.

Graduates of Apprentice Program may receive credit toward a Construction Management degree offered by Washtenaw Community College.

Toledo Area Ironworkers Joint Apprenticeship Training Center Local 55

1078 Atlantic Avenue
Toledo, OH 43609
(419) 382-3080
FAX (419) 593-0082
iwjatc@iw55.org
www.local55trainingcenter.com

Phil Gluza, Training Coordinator

Territories Covered: Lenawee and Monroe Counties.

LABORERS

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, and/or clean-up site; Highway – the Laborer will lay sewer and water mains, check road grade for operators, place concrete and asphalt, break and remove old concrete; Underground - the Laborer works as a pipe layer, tailman, or top man while installing sewer, water and gas mains; Industrial Construction – involves all new construction, remodeling and demolition in factory type buildings. Laborers must have common knowledge of all work performed by building trades people, for they are the tenders or helpers in the industry. They are called upon to operate and maintain power tools such as a chainsaw, tamping machine, concrete vibrator, chipping hammer, cutting and burning, demolition, the use of explosives, mixing for and tending of bricklayers and plasterers, installing sewers, cribbing and sheeting.

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.

Apprenticeship Requirements

Length of Program – Apprenticeship requires 4,000 hours of diversified work and training, no less than 300 hours of related instructional classes.

Requirements –. Must be at least 18 years old. Can apply at age 17 for consideration. Minimum of State Issued ID. Ability to pass a physical exam including drug screen.

No entrance requirements, but several courses require math and reading skills. Oral testing may be used in place of written testing if requested by the student.

The MI Laborers Training Center offers several specific training programs for their members. Occasionally, a non-member may receive "New Start" training at the request of a Local Union or a Union Contractor. Training is ongoing, available as needed/as desired.

Michigan Laborers' Training and Apprenticeship Institute

11155 South Beardslee Road

Perry, MI 48872

(517) 625-4919

FAX (517) 625-4046

smcdonald@mltai.org

www.mltai.org

Scott McDonald, Director of Apprenticeship
Mr. Lynn Coleman, Director

Territories Covered: All Counties in Lower Michigan.

Michigan Laborers' Training and Apprenticeship Institute

W-8008 South US 2

PO Box 163

Iron Mountain, MI 49801

(906) 774-5703

FAX (906) 774-4478

tstein@mltai.org

www.mltai.org

Mr. Lynn Coleman, Director
Tim Stein, Site Manager/Instructor

Territories Covered: All Counties of Upper Peninsula.

Michigan Laborers' Training and Apprenticeship Institute

5555 Cogswell
Wayne, MI 48184
(734) 729-7005
FAX (734) 729-8792
gtaylor@mltai.org
www.mltai.org

Territories Covered: All Counties in Lower Michigan.

Mr. Lynn Coleman, Director
Greg Taylor, Site Manager/Instructor

Michigan Laborers' Training and Apprenticeship Institute

211 Hilltop Road
St. Joseph, Michigan 49085
(517) 625-4919
(517)625-4046 FAX
jsmrz@mltai.org
www.mltai.org

Territories Covered: All Counties in Lower Michigan.

Mr. Lynn Coleman, Director
Jeff Smrz, Site Manager/Instructor

MILLWRIGHTS

Scope of Work – Millwrights install conveyor systems, giant electrical turbines and generators. Millwrights install and do maintenance on machinery in factories and do much of the precision work in nuclear power plants. Millwrights are skilled construction mechanics who study and interpret blueprints. The Millwright is a construction mechanic whose skills are in the area of moving, leveling, aligning, and installing large machinery. The work includes installation of large machines such as presses, conveyors, etc.—"anything that moves". Skills taught include Welding, Mechanical Theory, Optical Tooling, Machine Repair, Metallurgy, Characteristics of Metals, Shaft Alignment and Shop Math.

Working Conditions – Millwrights generally work eight-hour days. Apprentices usually start out helping journeymen with basic tasks like material handling and move into more sophisticated jobs as their knowledge and skills increase. Although millwrights work indoors much of the time on installation and maintenance work, their duties also involve working on the outside of buildings and other structures, in situations often requiring the use of scaffolding. Millwrights work with a variety of hand and portable tools and frequently cut, join and fasten metal construction materials using welding equipment and oxy-acetylene torches.

Apprenticeship Requirements

Length of Program – 4-year apprenticeship, one day class every other week.

Requirements – Must be at least 18 years old, can be 17 years old with written approval of parent or guardian, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

A pre-apprenticeship program is available, stresses math skills.

To apply, contact school to schedule written exam (mathematics aptitude). High scorers are given an interview, then placed on an availability list in order by test and interview score and referred to contractors as need arises.

Courses Required – Metallurgy, Shaft Alignment, Layout Tasks, Power Tools, Shop Math, General Millwright Theory, Metal Cutting/Burning, Safety, Blueprint Reading, Machinery Repair, Welding.

Michigan Statewide Carpenters and Millwrights JATF

Main Office (Office only)

23401 Mound Road

Warren, MI 48091

(586) 756-3610

dpoletis@hammer9.com

www.millwrights.org

Dave Poletis, State Training Director

Millwright Institute of Technology

27555 Mound Road

Warren, MI 48092

(586) 573-4660

FAX (586) 573-2468

jatc@millwrights1102.org

www.millwrightstraining.com

Philip Garofalo, Training Coordinator

Michael Barnwell, Business Agent - (586) 756-3610

Territories Covered: Entire State of Michigan

Wayland Carpentry and Millwrights Training Center

500 Reno Dr.

PO Box 457

Wayland, MI 49348

(269) 561-8115

waylandjtc@hammer9.com

www.realapprenticeship.com

Bill Kenney, Business Agent - (269) 383-6163

Tod Sandy, Facility Coordinator

C.J. Hicks, Training Coordinator

Marquette Millwright Training Center

1221 Division Street

Marquette, MI 49855

(906) 225-0703

FAX (906) 225-1160

marquettejtc@att.net

www.realapprenticeship.com

Brian Kerrigan, Business Agent - (586) 756-3610

Robert Goodson, Training Coordinator

Territories Covered: All 15 counties in Upper Peninsula.

OPERATING ENGINEERS

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 and cranes, scrapers, end loaders, and asphalt plants, rollers and pumps, etc., on all types of projects including highway, commercial, industrial, residential, underground, etc. May repair and maintain equipment in addition to other duties. The Operating Engineer is generally employed in the building of highways, airports, buildings, waterways, stadiums and sewers.

Working Conditions – Operators work outdoors and their work is often seasonal. The equipment they operate can have open cabs such as pavers and roller compactors, or crane and truck cabs, that may have heating and air conditioning.

Apprenticeship Requirements

Length of Program – 6,000-hour apprenticeship (approximately 3 years), with 200 hours training per year (usually during off-season).

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Reading skills important for maintenance manuals and training materials; math skills important for interpreting grade stakes and load charts, etc. Also need good mechanical skills and good hand/eye coordination.

To apply contact the apprenticeship school to learn when applications are accepted. Applicants selected based on aptitude test and interview scores. Must complete (1)-week pre-apprenticeship program for safety, preventative maintenance, and a general overview.

Courses Required – Construction and Shop Equipment Orientation, Fuels/Oils/ Lubricants/ Coolants, Tires/Tracks/Undercarriages, Introduction to Hydraulics/ Engines/Power Trains, Brakes and Steering, Introduction to Oxygen/Acetylene, Introduction to Welding/Welding Applications, Grade Stakes and Their Use in Construction, Crane Types and Applications, Soils and Materials, Safety and Emergency First Aid and Apprentice Block Training.

Local 324 covers the entire state of Michigan with the three locations listed below. John Osika is the Training Director over all three locations. They work with a number of community colleges that will apply JATC Training to college credits. Ask which ones they participate with at the location of interest.

Operating Engineers Local 324 Sam T. Hart Training & Education Center

275 East Highland Road – M-59

Howell, MI 48843

(517) 546-9610

FAX (517) 546-9793

www.oe324.org

John Osika, Training Coordinator

Douglas W. Stockwell, Business Manager

Territories Covered: The entire State of Michigan

Operating Engineers Local 324 Northern Michigan Career Center

802 Clark Drive
Gladstone, MI 49837
(906) 225-7273
www.oe324.org

Douglas W. Stockwell, Business Manager

Operating Engineers Local 324 Stationary Engineers Education Center

1550 Howard St.
Detroit, MI 48216
(313) 532-5345
www.oe324.org

Douglas W. Stockwell, Business Manager

OPERATIVE PLASTERERS' & CEMENT MASONS

Scope of Work – Plasterers apply coats of plaster, cement, stucco, or similar materials to interior or exterior walls, ceilings, and partitions of buildings to produce a uniform, finished surface. They also may produce and install decorative panels, ornamental, rim, cornices and moldings.

