

STANDARDS OF APPRENTICESHIP

SPONSORED BY: Mechanical Services & Design, in cooperation with the Ohio State Apprenticeship Council staff office (OSAC).

Program ID #: **OH002168511**

Organization Address: Street Address or P.O. Box: 4401 Springfield Street
 City: Dayton State: OH Zip Code: 45431
 County: Montgomery

Authorized Representative: Name: Jackie Tangeman Position/Title: Vice President of Human Resources
 (Primary) City: Dayton State: OH Zip Code: 45431
 Phone #: (937) 254-3235 Fax #: (937) 254-4295 E-mail: jtangeman@msdinc.net

Authorized Representative: Name: Sharon Baber Position/Title: Human Resource Business Partner
 City: Dayton State: OH Zip Code: 45431
 Phone #: (937) 254-3235 ext. 250 Fax #: (937) 254-4295 E-mail: sbaber@msdinc.net

Counties of Jurisdiction: Butler, Clark, Clermont, Clinton, Darke, Fairfield, Fayette, Franklin, Greene, Hamilton, Highland, Madison, Miami, Montgomery, Pickaway, Preble, Warren

Apprenticeship Service Provider: Anastasia Campbell

Sponsor Type: Group, Non-Joint

Union Workplace: No Union Waiver: N/A

Union Name and Local Number: N/A

WIET Training Provider List: Yes

Employment: Number of Employers: 01 Number of Employees: 196
 Industry: NAICS #: 238220 NAICS Title: Plumbing Htg & Air-Conditioning Contractors



FOR THE OCCUPATIONS OF:

RA Title	RA Trade	O*Net	Training Model	Interim Credentialing	Total # Journey workers	# Female Journey workers	# Minority Journey workers
Plumber/ Pipefitter	0432	47-2452.02	TB	No	19	0	0
HVAC Worker	0510	47-2211.00	TB	No	20	0	0

CURRENT STATUS:

Program Registration Status: Full

Transaction Type: Full Standards Revision

For partial revision or addition (specify section(s) involved): N/A

PROGRAM DETAILS

Section 1: DEFINITIONS

Apprentice -- A person of legal working age who is employed and trained under the terms of an apprenticeship agreement that is approved by the Ohio State Apprenticeship Council staff office (OSAC).

Apprenticeship Agreement -- An individual written agreement between a Registered Apprenticeship sponsor and an apprentice, that is entered upon an OSAC-designated form; provides that the apprentice will receive employment, training, and instruction in accordance with the sponsor's approved standards; and summarizes the content of those services and of other expectations affecting the two parties. The agreement must be signed by a duly authorized representative of the sponsor, by the apprentice, and, if the apprentice is a minor, by a parent or guardian. It takes effect only when the apprentice's registration is approved by OSAC.

Apprenticeship Coordinator -- The person designated by the program sponsor to oversee operation of the program.

Approving Agency or Registration Agency -- The entity legally authorized to register and monitor apprenticeship programs pursuant to state and federal criteria of safety, equity, and quality. In Ohio, this agency is the Department of Job and Family Services (ODJFS), as recognized by the US Department of Labor. ODJFS exercises the respective functions through its Apprenticeship Council staff office (OSAC).

Journey Worker or Journey Person -- A worker who has attained what is recognized within the relevant industry as mastery of the skill, abilities, and competencies required for an occupation. The term may also refer to a mentor, technician, specialist, or other skilled worker who has obtained documented proficiency in an occupation, either through formal apprenticeship or other on-the-job experience and formal training.

Progression Step -- An identifiable stage in an apprentice's program participation. A progression step is defined by measurable success in skill attainment and/or program activities, and one or more step(s) shall correlate with each pay increase listed in the required wage schedule.

Ohio State Apprenticeship Council -- The appointed body authorized by the US Department of Labor to advise and consult on state policies concerning Registered Apprenticeship.

OJT -- On-the-job training that is conducted pursuant to Registered Apprenticeship program standards approved by OSAC.

OSAC -- The Ohio State Apprenticeship Council and/or its staff office.

Registered Apprenticeship Program -- A program that combines on-the-job training (OJT) and related instruction (RI) under program standards that are approved by OSAC, and that adequately complies, as determined by OSAC, with the requirements of Ohio Administrative Code (OAC) 5101:11.

RI -- Related instruction - i.e., technical instruction delivered primarily in a written and/or verbal format, pursuant to Registered Apprenticeship program standards approved by OSAC.

Sponsor -- The entity that operates a Registered Apprenticeship program and is responsible for the program's compliance with apprenticeship rules under OAC 5101:11. This entity may be either an individual sponsor (one employer and/or a union representing its employees) or a group sponsor (comprising multiple employers, acting collectively through a union or association with which they are affiliated). In both cases, the sponsor is also characterized either as "joint" (consisting of a committee with equal membership from labor and management) or "non-joint" (not involving such a committee).

Sponsor's Authorized Representative -- The person designated by a sponsor to represent it for all legal purposes affecting its program and to be its main point of contact for OSAC, and who is recognized by OSAC to be serving in those capacities.

Staff Office -- The unit that staffs the Ohio State Apprenticeship Council and carries out the functions of the State Approving Agency for Registered Apprenticeship in Ohio. This office is housed in the Ohio Department of Job and Family Services (ODJFS).

Standards of Apprenticeship -- An operating plan that describes a training program in terms that conform to the laws and regulations for Registered Apprenticeship; an example being the present document along with any required attachments.

Section 2: APPLICATION PROCEDURE

To be allowed to apply for enrollment in this program, an individual must first meet the following requirements:

- Applicants must be a minimum seventeen (17) years of age; sixteen (16) years of age, if in enrolled in an OSAC recognized Pre-Apprenticeship program.
- Applicants must possess a High School diploma/G.E.D.
- Applicants must possess a valid driver's license.
- Applicants must be able to pass a drug test and physical, this is to ensure ability to perform the job, without causing harm to self or others.

Section 3: SELECTION PROCEDURE

Applicants shall be selected for registration, based strictly on their eligibility to learn, and work in the apprentice occupation, as determined by criteria that permit objective review and assessment.

For the occupations of (**Plumber/ Pipefitter and Sheet Metal/HVAC**), the selection procedure will be as follows:

1. Applicants must sign the applicant log and will receive an apprenticeship application. Internet applicants' information will be transcribed onto the applicant log; a corresponding number will be assigned to the applicant. In lieu of an applicant signature on the log, Mechanical Systems Mini University will accept that applicants' online acknowledgement of information accuracy.
2. Upon submission of a completed application and meeting the minimum qualifications, the applicant will be provided the following documents:
 - a. Approved program standards to review (Internal/External Applicants)
 - b. A list of signatory employers, willing to be contacted.
 - a. Mechanical Services & Design
3. The signatory employer agreeing to employ the selected applicant will provide Mechanical Systems Mini University with an Intent-to-Sponsor Letter. The applicant will then complete an apprenticeship agreement and credit voucher (if applicable) with Mechanical Systems Mini University
4. Mechanical Systems Mini University will register the new apprentice into RAPIDS within 45 days after the date listed in Block 11 of the Apprenticeship Agreement.

Direct Entry Method(s):

- A. Individuals completing an OSAC Recognized Pre-Apprenticeship program may receive direct entry into this program along with accompanying OJT and RI credit earned while in an OSAC Recognized Pre-Apprenticeship
- B. Individuals who completed military technical training school and participated in a registered apprenticeship program while in the military may be given direct entry into the apprenticeship program. The sponsor will evaluate the military training received for granting appropriate credit on the term of apprenticeship and the appropriate wage rate. The sponsor will

determine what training requirements they need to meet to ensure they receive all necessary training for completion of the apprenticeship program.

- C. All applicants will be accepted without regard to Hispanic ethnicity, race, color, religion, national origin, sex, sexual orientation, age (40 years or more), genetic information, and disability. **(Note: This is a method of direct entry into the apprenticeship program)**

Section 4: CREDIT FOR PREVIOUS EXPERIENCE

Before registering each apprentice, the sponsor will determine whether he/she merits advanced credit toward program completion, based on previous education, training, and/or experience. At the same time, if credit is found to be warranted, the sponsor will determine the exact number of hours that will be applied toward RI or OJT, or where both activities are affected, the amount that will be applied for each.