Cement Masons pour and finish concrete floors, sidewalks, road paving, airport runways, footings, curb and gutters. Cement Masons also grind and polish floors, epoxy floors, caulk and seal joints. They erect forms for concrete placement and site layouts. Work with decorative concrete and concrete steps, grind and rub walls. Operate trowel machines, grinders and miscellaneous hand tools like chisel and hammers. Works with blue prints.

Working Conditions – Plasterers typically work indoors involving reaching, bending and kneeling requiring endurance but not exceptional strength.

Cement Masons typically work outside although inside work is not unusual. Much of the day includes climbing, balancing, stooping and kneeling and good physical endurance is required.

Apprenticeship Requirements

Length of program – The training program is a 3-year apprenticeship

Requirements - Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License and reliable transportation. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Michigan Operative Plasterers' & Cement Masons Local 514 International Association Apprenticeship & Training Fund

2630 Grand Traverse

Flint, MI 48503

(810) 820-9866

(313) 350-0389 Brian Hersch

(586) 615-1564 Jack McCool

FAX (810) 877-6034

bherschapp514@yahoo.com

www.miopcmitraining.com Apply Online

Henry S. Williams, Business Manager - (248) 548-0800

FAX (248) 548-0700

Brian Hersch, Training Coordinator

Brian Hersch, Cement Mason Instructor

Jack McCool, Plasterer Instructor

Territories Covered: Entire State of Michigan

Cement Masons Union Local 514

Greater Detroit Cement Masons Joint Apprentice Committee Training Center

1154 E. Lincoln

Madison Heights, MI 48071

(248) 548-0800

FAX (248) 548-0700

bherschapp514@yahoo.com

www.miopcmitraining.com

Territories Covered: All Counties in Michigan

Toledo Area JATC Plasterers and Cement Masons Local 886

Northwest Ohio Construction Education Center

4535 Hill Avenue

Toledo, Ohio 43615-5301

(419) 531-5911

FAX (419) 531-4392

www.nocec.com

Ken Vierling, Business Manager - (419) 478-2652

Territories Covered: Monroe, Lenawee and Hillsdale

PAINTERS

Scope of Work – Work includes indoor and outdoor work, brush/roller/spray, with most work being more than 10' off the ground (towers, tall buildings, bridges, etc.). Painters prepare surfaces of buildings and other structures by removing old paint and preparing surface prior to painting. Work with varnish, enamels, lacquer and other materials. May also paint interior rooms or cover walls with paper, fabrics, vinyl or other materials (paperhanger). The painters must be able to mix paints as well as do sandblasting and water blasting.

Working Conditions – Painters work both indoors and out. Outside work is done in relatively mild weather. In some jobs, especially maintenance and redecoration of offices and building, the painter may be required to work evenings or weekends. Work is seasonal; however, new materials and methods tend to give more steady employment throughout the year. Physical and health hazards include the dangers of poisoning, falling from ladders and scaffolds, breathing paint fumes and dust. The work involves standing, bending, climbing and working with arms over the head most of the time.

Apprenticeship Requirements

Length of Program – 3-year apprenticeship program, 4 hours per week (day or evening).

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen. Eye exam (no color blindness) and no aversion to working at heights. School stresses dependability. Show up on time, every time.

Preference to live in the geographical area as specified for each individual training program.

To apply, contact the District Council office to get a list of contractors. Visit contractors to get hired as apprentice. Contractor will refer to apprenticeship school.

Courses Required – Wood Finishing, Blueprint Reading, Color Mixing and Matching, Special Decorative Effects, and Wall Covering. Upgrading for journeymen includes Asbestos Encapsulation and Vinyl Wall Coverings.

Finishing Trades of the Great Lakes

14587 Barber
Warren, MI 48088
(586) 552-4481
FAX (586) 552-4482
dot@iupatdc1m.org
www.iupatdc1m.org

Robert Gonzalez, Business Manager – (586) 552-4474

Territories Covered: Lower Peninsula of Michigan

Shawn O'Neill, Director of Training

Finishing Trades of the Great Lakes

750 Lake Lansing Rd. Suite C
Lansing, MI 48906
(586) 5524481
Fax (586) 552-4482
www.iupatdc1m.org

Robert Gonzalez, Business Manager – (586) 552-4474

Territories Covered: Genesee, Shiawassee and Lapeer Counties.

Shawn O'Neill, Director of Training

PLUMBERS / PIPEFITTERS / HVACR SERVICE TECHNICIANS

PLUMBER – Scope of Work – Assembles, installs and repairs pipes, fittings and fixtures of heating, water and drainage systems according to specifications and plumbing codes for residential, commercial and industrial buildings. Also installs natural gas and air lines. Measure, cut, thread, bend, install and tests pipes and pipefittings. Work according to blueprints, specifications and working drawings to perform the work required in sequence of installations. Uses hand and power tools, cutting torch and welding. Installs and repairs plumbing fixtures such as sinks, commodes, bathtubs, water heaters, hot water tanks, garbage disposals, dishwashers and water softeners. Repairs and maintains plumbing by replacing washers in leaky faucets, mending burst pipes and opening clogged drains.

PIPEFITTER – Scope of Work – Install piping systems that carry hot water, steam, air or other liquids or gases needed for industrial production, or other uses. Install both high- or low-pressure systems, especially in industrial and commercial buildings. Lay out, fabricate and assemble pipes from drawings, blueprints and specifications. Pipefitters also work on pipes for heating and cooling systems, and install mechanical control systems like automatic fire-sprinkler systems in buildings. Uses equipment for welding, soldering and brazing. Work with Compression Systems, Refrigerant, Motor and Electric Controls. Installation and service of absorption systems, hermetic and semi hermetic and commercial refrigeration.

HVACR SERVICE TECHNICIANS – Scope of Work – Work includes service of Heating and Air Conditioning Systems and Refrigeration. Diagnosis and repair work in residential and commercial environments. Installing, commissioning, diagnosing and repairing commercial temperature control projects utilizing computer software programming.

Working Conditions – Active and strenuous. Stand for prolonged periods, sometimes in cramped, uncomfortable positions/areas. There is a great deal of walking, standing, reaching, lifting and working in cramped quarters. Must climb ladders and also work below ground level. Work can be dusty and dirty, particularly on waste systems. Pipefitters work both inside and out. In new construction, Pipefitters move onto the project after the basic structure is erected. They are subject to the hazards of working with and around high-pressure gas, steam and chemical lines. Technicians primarily work alone in the field. Should be comfortable working in residential homes with home owners present.

Apprenticeship Requirements

Length of Program – 5-year apprenticeship.

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen. Most training centers will require a full background check to be passed. Math and reading skills are important to succeed on test and schooling.

Preference to live in the geographical area as specified for each individual training program.

Courses Required – Classroom work covers such things as Plumbing Codes, Heating, Air Conditioning, Refrigeration, Hydronic Heating, Welding, Safety, Care and Use of Hand Tools, Rigging, and Basic Pneumatics.

Plumbers & Pipefitters Local 172

South Bend Plumbers & Pipe Fitters Training Centers

4172 Ralph Jones Court

South Bend, IN 46628

(574) 273-0500

FAX (574) 273-1560

bbuczolich@ua172.org

www.ua172.org

Broc Buczolich, Training Coordinator

Rick Whiteman, Business Manager/Career Opportunity Consultant - (574) 273-0300

Territories Covered: Cass County, and the city of Niles and vicinity in Berrien County, Michigan.

Greater Michigan UA Local 190 Joint Training Committee

8040 Jackson Road
Ann Arbor, MI 48103
(734) 426-3700
FAX (734) 426-3707
rw@190jtc.com
www.ua190.org

Randall Whitaker, Training Coordinator

Kevin Groeb, Business Manager - (734) 424-0962

Completion of this apprenticeship program qualifies for credit with Washtenaw Community College toward certain associate degree programs.

Applicants must be a resident of Washtenaw County, the townships of Green Oak or Hamburg in Livingston County, or the townships of Clinton, Tecumseh or Macon in Lenawee County.