The decision shall be based on fair and equitable criteria, using objective methods to assess the individual's work history, previous learning, and/or present skills. Those criteria and methods will be as follows:

Determination of credit for previous experience will include a review of documentation of past instruction to include school transcripts and if applicable, work records signed by previous employers, certifications, licenses etc.

Apprentices who have previous related experience, Related Instruction Credit (RI), which may warrant advanced educational placement, may take a NCCER assessment test to determine their knowledge level. An apprentice must pass all unit tests on their first attempt in order to receive credit which will be awarded at the time of registration. If all tests are passed, the apprentice will receive 100% credit for RI. If an apprentice does not pass all unit tests, they will be required to start at level one.

Occupation	Maximum OJT Credit Possible	Maximum RI Credit Possible
Plumber/ Pipefitter	6000 Hours	100% of the Hours
HVAC Worker	6000 Hours	100% of the Hours

The sponsor will submit each credit award for approval at the time of the recipient's registration, by filing, in the format and manner prescribed by OSAC, a completed credit voucher, plus documentation of all test results, work, and/or training on which credit is based. Upon enrollment, each recipient will be assigned to the level of training and wages for which credit qualifies him/her.

Section 5: PROBATION PERIOD

Immediately after registering in the program, each apprentice will be on probation for the following number of consecutive work hours as indicated below. Each apprentice retained in the program at the end of probation, will receive credit toward program completion, for all work and instruction that he/she successfully performs in this period.

Occupation	Length of Probation
Plumber/ Pipefitter	2000 Hours
HVAC Worker	2000 Hours

During probation, the sponsor and/or apprentice may cancel the latter's registration without pre-condition, simply by notifying the other party and OSAC. After the probation period, the apprenticeship agreement may either: be canceled at the request of the apprentice; or be canceled by the sponsor, conditional upon good cause, due prior notice to the apprentice, and a reasonable chance - if such is possible - for corrective action.

Section 6: ON -THE-JOB TRAINING

Each registered apprentice will receive on-the-job training (OJT) consisting of structured, supervised work experience in all aspects of his/her occupation. The total length of OJT will be:

Occupation	Length of OJT
Plumber/ Pipefitter	8000 Hours
HVAC Worker	8000 Hours

For each approved occupation course, these standards include a Work Process Schedule (WPS) listing: the OJT activities deemed necessary for every participating apprentice; the number of hours to be spent, respectively, in each activity and each progression step; and the total work hours required for completion. The sponsor will ensure that every apprentice receives the work hours listed for each activity. Activities will follow the sequence shown in the WPS if possible, with exceptions as necessary for normal business operations. The sponsor will maintain a record of every apprentice's OJT hour(s) in each listed work process.

For each work activity, the WPS identifies the level of performance required for progression, and the specific method(s) that will be used to assess performance. For each occupation course or course component that is competency-based - if any - the related WPS designates competency goals and the means of assessing their attainment. In that event, each goal is defined as a specific level of practical knowledge, skills, and abilities, and in terms of "KSA" terminology; and specific tests are identified relating to each practical competency, along with the respective level of required performance. If an interim credential is available for competency attainment, it is named in the relevant WPS, along with the qualifying practical competency(ies).

Section 7: RELATED INSTRUCTION

Each registered apprentice will receive related instruction (RI) in the subjects deemed essential to his/her approved occupation. The total length of RI will be:

Occupation	Length of Related Instruction (RI)
Plumber/ Pipefitter	615.0 Hours
HVAC Worker	587.5 Hours

Attached to these standards is documentation that RI is designed and/or provided in conjunction with the University System of Ohio (USO), and that each RI instructor meets the qualification requirements of OAC 5101:11.

The attached RI outline shows the subjects of study deemed necessary for every participating apprentice; contact hours to be spent, respectively, in each subject and each progression step; and total number of instruction hours required for completion. To advance through each level of the program, an apprentice must maintain a minimum grade of **70%**, for **every subject**. RI will be obtained from the source described below, for all occupations:

RI Provider Organization: NCCER
Provider Address: Street Address or P.O. Box: 13614 Progress Blvd.
City: Alachua State: FL Zip Code: 32615
County: N/A
Contact Person: Name Brad Kibbe Position/Title: Senior Workforce Development- Master Trainer
Phone #: 386-518-6500 ext. 5504 Fax #: 937-254-4295 E-mail: bkibbe@nccer.org
Provider type (sponsor, college, etc.): National Association
Instruction method (class, shop, etc.): In person class

For each class that is not designed by a state-chartered educational institution, the RI outline identifies the specific method(s) that will be used to assess learning. For each available occupation course or course component that is competency-based - if any - the related RI outline designates competency goals and the means of assessing their attainment. In that event, each goal is defined as a specific level of theoretical knowledge, skills, and abilities, and in terms of "KSA" terminology; and specific tests are identified relating to each theoretical competency, along with the respective level of required performance. If an interim credential is available for competency attainment, it is named in the relevant RI outline, along with the qualifying theoretical competency(ies).

Section 8: PROGRESSION STEPS AND WAGES

Apprentices' progress in each occupation course, will be measured in steps that conform to specific portions of the respective WPS and RI outline, and that are identified as such in those documents.

Apprentices will be paid according to a consistent schedule of progressively increasing wages, corresponding to **step-related portions of OJT**. Where an apprentice receives advanced credit, his/her wage level at the point of registration will be the exact amount warranted by the amount of credit.

The starting rate for an apprentice will in no instance be less than the minimum level allowed by the applicable federal and state laws. The wage schedule is as follows:

Occupation:	<u>All Occupations</u>		
Steps	Total Hours in Step Period	Dollars Per Hour	% of Journey Wage
1	1000	\$15.00	-
2	1000	\$15.50	-
3	1000	\$16.00	-
4	1000	\$16.50	-
5	1000	\$17.00	-
6	1000	\$17.50	-
7	1000	\$18.00	-
8	1000	\$18.50	-
	Journey Wage:	\$19.00	100%

Wage Schedule Start Date: **1/1/2022**

Wages paid during RI: **Yes**

The sponsor acknowledges that OSAC approval of this wage schedule does not ensure its conformity with the wage and hour requirements for publicly funded construction projects.

Section 9: RATIO OF JOURNEY-PERSONS TO APPRENTICES

In all apprentice work activity, the sponsor will maintain a numeric ratio of journeypersons to apprentices that ensures proper supervision, training, and safety.

In the venue of **all journeypersons to all apprentices on a worksite**, for **Plumber/ Pipefitter** occupations; the ratio will conform to this formula:

- **One (1)** Journeyperson to the first **(1)** apprentice(s) counted, plus:
- **Three (3)** Journeypersons to each of the next **one (1)** apprentice thereafter.

When more than twenty (20) Journeymen are employed, additional apprentices may be acquired at a ratio of one (1) apprentice to four (4) journeymen.

In the venue of **all journeypersons to all apprentices on a worksite**, for the **Sheet Metal Worker** occupation; the ratio will conform to this formula:

- **One (1)** Journeyperson to the first **(1)** apprentice(s) counted, plus:
- **Three (3)** Journeypersons to each **one (1)** apprentice thereafter.

In the venue of **all journeypersons to all apprentices working in a facility fabricating components**, for the **Sheet Metal Worker** occupation; the ratio will conform to this formula:

- **One (1)** Journeyperson to the **each (1)** apprentice(s) counted.

Section 10: DISPOSITION OF COMPLAINTS

The sponsor shall maintain a fair and equitable procedure for receiving and resolving apprentice complaints. It will allow for mutual agreement wherever possible and will include, where applicable, any labor contract provisions for addressing disputes. The procedure - including the means for filing complaints and the position title(s) of personnel assigned to receive them, process them, and advise apprentices about this information - **will be as follows:**

- The apprentice shall present any complaint about this registered apprenticeship program directly to the authorized representative Jackie Tangeman, jtangeman@msdinc.net, (937) 254-3254 for clarification and resolution.

If the procedure is fully applied but fails to settle a dispute, the apprentice involved may submit the complaint in writing to OSAC, which will review it and issue a finding. The sponsor and/or apprentice may consult with OSAC at any time, for interpretation of a relevant provision of these standards, an apprenticeship agreement, or the state RA rules.