Territories Covered: Washtenaw County, Hamburg & Green Oak in Livingston County, Township of Clinton, Macon and Tecumseh in Lenawee County.

**UA Local 85 Plumbers, Steamfitters & HVACR Service Technicians
Saginaw Michigan Training Center**

6705 Weiss St.
P.O. Box 6547
Saginaw, MI 48608
(800) LOCAL-85
(989) 928-7293
FAX (989) 791-3468
jpomerville@ualocal85.org

Justin Pomerville, Business Manager

Territories Covered: The half of Huron County lying West of M-53, and all of Arenac, Bay, Clare, Gladwin, Gratiot, Isabella, Midland, Saginaw, and Tuscola Counties.

Additionally: INDUSTRIAL WORK in the counties of: Alcona, Alpena, Antrim, Benzie, Charlevoix, Cheboygan, Crawford, Emmet, Grand Traverse, Huron, Iosco, Kalkaska, Leelanau, Missaukee, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, and Wexford.

West Michigan Plumbers, Fitters & Service Trades UA Local 174

1008 O'Malley Drive
Coopersville, MI 49404
(616) 837-0222
jrumsey@ua174.org
www.ua174.org

Jeff Rumsey, Training Coordinator

Ryan Bennett, Business Manager

Territories Covered: The counties of Kent, Lake, Manistee, Mason, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Osceola, Ottawa, Ionia (except the Townships of Portland and Danby), the northern tier of townships in Allegan and Barry; those being the Townships of Laketown, Filmore, Overisel, Salem, Dorr, Leighton, Thornapple, Irving, Carlton and Woodland.

Plumbers & Pipefitters Local 333 – Lansing, Jackson and Battle Creek

16180 National Parkway
Lansing, MI 48906
(517) 323-0333
FAX (517) 323-0338
trent@local333.com
www.ua333.org

Trent Mauk, Training Coordinator

Price Dobernick, Business Manager - (517) 393-5480

Territories Covered: Clinton, Eaton, Ingham, Jackson, Hillsdale, Branch, Calhoun and parts of Barry, Livingston, Portland and Kalamazoo counties.

**Plumbers & Pipefitters HVACR Service Technicians Local 357
Kalamazoo Plumbers & Steamfitters JATC**

11841 Shaver Rd.
Schoolcraft, MI 49087
(269) 679-2570
FAX (269) 679-2571
rgulbranson@ualocal357.com
kwillcutt@ualocal357.com
www.ualocal357.com

**Bob Gulbranson, Training
Coordinator**

Ken Willcutt, Business Manager - (269) 679-2570

Territories Covered: Kalamazoo, Van Buren, St. Joseph, Allegan, Berrien and Barry Counties.

Plumbers & Pipefitters and Service Trades UA Local 370

5500 W. Pierson Road
Flushing, MI 48433
(810) 720-5243
FAX (810) 732-3805
ualocal370@comcast.net
www.ualocal370.org

**Kevin Gaby, Training Coordinator
Harold T. Harrington, Career
Opportunity Consultant**

Territories Covered: Genesee, Shiawassee, Lapeer.

UP Plumbers & Pipe Fitters Training Education Center Local 111

2601 North 30th Street
Escanaba, MI 49829
(906) 789-9784
FAX (906) 789-9799

Jesse Harvala, Training Coordinator

Dean Gutzman, Business Manager

Territories Covered: Upper Peninsula & Niagara, WI.

**United Association Plumbers/Pipefitters Local 671
Monroe Plumbers & Pipefitters Joint Apprenticeship Committee**
309 Detroit Avenue
Monroe, MI 48162
(734) 242-5711
FAX (734) 242-4692
jakelu671@gmail.com

Jacob Stone, Apprentice Coordinator
(734) 265-7027

Mike Jewell, Business Manager

Territories Covered: Monroe County

Plumbers UA Local 98 – Plumbing Industry Training Center
1911 Ring Dr.
Troy, MI 48083-4229
(248) 585-1435
FAX (248) 585-1437
paul.baker@ualocal98jatc.org
ccast@ualocal98.org
www.plumbers98tc.org

Paul Baker, Director of Operations

Carlo Castiglione, Business Manager - (248) 752-3703
FAX (248) 307-9898

Applications through Website go to Apprentice Tab.

Territories Covered: Wayne, Oakland, Macomb, St. Clair, Huron & Sanilac Counties.

**Pipefitters – Steamfitters, Refrigeration & Air Conditioning Service Local 636
Pipefitting Industry Training Center**

James Wilson, Training Coordinator

636 Executive Drive
Troy, MI 48083
(248) 585-6636
FAX (248) 585-3907
jwilson@pipefitters636tc.org
tgilligan@pipefitters636.org
www.pipefitters636tc.org

Terry Gilligan, Business Manager - (248) 538-6636

Territories Covered: Wayne, Oakland, Macomb, St. Clair, Huron & Sanilac Counties.

ROOFERS

Scope of Work – Roofers specialize in putting roofs on buildings and other structures to make them water and weather proof. They cover roofs of structures with composition shingles, tile, slate, asphalt, aluminum, wood and related materials. They may spray roofs, siding and walls with material to bind, seal, insulate, or soundproof sections of structures. Roofers are also called to waterproof and damp-proof walls and other building surfaces. They use modern equipment to handle their materials, thereby lessening the physical exertion that was formerly required.

Working Conditions – With the exception of waterproofing of some walls, the roofers work outdoors in all kinds of weather and only shut down operations when the weather becomes too severe. Most of the time they work on the top of buildings installing roofing materials. In their work, they do a great deal of climbing, kneeling, standing and walking. Must be comfortable working from heights.

Apprenticeship Requirements

Length of Program – 3-year apprenticeship, classes one day a week (September through May).

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

To apply, you must be employed by a union contractor and be a member for minimum of 800 hours. Then, contractor may refer to apprenticeship program.

Courses Required – Safety, First Aid and CPR, Math, Small Engine Repair, Roofing Systems, Estimating, Time Management, Blueprint Reading, and Personal Financial Planning.

Roofers and Waterproofers Local 70 Apprentice School

1451 Old Pinckney Road
Howell, MI 48843
(517) 548-4839
FAX (517) 548-5358
office@rooferslocal70.com

Mark Woodward, Training Coordinator

Territories Covered: Muskegon, Mecosta, Newaygo, Oceana, Hillsdale, Jackson, Livingston, Washtenaw, Ingham, Eaton, Clinton, Branch, Calhoun, Barry, St. Joseph, Kalamazoo, Van Buren, Ionia, Kent, Ottawa, Montcalm, Lake, Mason.

Roofers Local 149 Apprentice School

10621 Capital
Oak Park, MI 48237
(248) 543-3847
FAX (248) 543-3871

Brian Gregg, Apprentice Coordinator

Mark Peterson, Career Opportunity Consultant (248) 543-3847

Toledo Area JATC Roofers & Waterproofers
Northwest Ohio Construction Education Center

4535 Hill Avenue

Toledo, Ohio 43615-5301

(419) 531-5911

FAX (419) 531-4392

www.nocec.com

Mike Kujawa, Business Manager Local 134 (419) 478-3785

Territories Covered: Monroe and Lenawee Counties.

SHEET METAL WORKERS

Scope of Work – Most sheet metal work is related to HVAC systems or Architectural Sheet metal. Sheet Metal Workers fabricate, assemble and install metal of varying thicknesses, including very heavy plate as well as many nonmetallic construction materials such as various forms of insulation. Sheet metal workers design, install and service heating, ventilating and air conditioning systems. Work includes installation and servicing complex computerized HVAC system controls. Sheet Metal Workers work from CAD, blueprints and sketches. These set out the dimensions, locations, assembly procedures, and installation sequences that they must follow to detail. Architectural work includes fabrication and installation of products such as metal roofing systems, wall panel systems, roof drainage systems, coping, flashing, roof edging and historical restoration. Sheet Metal work includes many other aspects of fabrication and installation including paint ovens, spray booths and fume and particulate collecting systems. While working from blueprints, work is cut, formed, fabricated and erected using the materials for construction. Sheet Metal Workers work with a variety of hand, mechanical and power cutting, punching, and forming machines, welding and burning equipment and lifting equipment such as hoists, chain falls, cranes, hi-lows, and helicopters.

Working Conditions – Work is performed indoors and outdoors and in all types of weather. It involves considerable standing, bending, kneeling, walking, reaching and lifting. Work can be performed at elevated heights and frequent unaided lifting of tools, materials, supplies and equipment weighting as much as 75 pounds. The work may be performed in easily accessible or cramped spaces located above, at or below ground level, in cold or extreme heat, and/or in clement or inclement weather.

Apprenticeship Requirements

Length of Program – 4-year & 5-year apprenticeships with additional classroom work. See the specific JATC for the specific length and classroom/hour requirements.

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Applicants will take an entrance exam. The highest scores on the exam will be considered for an interview and placement in the apprenticeship program. No experience is required but special consideration may be given to those with experience. Extra consideration may be given for those with high grades in some math courses (algebra, shop/trade math, trigonometry, geometry, etc.). Prefer drafting, shop and welding classes.

Courses Required – OSHA 30 hr., Math, Blueprint Reading, First Aid/CPR, Cranes, Rigging, Precast, Conveyors, Metal Building Erection, Structural Steel Erection, Sheet Metal, Commercial Service, Residential Service, Commercial Layout, Residential Layout, Industrial Layout, Trade Math, Siding and Decking, Signaling and Rigging, Architectural Sheet Metal, NEMI and Welding.

Sheet Metal Workers Local Union 80 Training Center

Matt O'Rourke, Training Director

32700 Dequindre
Warren, MI 48092-1006
(586) 979-5190
FAX (586) 979-4282
matt@smw80jac.org
www.smw80jac.org

Tim Mulligan, Business Manager (248) 557-7575

Length of Program - 4-year Architectural Sheet Metal program and 5-year Building Trades program.

To apply, contact the training center for an appointment to apply in person.

Territories Covered: Wayne, Oakland, Macomb, Washtenaw, St. Clair and Sanilac.

Sheet Metal Workers Local 292 Joint Apprenticeship Training Committee

Kevin Stanbury, Training Coordinator

64 Park Street
Troy, MI 48083
(248) 589-3237
FAX (248) 589-7856
kstan57@smwl292jatc.org
www.sheetmetal292.com

Paul Gualdoni, Business Manager

Requirements - A minimum of: Four years from the date of indenture into the Apprenticeship Program; 96 school days attended plus completion of three separate evening class sessions; 8000 hours of On the Job Training (OJT); Satisfactory completion of all homework assignments, required projects and upgrade tests. A Current "American Red Cross Standard First Aid" card and 4 Welding Certifications

Credits applied to Henry Ford Community College's Construction Technology Degree

Territories Covered: Wayne, Oakland, Macomb, Washtenaw, St. Clair and Sanilac.

Sheet Metal Workers Local 33

Dan Kline, Training Coordinator

27430 Crossroads Parkway
Rossford, OH 43460-1706
(419) 873-9964
FAX (419) 873-9968
dkline@smw33jatc.org

Length of Program – 5-year Apprenticeship Training Program.

Apprentices get credit towards their associates degree from Owen Community College in Rossford, OH

To apply: Applications are available on the 4th Tuesday of each month. 11:30 a.m. – 6:30 p.m. Valid driver's license must be submitted at the time of application. \$15.00 non-refundable application fee – cash only. Applications accepted from those 17 years of age and older.

Territories Covered: Lenawee and Monroe Counties.

Sheet Metal Local 7 Apprenticeship Requirements

Length of Program – 4 -year apprenticeship with school one day every two weeks. No cost to the apprentice for training. Time spent in school is paid by apprentice's employer. Local 7 also has Articulation agreements with Baker College, Muskegon Community College and Delta Community College. Some of your classes taken will count towards an Associates Degree in Construction Management or Construction Technology at these schools.

Local 7 Websites

www.sheetmetal7.org

www.sheetmetal-iti.org

Sheet Metal Local 7 – Marshall

1612 Brooks Drive

Marshall, MI 49068

(269) 781-7183

FAX (269) 781-7197

kdowdysmw7@gmail.com

Kevin Dowdy, Training Coordinator

Territories Covered: (Zone 1) Vanburen, Kalamazoo, Allegan, Barry, Ionia, Eaton, Calhoun, Branch, Clinton, Ingham, Jackson, Livingston, Hillsdale

Sheet Metal Local 7 – Grand Rapids/Muskegon

5815 S. Dangl Rd.

Fruitport, MI 49415

(231) 366-7269

FAX (231) 366-7279

dscarlavai@gmail.com

Darek Scarlavai, Training Coordinator

Territories Covered: See website for full details

Michigan Sheet Metal Training & Apprenticeship, Inc. Flint/Saginaw/Traverse City/Grand Rapids/Upper Peninsula

4070 Dolan Drive

Flint, MI 48504

(810) 785-8111

FAX (810) 785-3369

dscarlavai@gmail.com

Darek Scarlavai, Training Coordinator

Territories Covered: See website for full details

Sheet Metal Local 7 – Upper Peninsula/Marquette

304 Avenue A

Gwinn, MI 49841

(906) 372-9288

FAX (906) 372-9058

rsternsmw7@gmail.com

Darek Scarlavai, Training Coordinator

Ryan Stern, Business Agent

Territories Covered: (Zone 5) See website for full details

SPRINKLER FITTERS

Scope of Work – Sprinkler Fitters create, maintain, inspect and modify new or current sprinkler systems. Work is in residential homes, commercial buildings and other areas sprinkler systems are necessary. Sprinkler fitters are pipe fitters who work specifically in fire protection. Install and design overhead sprinkler and hose systems, fire mains, underground systems and underground closed valves. They inspect and test systems as well as clean and modify current systems and/or repair defective, worn or broken parts. They will measure and mark pipes for cutting and threading, assemble and secure pipes, tubes and fittings, and turn off heating systems to secure new pipes. Welding and soldering of pipes to create joints and attach pipes to fixtures.

Working Conditions – Most work is indoors. However, the ability to troubleshoot problems and good physical strength are necessary, as well as the ability to lift and climb with heavy loads. You must also be able to handle heights. Knowledge of practical engineering applications is also helpful. Computer knowledge is important and good math skills are essential.

Apprenticeship Requirements

Length of Program – 5-year apprenticeship program, with classes one day every other week for the first four and a half years.

Requirements – Must be at least 18 years old, have a high school diploma or GED and a valid Michigan Driver's License. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

To apply, contact the school to schedule a test (math and mechanical aptitude). Top scorers are interviewed and placed on availability list in order by test/interview scores.

Courses Required – Classes presented include NFPA Codes, Safety, Fire Pumps, Underground Piping, Hazardous Waste Operations and Emergency Response (HAZWOP), etc.

Sprinkler Fitters Local 704 – Training Center

32500 West Eight Mile Road
Farmington, MI 48336
(248) 473-8259
FAX (248) 474-0798
khill38704@gmail.com

Kevin Hill, Director
Cell (248) 993-0704

Territories Covered: Wayne, Oakland, Washtenaw, Macomb.

TILE, MARBLE, TERRAZZO

Scope of Work – Ceramic tile and terrazzo craftsmen work with a wide range of materials and techniques. They lay marble and ceramic tile. Ceramic tile and terrazzo craftsmen will do new work as well as repair and remodeling on commercial and residential buildings. They use a variety of hand and power tools and work from blueprints. The work includes preparation, fabrication and installation of ceramic tile, marble and terrazzo inside and outside of buildings.

Working Conditions – Tile, Marble, Terrazzo layers generally work indoors. Much of the workday is spent bending, kneeling, and reaching that requires endurance but not exceptional strength.

Apprenticeship Requirements

Length of Program – 4 years. Prior to start of apprenticeship, a 12-week pre-approved tile course is offered.

Requirements – Must be at least 17 years old, have a high school diploma or GED and dependable transportation. Ability to work in the United States and pass a physical exam including drug screen.

Preference to live in the geographical area as specified for each individual training program.

Contact either the IMTEF Detroit Training Center or MI BAC Training Center to apply for the 12-week pre-apprenticeship training program.