UNIFORM DECLARATIONS

Section 11: CONFORMITY WITH LAWS, RULES, AND CONTRACTS

The sponsor shall operate this program in full conformity with the state and federal regulations governing Registered Apprenticeship. i.e., Parts 29 and 30 of the Code of Federal Regulations Title 29, and Division 5101:11 of the Ohio Administrative Code (OAC). The sponsor further attests that it has adequate resources for operating a successful Registered Apprenticeship program, including but not limited to those that are needed for related instruction, on-the-job training, administrative duties, and record keeping.

Section 12: EQUAL OPPORTUNITY

The recruitment, selection, employment, treatment and training of apprentices, MSMU will not discriminate based on race, color, religion, national origin, sex (including pregnancy and gender identity) sexual orientation, genetic information, disability, Hispanic ethnicity or age above 40 years old. MSMU shall take affirmative action to provide equal opportunity in its apprenticeship program, as required under Title 29 of the Code of Federal Regulations, Part 30; Ohio Administrative Code (OAC) 5101:11; and the equal employment opportunity regulations of the State of Ohio. Pursuant to OAC 5101:11, the program shall implement the Affirmative Action Plan attached to these standards.

Section 13: APPRENTICESHIP AGREEMENTS

An individual apprenticeship agreement between the sponsor and each apprentice will be entered onto a printed form prescribed by the Ohio State Apprenticeship Council staff office (OSAC). Every agreement will contain a clause incorporating these standards as an integral component. Before consenting to the agreement, both parties will review the form and the standards, and will discuss their meaning and intent.

The agreement will be signed by the sponsor, labor representative (if applicable), the apprentice, and if the apprentice is a minor, by a parent or guardian. The contents of the agreement will then be reviewed by OSAC, whose approval of same shall constitute registration of the apprentice. Upon registration, the sponsor will provide a copy of the fully processed agreement to the apprentice and will retain another copy in its files.

Section 14: PERIODIC EVALUATIONS

Before each advancement stage designated in the "Progression Steps and Wages" section above, the apprentice's progress will be evaluated, based on records of his/her OJT and RI and of the assessments described in the respective attachments, to determine whether advancement has been earned by satisfactory attendance and performance in both areas of activity. The evaluation will be conducted or closely monitored by the program's apprenticeship coordinator.

If the apprentice's progress is satisfactory, he/she will receive the wage increase designated by these standards for the respective advancement stage. If progress is unsatisfactory, the apprentice may be required to repeat the relevant instruction and work activities. If reasonable assistance and opportunities for improvement do not produce satisfactory performance, the sponsor may terminate the apprentice's agreement.

The results of all progress evaluations will be recorded in writing.

Section 15: SAFETY

Work and training activities shall be conducted in a safe environment. The sponsor shall ensure adequacy and safety in equipment, facilities, and supervision. At each stage of his/her training, the apprentice shall receive instruction in accident prevention and safe working conditions and practices. Such instruction shall be provided both in the OJT and RI components of apprenticeship.

Section 16: SUPERVISION OF APPRENTICES

For each apprentice, one or more experienced journeyperson(s) in that apprentice's trade will be identified who will work with, supervise, and train him or her on a day-to-day basis. The program's apprenticeship coordinator will provide more general supervision of the apprentice and see that he/she receives the work experience and related instruction outlined in these standards.

Section 17: HOURS AND CONDITIONS OF WORK

Apprentices will work the same hours and be subject to the same conditions as pertain to their employer's non-apprentice personnel in the same occupation(s). Work performed in excess of eight hours a day or 40 hours a week will be credited toward the completion of apprenticeship, on the basis of time actually spent on the job rather than any multiple applied to wage rates.

Section 18: CONTINUOUS EMPLOYMENT

The sponsor intends and expects to give each apprentice continuous employment and will use its best efforts to keep the apprentice employed during the full term of apprenticeship. If an apprentice is temporarily released from work due to business conditions, then before any new or more recently laid-off apprentice is employed in the same occupation, the first apprentice will be given a choice whether to resume that work.