Courses Required – None

International Masonry Training and Education Foundation (IMTEF Detroit)

Bricklayers & Allied Craftworkers Local 2

21031 Ryan Road
Warren, MI. 48091
(586) 757-6658
FAX (586) 757-7015

tom.ward@bricklayers.org

www.bricklayers.org

Tom Ward, Career Opportunity Consultant

Territories Covered: Metro Detroit (Counties: Wayne, Oakland, Macomb, Monroe, St. Clair)

Michigan Bricklayers & Allied Craftworkers Local 2

Michigan BAC Training Center

3321 Remy Drive
Lansing, MI 48906
(517) 886-2221
FAX (517) 886-95450

hhipes@tds.net

www.bricklayers.org

**Howard Hipes, Apprentice & Training
Coordinator**

UPPER PENINSULA SCHOOL LOCATION

119 S. Front Street
Marquette, MI 49855
(906) 226-3015
FAX (517) 226-5252

Territories Covered: State of Michigan except Metro Detroit

Michigan Construction Trade Associations

ASSOCIATED GENERAL CONTRACTORS OF MICHIGAN

AGC of Michigan – Main Office

2323 North Larch
Lansing, MI 48906
(517) 371-1550 ext. 8059
FAX (517) 371-1131

info@agcmichigan.org
bstrachan@agcmichigan.org
www.constructioncareersmi.com
www.agcmichigan.org

Damian Hill, President
Scott Pantaleo, Director of Labor Relations

Barbara Strachan, Director Workforce Dev.
(517) 908-8059

AGC of Michigan – Detroit Regional Office

26001 Five Mile Road
Redford, MI 48239
(248) 721-0075
FAX (313) 592-6017

vgotts@agcmichigan.org
www.agcmichigan.org

Michael Smith, Vice President
Victoria Gotts, Director of Education

MICHIGAN INFRASTRUCTURE & TRANSPORTATION ASSOCIATION

2937 Atrium Dr. Suite 100

Okemos, MI 48864

(517) 347-8336

FAX (517) 347-8344

mikenystrom@thinkmita.org

www.mi-ita.com

Mike Nystrom, Executive Vice President

MICHIGAN MECHANICAL CONTRACTORS ASSOCIATION

Michigan Mechanical Contractors Association

400 N. Walnut Street

PO Box 13100

Lansing, MI 48901

(517) 484-5500

FAX (517) 484-5225

cmaher@mpmca.org

www.mpmca.org

Cynthia H. Maher, Executive Director

Flint Association of Plumbing & Mechanical Contractors, Inc.

PO Box 244

Howell, MI 48344

810-232-2772

admin@flintpmc.org

www.flintpmc.org

Ken Coon, President

Greater Michigan Plumbing & Mechanical Contractors Association (PMC)
Greater Michigan Mechanical Service Contractors of America (MSCA)
Greater Michigan Chapter No. 42 of National Certified Pipe Welding Bureau (NCPWB)
Greater Michigan Plumbing Contractors of America (PCA)

58 Parkland Plaza, Suite 600

Ann Arbor, MI 48103

(734) 665-4681 – PMC

(734) 665-5972 – MSCA

(734) 665-5483 – NCPWB

FAX (734) 665-5051

dave@greatermichiganpmc.org

www.greatermichiganpmc.org

Dave Forbes, Executive Director
Nancy Cummins, President

Mid-Michigan Mechanical Contractors Association

901 S. Cedar St. Ste. 200

Mason, MI 48854

(517) 676-0390

FAX (517) 676-0025

becky@mid-michiganmca.org

www.mid-michiganmca.org

Becky Brimley, Executive Director

Mechanical Contractors of Detroit (MCA Detroit)

14801 West Eight Mile Road

Detroit, MI 48235

(313) 341-7661

FAX (313) 341-1007

cfreeman@mcadetroit.org

cmudloff@mcadetroit.org

lkopack@mcadetroit.org

www.mcadetroit.org

Christopher Freeman, Chief Operations Officer
Cassandra Mudloff, Office Manager
Laura Kopack, Director of Governmental Affairs and Community Relations

West Michigan Mechanical Contractors Association (WMMCA)

601 Three Mile Rd. NW

Grand Rapids, MI 49544

(616) 735-9658

FAX (616) 735-9660

info@wmmca.org

www.wmmca.org

Jim Baldwin, Executive Director

Upper Peninsula MCA

17 S. 10th Street

Gladstone, MI 49837

(906) 428-2384

FAX (866) 880-5742

gregasudderth@gmail.com

Greg Sudderth, Executive Director

THE NATIONAL ASSOCIATION OF WOMEN IN CONSTRUCTION

Detroit NAWIC Chapter 183

13019 Pauline Dr.
Shelby, MI 48315
(586) 731-3100
laurel.johnson@sme-usa.com
www.nawicdetroit.org

Laurel M. Johnson, PE President

National Association of Women in Construction Chapter 194

4180 44th Street S.E., Suite G
Grand Rapids, MI 49512
(231)798-4127
ecaszatt@soilsandstructures.com
www.nawic194.org

Erin Caszatt, President

Kalamazoo/Battle Creek NAWIC Chapter 302

352 12th St., Suite 8
Plainwell, MI 49080
nawic302@nawickalamazoobc.org
www.nawickalamazoobc.org

Melinda Bacon, Past President
Cell (269) 207-1584

NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION

Michigan Chapter, NECA

1026 North Washington Avenue
PO Box 11060 (48901)
Lansing, MI 48906
(517) 372-3080
FAX (517) 372-4313
chapter@mineca.org
www.mineca.org

Mike Crawford, Chapter Manager

Southeastern Michigan Chapter, NECA

2735 Bellingham
Troy, MI 48083
(248) 720-2727
FAX (248) 720-2728
neca1@smcneca.org
www.smcneca.org

Thomas Mittelbrun, Executive Director

INTERNATIONAL MASONRY INSTITUTE

27780 Novi Rd.
Novi, MI 48377
(248) 449-2689
malvaro@imiweb.org
www.imiweb.org

Maria Alvaro, Michigan Director

SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION – (SMACNA)

SMACNA Metropolitan Detroit Chapter Local 80 & 292

3221 W. Big Beaver Road, Suite 305
Troy, MI 48084-2896
(248) 649-5450
FAX (248) 649-2024
smacnad@smacnad.org
msaba@smacnad.org
czezawa@smacnad.org
www.smacnad.org

**Mark Saba, Executive Director
Charlene Zezawa, Administrator**

Territories Covered: Detroit Area
Counties Covered: Macomb, Sanilac, St. Clair, Oakland, Wayne, Washtenaw

Five Cities Association of Michigan (ZONE 1)

49886 Jasmine Way
Mattawan, MI 49071
(269) 668-7090
FAX (269) 668-8201
smacna@verizon.net

Marvin Followell, Executive Director

Territories Covered: Kalamazoo, Battle Creek, Jackson and Lansing
Counties Covered: Allegan, Barry, Branch, Calhoun, Clinton, Eaton, Hillsdale, Ingham, Ionia, Jackson, Kalamazoo, Livingston, Van Buren

Michigan Chapter (ZONE 2, 3, 4, 5)

1152 Haslett Road
PO Box 220
Haslett, MI 48840
(517) 339-1123
FAX (517) 339-3372
smacna@comcast.net
www.mismacna.com

Greg Kanaar, Vice-President/Treasurer

Territories Covered: Western Michigan, Saginaw/Traverse City, Flint, Upper Peninsula

Local 33

Sheet Metal Contractors Association of Northwest Ohio

Counties Covered: Lenawee, Monroe

Local 20

Smacna of Michiana, Inc

Counties Covered: Berrien, Cass, St. Joseph

BUILDING TRADES COUNCILS

**Michigan Building and Construction Trades Council
Lansing Office**

435 Washington Square South
Lansing, MI 48933
(517) 484-8427
FAX (517) 484-1038
mhomola.mbtc@gmail.com
www.michiganbuildingtrades.org

Territory covered: Entire State of Michigan

**Patrick J. Devlin, Financial Secretary/
Treasurer**

Steve Claywell, President

Michigan Building & Construction Trades Council

1640 Porter Street
Detroit, MI 48216
(313) 965-5080
FAX (313) 965-3232
buildingtradesman@ameritech.net
www.michiganbuildingtrades.org

**Patrick J. Devlin, Financial Secretary/
Treasurer**

Steve Claywell, President

College & University Programs

Many career opportunities are available throughout Michigan's organized construction industry. Information on some of the nation's best association-sponsored, apprenticeship and college and university programs are just a click away on the internet.

One of the most comprehensive sites is www.miconstructioncareers.org. Another useful site is www.constructmyfuture.com. www.clickoncareers.com is a site designed to inform a targeted group of job seekers about good career opportunities and help create pathways into occupations in four key areas: Manufacturing, Information Technology, Health Care and Construction.

Calvin College

3201 Burton, S.E.
Grand Rapids, MI 49546
(616) 526-6372
FAX (616) 526-6501
lderooy@calvin.edu
www.calvin.edu

Eastern Michigan University

Construction Management Program
206 Roosevelt Hall
Ypsilanti, MI 48197
(734) 487-0354
FAX (734) 487-7087
james.stein@emich.edu

Ferris State University

Construction Programs
605 S. Warren, GRN 227
Big Rapids, MI 49307
(231) 591-3024
(231) 591-3773 dept.
FAX (231) 591-3587
suzannemiller@ferris.edu
www.ferris.edu/CTM

Wayne State University

5050 Anthony Wayne Drive RM. 2170
Detroit, MI 48202
(313) 577-3790
(313) 577-8789 direct
Dr. Joseph Hummer, Civil Engineering
joseph.hummer@wayne.edu
www.wayne.edu

University of Michigan

Department of Construction Management
Department of Civil & Environmental Engineering
2350 Hayward St. 2105 G Brown Building
Ann Arbor, MI 48109
(734) 764-8495
FAX (734) 764-4292
vkamat@umich.edu

Michigan Technological University

Civil & Environmental Engineering
1400 Townsend Drive
Houghton, MI 49931
(906) 487-2520
FAX (906) 487-2943
cee@mtu.edu
www.mtu.edu

Northern Michigan University

Construction Management
1401 Presque Isle Ave. JC 112D
Marquette, MI 49855-5301
(906) 227-1573 Mike Andary, Professor
(906) 227-1721 Heidi Blanck, Asst. Professor
FAX (906) 227-1549
mandary@nmu.edu
hblanck@nmu.edu
www.nmu.edu/tos/construction

Central Michigan University

ET Bldg. 200 Engineering & Technology
Mt. Pleasant, MI 48859
(989) 774-3033
FAX (989) 774-4900
Bryce E. Frost
frost1be@cmich.edu

Lawrence Technological University

Ken Cook - Department Chair

Engineering Technology Department
Construction, Engineering Technology and Management
Engineering Bldg. E179
21000 W. Ten Mile
Southfield, MI 48075-1058
(248) 204-2060
kcook@ltu.edu
www.LTU.edu

Michigan State University

Leo Kempel - Dean of Engineering

College of Engineering
428 S. Shaw Lane
Room 3546 Engineering Bldg.
East Lansing, MI 48824-1030
(517) 355-5107
FAX (517) 432-1827
cee@egr.msu.edu
www.msu.edu
www.egr.msu.edu

Michigan State University

Sinem Mollaoglu - Program Director

Construction Management Program
School of Planning, Design and Construction
Human Ecology Building
552 West Circle Drive, Room 101
(517) 432-0704
(517) 432-3393 Student Services
sinemm@msu.edu
www.spdc.msu.edu/programs/construction_management/
www.msu.edu

Western Michigan University

Osama Abudayyeh - Professor and Chair

Civil & Construction Engineering
1903 W. Michigan Ave.
G-253 Floyd Hall, Mail Stop 5316
Kalamazoo, MI 49008-5316
(269) 276-3210
FAX (269) 276-3211
osama.abudayyeh@wmich.edu
www.wmich.edu

Washtenaw Community College

Brittany Tripp - Manager UA Programs

Construction Supervision
United Association Department
4800 E. Huron River Drive
Ann Arbor, MI 48105-4800
(734) 973-3300
brtripp@wccnet.edu
www.wccnet.edu

Henry Ford Community College

Engineering Technology -
Construction Management
5105 Evergreen Road
Dearborn, MI 48128
(313) 845-9600
steminfo@hfcc.edu
www.hfcc.edu

Owens Community College – Toledo Campus

Scott Killy - Program Director

Workforce and Community Service
30335 Oregon Road
Perrysburg, OH 43551
(567) 661-7169
scott_killy@owens.edu
www.owens.edu

USDOL/OFFICE OF APPRENTICESHIP

Charles E. Chamberlain Federal Building

USDOL-OA

315 W. Allegan Street, Room 210

Lansing, MI 48933

(517) 377-1747

FAX (517) 377-1517

davis.russell@dol.gov

Russell W. Davis, State Director

Bureau of Apprenticeship and Training

Dave Jackson, Apprenticeship Training Representative – (517) 377-1746

Marybeth Koski, Apprenticeship Training Representative – (313) 226-6208

Tiffanie L. Clawson, Apprenticeship Training Representative – (269) 961-7337

Marc L. DeCoster, Apprenticeship Training Representative – (313) 226-5654

jackson.dave@dol.gov

koski.marybeth@dol.gov

clawson.l.tiffanie@dol.gov

decoster.l.marc@dol.gov

USEFUL GOVERNMENT RESOURCES FOR APPRENTICESHIPS

- Website: <https://www.dol.gov/featured/apprenticeship>
- Blogsite: <https://apprenticeshipusa.workforcegps.org>
- Employer Toolkit: https://www.doleta.gov/oa/employers/apprenticeship_toolkit.pdf
- Federal Resource Playbook: <https://www.doleta.gov/oa/federalresources/playbook.pdf>
- LEADERS: <https://www.dol.gov/apprenticeship/leaders.htm>
- College Consortium: <https://doleta.gov/oa/racc.cfm>
- Veterans: <https://www.doleta.gov/OA/veterans.cfm>
- Apprenticeship Occupations: <https://www.doleta.gov/OA/occupations.cfm>
- Find a Sponsor: <https://oa.doleta.gov/bat.cfm>



ABOUT US

Making a successful transition from the military into the civilian workforce can be difficult. Enter Helmets to Hardhats (H2H). Helmets to Hardhats is a national, nonprofit program that connects National Guard, Reserve, retired and transitioning active-duty military service members with skilled training and quality career opportunities in the construction industry. The program is designed to help military service members successfully transition back into civilian life by offering them the means to secure a quality career in the construction industry.

H2H is all about standing up for what's right...and it's the story of how an entire industry has come together: not just to reward those who have bravely served with dedication, honor and courage, but to enlist those same veterans to put their military training, values and discipline to work in carrying out a new mission for the United States.

Most career opportunities offered by the program are connected to federally-approved apprenticeship training programs. Such training is provided by the trade organizations themselves at no cost to the veteran. No prior experience is needed; in fact, most successful placements start with virtually no experience in their chosen field. All participating trade organizations conduct three to five year earn-while-you-learn apprenticeship training programs that teach service members everything they need to know to become a construction industry professional with a specialization in a particular craft. And, because these apprenticeship programs are regulated and approved at both federal and state levels, veterans can utilize their Montgomery G.I. Bill benefits to supplement their income while they are learning valuable skills and on the job training.

In 2007, Helmets to Hardhats supplemented its existing program with a disabled American veteran program known as the "Wounded Warrior" program, which serves to connect disabled veterans with employment opportunities in the construction industry and the careers that support construction. More on the Wounded Warrior program on page 75.

FAQS

Helmets to Hardhats (H2H) is a national program that connects National Guard, Reserve and transitioning active-duty military members with quality career training and employment opportunities within the construction industry. The following FAQs section will help you learn more about this program:

- What is Helmets to Hardhats?
- How Does Helmets to Hardhats Work?
- When Did You Start the Program?
- How Are You Funded?
- Are There Any Eligibility Standards to Apply?
- Is Helmets to Hardhats a Training Program?
- Do You Offer More Than Just Construction Work?
- What is an Apprenticeship?
- Why the Building Trades?

- Are You a Union-only Program?
- How do you Ensure That Quality Employer Careers are Listed?
- How do Companies Contact You?
- How Do Employers Benefit from Helmets to Hardhats?
- Can I Use My Montgomery G.I. Bill and Other Educational Funding Entitlements?
- How Many People Have Found Careers Through Your Program?
- How Much Will I Get Paid?
- How Long Does It Take for me to Get a Job After Applying?
- What is Direct Entry?
- Do You Get a Majority of Enlisted Service People or Officers?
- Do You Place People in Jobs Based on Their Military Experience?

WHAT IS HELMETS TO HARDHATS?

Making a successful transition from the military into the civilian workforce can be difficult. Transitioning military veterans face the same challenges as any other job hunter – getting their résumé to the right people, learning how to sell themselves, tracking down promising leads, following-up with employers, headhunters, job placement agencies... etc. Not many people are comfortable with this process and veterans have the added stress of trying to translate the skills they learned in the military into language that civilian employers can understand. The process can feel overwhelming, especially if it seems like meaningful help is unavailable.