Section 19: CANCELING APPRENTICESHIP AGREEMENTS

The sponsor may arrange for the transfer of an apprentice to another occupation course within the program if one exists, or to another Registered Apprenticeship program for the same occupation, conditional in either case on OSAC approval and the consent of the apprentice and the new sponsor. In the event of a transfer, the prior apprenticeship agreement will first be canceled, and a new one executed for the succeeding enrollment. Training personnel for the receiving course will have prompt access to all records of the apprentice's participation in the preceding course.

An apprentice whose latest agreement with the sponsor has been canceled during the probation period, will not be counted for the purpose of gauging the program's compliance with state rules regarding completion rates.

Upon cancellation of the agreement at any time by either party, the sponsor will provide written verification of this action to the apprentice and OSAC, and will make a record available to the apprentice, summarizing all successfully performed activities among those listed in the OJT and RI attachments to these standards.

If the registration of an apprentice in this program is canceled and then re-instated in the same occupation course, the sponsor will evaluate the credit eligibility of any relevant work and/or training received by that individual in the interim. All credit requests will be submitted for OSAC approval at the time of registration or re-instatement.

Section 20: CERTIFICATES OF COMPLETION

Upon each apprentice's satisfactory completion of the required work and instruction in the program, the sponsor will recommend to OSAC that he/she receive a state certificate of completion. Documentation of all on-the-job training and related instruction (content and hours) received by the apprentice, will be made available to OSAC.

Section 21: RECORDS

The sponsor will keep a thorough record of each apprentice's program participation, including the hours and the nature of apprentice activity in work and related instruction, as well as the results of progress evaluations. A copy of the information on each apprentice will be kept in a separate file specific to that individual. The sponsor will for five years maintain each record of this kind and any other record pertaining to the operation of the program, including but not limited to the documentation of: apprentice recruitment and selection; apprentice job evaluations, assignments, layoffs, and terminations; and the rates of apprentices' pay and other compensation. All such records shall be made available upon request to OSAC and the US Department of Labor.

Section 22: REPORTS AND TRANSACTIONS

The sponsor will immediately report to OSAC every apprentice enrollment, and every change in the status of an apprentice (for instance, completion, resignation, lay-off, training termination) or in the operation of the program. Within 45 days of any such action, the sponsor shall request its authorization, using OSAC-prescribed procedures and recognizing that it will not take effect before the date of OSAC approval.

Section 23: PROGRAM REGISTRATION

The sponsor recognizes that these standards must be approved by OSAC before the described training can be considered a Registered Apprenticeship program.

The sponsor further recognizes that if its sponsorship is non-joint, then in the event that a union serves as collective bargaining agent for its apprentices; that the union must be allowed 45 days to review and comment on these standards before they are submitted for OSAC approval. Any comments received in this process must be forwarded to OSAC along with these standards. The sponsor affirms that it has met its obligations, if any, under this requirement.

Section 24: MODIFICATIONS AND CANCELLATIONS

These standards of apprenticeship may be amended by the sponsor at any time, subject to approval by OSAC. Upon such approval, each apprentice who would be affected by the amendment, shall promptly receive notice of it and be given a choice of either accepting its implementation or canceling his/her apprenticeship agreement.

Cancellation and deregistration of the program may be effected voluntarily by a written request from the sponsor to OSAC or, given reasonable cause, by OSAC through formal deregistration proceedings in accordance with the provisions of OAC 5101:11. Due cause for deregistration may include a lack of apprenticeship activity for a year or more, a failure to meet state and federal requirements for apprentice completion rates, and any other failure to comply with the rules under OAC division 5101:11.

WORK PROCESS SCHEDULE

Plumber/ Pipefitter Worker

O*NET-SOC CODE: 47-2512.02 RAPIDS CODE: 0432

Skill Area	Hours
1. Install Piping for Waste, Soil, Sewage.	1900
2. Install Hot & Cold-Water Supply Piping.	1700
3. Domestic Heating and Gas Fittings.	800
4. Welding and Brazing.	400
5. Installation, Maintenance & Repair of Gas Equipment and Fittings.	400
6. Care & Use Of Specialized Tools And Equipment.	200
7. Sketching, Blueprint Reading, and Code.	200
8. Installation/Maintenance of Steam & Hot Water Systems.	1000
9. Power & Industrial Process Piping.	1000
10. Safety	400

Total Hours:	8000
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WORK PROCESS SCHEDULE

HVAC Worker

O*NET-SOC CODE: 91-9021.01 RAPIDS CODE: 0637

Skill Area	Hours
1. Duct Systems	2800
2. Heating and Cooling, Erection & Installation	2000
3. Sheet Metal Layout and Fabrication	800
4. Controls Testing & Air Balancing	400
5. Piping Systems	600
6. Soldering, Brazing & Welding	600
7. Safety	400
8. Sketching, Blueprint Reading, and Code	200
9. Care and Use of Specialize Tools & Equipment	200

Total Hours:	8000
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Related Instruction

Plumbing/ Pipefitter Level 1 Syllabus	Hours
Module 1.0 Basic Safety	150
Module 2.0 Introduction to Construction Math	
Module 3.0 Introduction to Hand Tools	
Module 4.0 Introduction to Power Tools	
Module 5.0 Introduction to Construction Drawings	
Module 6.0 Introduction to Basic Rigging	
Module 7.0 Basic Communication Skills	
Module 8.0 Basic Employability Skills	
Module 9.0 Introduction to Material Handling	
Module 10.0 Plastic Pipe and Fittings	
Module 11.0 Copper Pipe and Fittings	
Module 12.0 Cast-Iron Pipe and Fittings	
Module 13.0 Carbon Steel Pipe and Fittings	
Module 14.0 Introduction to Drain, Waste, and Vent (DWV) Systems	
Module 15.0 Introduction to Water Distribution Systems	

Plumbing/ Pipefitter Level 2 Syllabus	Hours
Module 1.0 Reading Commercial Drawings	150
Module 2.0 Installing and Testing DMW Piping	
Module 3.0 Installing Roof, Floor, and area Drains	
Module 4.0 Installing and Testing Water Supply Piping	
Module 5.0 Installing Fixtures and Valves	
Module 6.0 Installing Water Heaters	
Module 7.0 Fuel Gas and Fuel Oil Systems	
Module 8.0 Piping Systems	
Module 9.0 Pipefitting Trade Math	

Plumbing/ Pipefitter Level 3 Syllabus	Hours
Module 1.0 Applied Math	155
Module 2.0 Types of Venting	
Module 3.0 Sizing DMV and Storms Systems	
Module 4.0 Sewage Pumps and Sump Pumps	
Module 5.0 Compressed Air	
Module 6.0 Rigging Practices	
Module 7.0 Standards and Specifications	
Module 8.0 Advanced Pipefitting Math	
Module 9.0 Pipe and Hangers and Supports	

Plumbing/ Pipefitter Level 4 Syllabus	Hours
Module 1.0 Water Pressure Booster and Recirculation	160
Module 2.0 Indirect and Special Waste	
Module 3.0 Hydronic and Solar Heating Systems	
Module 4.0 Codes	
Module 5.0 Introduction to Water Distribution Systems	
Module 6.0 Private Water Supply Well Systems	
Module 7.0 Advanced Blueprint Reading	
Module 8.0 Advanced Pipe Fabrication	
Module 9.0 In-Line Specialties	
Module 10. Introduction to Medical Gas and Vacuum Systems	
Module 11.0 Fundamentals of Crew Leadership	
Total Hours:	615.00

Related Instruction Outline

HVAC Worker

O*NET-SOC CODE: 47-2211.00

RAPIDS CODE: 0510

HVAC Level 1 Syllabus	Hours
Module 1.0 Basic Safety	145
Module 2.0 Introduction to Construction Math	
Module 3.0 Introduction to Hand Tools	
Module 4.0 Introduction to Power Tools	
Module 5.0 Introduction to Construction Drawings	
Module 6.0 Introduction to Basic Rigging	
Module 7.0 Basic Communication Skills	
Module 8.0 Basic Employability Skills	
Module 9.0 Introduction to Material Handling	
Module 10.0 Introduction to the Sheet Metal Trade	
Module 11.0 Tools of the Trade	
Module 12.0 Introduction to Sheet metal Layout	
Module 13.0 Trade Math One	
Module 14.0 Installation of Ductwork	
Module 15.0 Installation of Air Distribution Accessories	
Module 16.0 Insulation	