Helmets to Hardhats (H2H) was formed for this reason and is dedicated to helping National Guard, Reserve, retired and transitioning active-duty military members connect to quality career and training opportunities in one of America's most challenging and rewarding industries – the construction industry.

HOW DOES HELMETS TO HARDHATS WORK?

Most experienced job seekers understand that utilizing personal networks (networking) is a much more effective way of securing a quality career than simply looking online or going through newspaper ads. Although H2H is a Web-based program that requires online registration and provides career postings, what sets it apart from other initiatives is that H2H employees, and the dedicated volunteers that work with us, take an active role in connecting veterans to outstanding career and training opportunities. At the end of the day, having an informed advocate on your side who knows where you need to go, who you need to talk and can help facilitate the hiring process makes all the difference in the world to serious job seekers interested in securing a rewarding career in construction.

To participate in H2H, simply visit the program's Web site at www.helmetstohardhats.org and click the "Get Started" button to create and activate your profile. Once your profile is activated, you can browse hundreds of career and training opportunities and forward your profile to career providers electronically from the H2H site. If you have questions about a career in the Trades; don't see the career you're interested in or have questions about the application process, call us at **1(866)741-6210**.

WHEN DID THE PROGRAM START?

H2H was conceived in 2002 and established in 2003.

HOW ARE YOU FUNDED?

Center for Military Recruitment, Assessment and Veterans Employment (CMRAVE) administers the H2H program. CMRAVE is a non-profit Section 501(c)(3) joint labor-management committee established under Section 302(c)(9) of the Labor Management Relations Act. Funding and support come from private foundations, employers, employer associations and unions.

ARE THERE ANY ELIGIBILITY STANDARDS TO APPLY?

Eligibility varies based on the standards set by each individual career provider. Generally, you must be at least 18 years of age, have an honorable discharge, have a high school diploma or equivalent, pass a drug test and complete a formal interview.

IS HELMETS TO HARDHATS A TRAINING PROGRAM?

H2H makes the connection between the career providers and the candidates that apply for their career opportunities. Some of the listings on the H2H Web site are for apprenticeship training opportunities and others are for careers with public and private employers.

DO YOU OFFER MORE THAN JUST CONSTRUCTION WORK?

Yes, H2H has a variety of careers listed on its Web site. Many employers list several types of construction-related career opportunities for H2H program users, including administrative, engineering and management positions.

WHAT IS AN APPRENTICESHIP?

An apprenticeship is a mixture of classroom instruction and on-the-job training. Similar to a traditional college, you would spend around four years receiving instruction and then graduate to become a Journeyman. Often times, you can get credit from your military experience to enter at an advanced level. You also get paid apprentice-level wages for your work while you are on the job, which rise as your level of experience and training increases.

WHY THE BUILDING TRADES?

Going from a helmet to a hardhat is a great opportunity for many of the 250,000 to 300,000 men and women discharged from the military every year. The construction industry offers an annual salary higher than the overall national average and more than 80 unique apprenticeship programs. Also, as a veteran, if you start out in the construction industry as an apprentice, you can earn while you learn. That means you will receive a paycheck as well as your G.I. Bill benefits to cover general living expenses during your apprenticeship training.

ARE YOU A UNION-ONLY PROGRAM?

H2H is not a union-only program but we require employers to participate in proven apprenticeship training programs that are registered and approved by applicable federal and state authorities. In addition, we seek to ensure that transitioning veterans are provided with wages and benefits that allow them to maintain an appropriate standard of living in the community where the career is located.

The goal of the program is to provide opportunities for transitioning veterans to obtain the necessary training in a particular craft in order to obtain a quality career in the construction industry, not just a one-time job until the end of a particular project.

H2H encourages all responsible employers who have construction-related career opportunities to apply for acceptance into our program.

HOW DO YOU ENSURE THAT QUALITY EMPLOYER CAREERS ARE LISTED?

Employers that are members of the H2H-approved contracting associations will register and have immediate access to advertise opportunities online. Employers that are not members must meet certain criteria before they can advertise trade opportunities on the H2H Web site. These criteria include access to a quality and federally-recognized registered apprentice program, a permanent system to ensure employment and training opportunities, formal curriculum and instructor training programs, related training and an on-the-job training program, an affirmative action program, and a positive record of caring for the welfare of workers as evidenced by health insurance, pension benefits and workers' compensation coverage.

Employers who want to advertise construction-related employment opportunities must ensure that they provide wages and benefits in keeping with the high standards of the other member employers. If, at any time, H2H is notified that an employer is not advertising acceptable opportunities, the employer will be removed from the H2H system. Third party vendors cannot use the H2H website to advertise opportunities.

HOW DO COMPANIES CONTACT YOU?

Interested companies are encouraged to register at <http://recruiter.helmetstohardhats.org/>.

HOW DO EMPLOYERS BENEFIT FROM HELMETS TO HARDHATS?

Employers who qualify for the H2H program gain access to a pool of construction industry career seekers who are hardworking, drug-free, safety-conscience and highly dependable.

Also, the H2H Web site provides many great tools for employers to help them locate career seekers who have special skills. Do you need someone with underwater welding experience? Would you like to interview a military EMT with frontline field experience who is now considering a civilian career in Construction Safety and Health? H2H candidates possess specialized training, hands-on experience and professional discipline that you simply cannot find in the regular workforce.

All H2H career seekers are required to fill out detailed information before accessing the site, making it easy to eliminate inappropriate candidates based on career specifications and to locate candidates with desired skills. The Web site also offers a letter creation tool to easily communicate with qualified applicants and an opt-in email feature that will send resumes that meet your specific criteria directly to your inbox. After posting a career, employers can also adjust the criteria to increase or decrease the number of applications they are receiving. Employers can choose to just receive resumes, career seeker's screening answers, or a screening score in the subject of the email.

CAN I USE MY MONTGOMERY G.I. BILL AND OTHER EDUCATIONAL FUNDING ENTITLEMENTS?

Federally-recognized joint labor-management apprenticeship programs are high-quality, well-resourced training programs that are accredited by Regional Education Certifying Councils and Boards. This educational certification is what qualifies the apprenticeship program for the use of the Post 9/11 G.I. Bill, the Montgomery G.I. Bill or various state, National Guard or Reserve educational funding programs. These educational benefits, and some state programs, normally pay qualified apprentices a monthly stipend in addition to their earned wages. Rates will vary depending on type of service and length of training. The current rates can be found at www.gibill.va.gov.

HOW MANY PEOPLE HAVE FOUND CAREERS THROUGH YOUR PROGRAM?

Because we refer candidates to career providers and refer career providers to candidates – without doing the actual hiring – it is impossible to know of everyone who has been hired. However, we do request placement information from our career providers and receive many calls from veterans thanking us for connecting them to great new career. Since 2007, we've confirmed the successful placements of almost 6,000 military veterans into quality careers in the building and construction trades via the H2H program.

HOW MUCH WILL I GET PAID?

A wide variety of career opportunities are listed on our Web site; therefore, we cannot say how much you will be paid. Your career provider determines your pay. However, H2H works diligently to list only careers that offer family-supporting wages and benefits.

HOW LONG DOES IT TAKE FOR ME TO GET A JOB AFTER APPLYING?

The pace of the hiring process is determined by the career provider. We do suggest that your follow-up with the career provider after forwarding your profile to ensure receipt and to get further instructions on how the application process works.

WHAT IS DIRECT ENTRY?

The implementation of a statewide direct entry program gives former and active military personnel the opportunity to quickly start quality construction careers soon after they apply for them through H2H. Once the state proclamation is signed, it allows all JATCs and locals (at their discretion) to immediately accept these men and women into their apprenticeship programs and provide them with credit for their military training and experience. Direct entry language can also be implemented on an individual local level. Currently, 30 states have issued an official proclamation or declaration supporting the H2H Direct Entry Program.

DO YOU GET A MAJORITY OF ENLISTED SERVICE PEOPLE OR OFFICERS?

The program is open to all service members regardless of rank, but because most of the positions on our Web site are apprenticeship opportunities, more enlisted personnel have joined the H2H program. Nevertheless, a quick review of the H2H career listings will show that we also provide many construction-related professional careers that are well-suited for transitioning officers.

DO YOU PLACE PEOPLE IN JOBS BASED ON THEIR MILITARY EXPERIENCE?

H2H is not a placement company. We refer candidates to quality career providers and refer quality career providers to qualified candidates. To apply for a career posting or entry into an apprenticeship program, H2H program users must complete a comprehensive profile that helps hiring managers and training directors determine what transferable skills they acquired during their military service. Prior to acceptance into the trades, candidates often are required to take an aptitude test to assess their skill level.

RESOURCES

CAREER VS. JOB

Are you looking for a job, or are you looking for a career? If you're looking for a career, you're in the right place. Helmets to Hardhats places quality men and women from the Armed Forces into promising building and construction careers. Acceptance into the building and construction trades is your first step to a great future. Careers in these trades enable you to earn while you learn and get rewarded for hard work. Being a member in the building and construction trades entitles you to competitive salaries with consistent raises, pension plans, excellent medical benefits and flexibility when it comes to taking time off.

APPRENTICESHIP PROGRAM

Most candidates will enter an apprenticeship program where they learn a trade through on-the-job training supplemented by classroom instruction at state-of-the-art training facilities. Typically, there is no charge for the training and you will be paid for the time you are working. The pay you receive from an employer can be supplemented by education benefits under the G.I. Bill, adding hundreds more dollars each month to your take home pay. An apprentice's pay increases periodically over the course of the job, and as the apprentice becomes more skilled. Many apprenticeship programs have arrangements allowing individuals to obtain college credit for classroom work. Upon graduation, you will become a journeyman — a craftsperson recognized for his or her knowledge and ability in the selected trade. In some cases, your military experience can give you credit towards journeyman status and allow you to enter an apprenticeship program at an advanced level or be classified as a journeyman immediately.

BENEFITS OF JOINING A CERTIFIED APPRENTICESHIP PROGRAM

- High pay, great medical insurance and some of the best pension plans in the nation.
- High quality training at well-resourced training centers that are recognized by Regional Education Certifying Councils and Boards.
- Use your Montgomery GI Bill or other veteran educational benefits.
- Earn while you learn. Receive on the job training and get top notch classroom instruction.

ABOUT VETERANS IN PIPING

The Veterans in Piping (VIP) program offers high-quality skills training and jobs in the pipe trades to US veterans and active duty military personnel preparing to leave the service. UA General President William P. Hite established the program as a means of addressing two important issues: 1. A growing shortage in the construction industry of skilled workers due to the combined effects of an aging workforce, increased demand, and lack of skills training for youth; and 2. An exceedingly high unemployment rate for US veterans, despite their being a disciplined and highly trainable population.

Military and government officials have lauded VIP as a model in workforce development. Participants enroll in accelerated 18-week courses in welding and/or HVACR service, both fields experiencing an increased demand for skilled workers. They also earn industry-recognized certifications as a part of their education. Upon graduation, VIPs gain direct entry into UA apprenticeship, leading to lifelong career opportunities. All training is paid for entirely by the UA and its industry partners at NO cost to participants. For more information visit the UA's website at <http://www.uavip.org/>.

WOUNDED WARRIOR

Helmets to Hardhats recognizes the supreme sacrifice that our Veterans have made for this country. The Wounded Warrior program supports disabled Veterans by providing the tools, information and community that will help Veterans gain careers in the Building and Construction Trades. Disabled Veterans may apply for and demonstrate their ability to perform any job listed on the Helmets to Hardhats website. However, the Wounded Warrior program lists construction careers that employers have specifically identified as potentially suitable for disabled veterans.

THE WOUNDED WARRIOR PROGRAM:

Find links to Veterans benefits, resources and support. For 24/7 family support, contact:

Military Severely Injured Center
1-888-774-1361

DCoE Outreach Center for Psychological Health & Traumatic Brain Injury
1-866-966-1020

Find Additional Valuable Information on these Government Sites:

- TRICARE
- GI Bill
- VA Loans
- PTSD Support
- Benefits
- Health Care
- Appeals
- Military OneSource (Call: 1-800-342-9647)
- Military Homefront
- Job Accommodations
- Vocational Rehabilitation



Air Force
Palace
HART



Navy Safe
Harbor



United States
Coast Guard



Marine for
Life Program



Army
Wounded
Warrior
AW2

NOTES



Construction Technology takes a paradigm shift in the upcoming years.

2019 is expected to be a breakthrough year for the construction industry. During 2018, construction technology investment has grown by 30% and equals \$1.05b. The total value of the sector is expected to exceed \$10trn by 2020. Below are the top 10 construction technology trends for 2019 as reported by GenieBelt. (<https://aeniebelt.com/blog/top-10-construction-technology-trends-for-2019>)

ROBOTICS

Robotics are continuously growing more precise and accurate, and they'll soon become a commanding force in the construction industry.

The industrial robotics market is expected to grow by 175% over the next decade.

DRONES IN CONSTRUCTION

As drone technology continues rapidly developing in its accuracy and precision of its readings, even less human involvement will be necessary.

Drone industry value will rise from \$2B to \$10B in the next decade.

WEARABLE TECHNOLOGY

Wearable Technology is expected to play a substantial role in boosting safety on site and monitor efficiently the project progress.

\$250 million smart wearables are predicted to be in use.

MODULAR CONSTRUCTION

The use of standardized processes to assemble as much as possible off-site before they complete the construction project on site can cut down on costs and lead times.

Construction projects can be completed 65x faster through modular construction.

CLOUD AND MOBILE TECHNOLOGY

Mobile devices can leverage cloud technology from anywhere at any time. A must-have if you want your business to remain competitive.

IT spend in construction < 1% revenue.

BUILDING INFORMATION MODELING (BIM)

BIM Technology will be the catalyst for a fundamental change in how we manage, design and develop a construction project.

88% of construction stakeholders believe that BIM can enable better design insight.

AUGMENTED REALITY

AR is something that's bound to open many new opportunities for the construction industry even though it'll come with a cost. \$90B increase in global AR market by 2020.

ADVANCED USES FOR GPS

GPS tracking solutions are not being used in more creative and resourceful ways facilitating the quick and accurate collection of data.

120 positioning satellites ready to be used in the next 10 years.

SELF-HEALING CONCRETE

Many of the industry's experts believe we'll start seeing self-healing concrete being used on roads, buildings and homes.

5B metric tons of concrete will be used by 2030.

CONSTRUCTION SOFTWARE & DATA ECOSYSTEM

Real-time collaboration software is expected to function as the digital backbone for the construction process from start to finish.

95% of data in construction is thrown away.

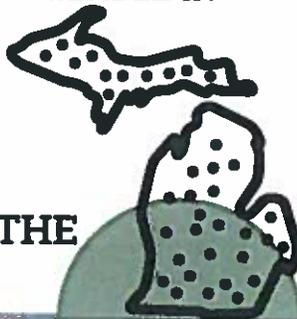


BENEFITS OF MICHIGAN APPRENTICESHIP PROGRAMS

BUILDING IN-DEMAND SKILLED TRADES TALENT, MOVING MICHIGAN FORWARD

37% OF MICHIGAN JOB GROWTH OVER THE NEXT 5 YEARS WILL BE IN MIDDLE SKILLS EDUCATION, LIKE APPRENTICESHIPS

JOBS ARE AVAILABLE IN EVERY COUNTY & EVERY REGION ACROSS THE STATE



31,703

PARTICIPATED IN REGISTERED APPRENTICESHIPS IN MICHIGAN BETWEEN 2000 & 2014. THE NUMBER IS RAPIDLY GROWING TO HELP MEET DEMAND.

PROVIDING STRONG WAGES AND EMPLOYMENT OPPORTUNITIES

APPRENTICES ON AVERAGE RECEIVE A **50%** PAY INCREASE AFTER GRADUATION



LIFETIME WAGES INCREASE BY AS MUCH AS **\$300,000**



20.1% OF REGISTERED APPRENTICESHIPS ARE HELD BY MINORITIES, VETERANS AND WOMEN



WIN-WIN FOR STUDENTS, COMMUNITIES AND TAXPAYERS

EARN WHILE YOU LEARN



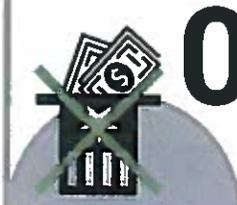
MEANS APPRENTICES ARE ON THE JOB EARNING A WAGE WHILE RECEIVING PAID HANDS-ON AND CLASSROOM TRAINING

APPRENTICESHIP STUDENTS GRADUATE

DEBT FREE



APPRENTICESHIPS ARE PRIVATELY FUNDED **0** TAXPAYER DOLLARS



Rosie the Riveter



***A Woman's Place is in Her
Union – Then and Now!***

***Interested In Joining the Mechanical
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