HVAC Level 2 Syllabus	Hours
Module 1.0 Trade Math Two	147.5
Module 2.0 Plans & Specifications	
Module 3.0 Using Construction Drawings	
Module 4.0 Sheet Metal Duct Standards	
Module 5.0 Air Properties & Distribution	
Module 6.0 Commercial Air Side Systems	
Module 7.0 Soldering	
Module 8.0 Basic Piping Practices	
Module 9.0 Fiberglass Ducting	

HVAC Level 3 Syllabus	Hours
Module 1.0 Commercial Airside Systems	145
Module 2.0 Principles of Airflow	
Module 3.0 Using Construction Drawings in Sheet Metal	
Module 4.0 Sheet Metal Job Specification	
Module 5.0 Air Testing & Balancing	
Module 6.0 Blanket Insulation for Ducts	
Module 7.0 Board Insulation for Ducts	

HVAC Level 4 Syllabus	Hours
Module 1.0 Fume & Exhaust Systems Design	150
Module 2.0 Air Properties & Distribution	
Module 3.0 Plans & Specifications	
Module 4.0 Sheet Metal Business & Technology	
Module 5.0 Trade Math Two	
Module 6.0 Welding and Brazing	
Module 7.0 Sheet Metal Duct Standards	
Module 8.0 Commercial Air Side Systems	
Module 9.0 Fundamentals of Crew Leadership	

Total Hours:	587.5
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Mechanical Systems Mini University Sponsor Form

Intent-To-

It is our intent to employ _____ as an apprentice
(Applicant Name) in the
 Mechanical Services & Design Registered Apprenticeship program. According to the approved Standards,
 all apprenticeship records will be maintained by Mechanical Services & Design, any notifications regarding
 the apprentice's status will be sent to:

Name of Signatory Employer: _____

Name of Hiring Authority: _____

Title: _____

Signature: _____

Date: _____

Date that Apprenticeship will begin: _____

Apprentice Starting Wage: _____

Previous OJT Hours for Credit (if known): _____

Previous RI Hours for Credit (if known): _____

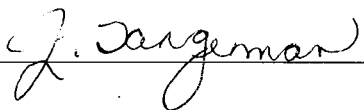
SIGNATURES

Attestation by the following sponsor organization: Mechanical Systems Mini University.

The sponsor submits these standards, to obtain or renew registration for the apprenticeship program described herein, and affirms that in operating said program, it shall adhere to all rules under division 5101:11 of the Ohio Administrative Code.

Name of Sponsor's Authorized Representative: Jackie Tangeman

Title: Sponsor Representative

Signature:  Date: 04-12-2022

Approval and registration by the Ohio State Apprenticeship Council staff office (OSAC)

Name of OSAC's authorized representative: Rebecca DeMatteis

Title: Program Administrator

Signature:  Date: 4/22/2022

AFFIRMATIVE ACTION PLAN

ADOPTED BY:

Mechanical Systems Mini University

(Sponsor Organization)

Click
here to enter text.

OH002168511

In cooperation with the Ohio State Apprenticeship Council Staff Office (OSAC),

as required under Ohio Administrative Code Section 5101:11-5-02

SECTION I - INTRODUCTION

The Sponsor adopts this Affirmative Action Plan (AAP) with good faith for the purpose of promoting equality of opportunity in its Registered Apprenticeship program. In the event that female and/or minority workers are underutilized in the program, the Sponsor will also rely on this Plan to increase the participation of qualified applicants from the group(s) concerned.

This Plan is a supplement to the Apprenticeship Standards. Any changes made by the sponsor to this plan are subject to approval by the Registration Agency (the Ohio State Apprenticeship Council staff office).

SECTION II - EQUAL OPPORTUNITY PLEDGE

The Sponsor commits to the following Equal Opportunity Pledge:

The recruitment, selection, employment, treatment and training of apprentices, MSMU will not discriminate based on race, color, religion, national origin, sex (including pregnancy and gender identity) sexual orientation, genetic information, disability, Hispanic ethnicity or age above 40 years old. The Sponsor shall take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required under Title 29 of the Code of Federal Regulations, Part 30; Ohio Administrative Code 5101:11; and the equal employment opportunity regulations of the State of Ohio.”

SECTION III - WORKFORCE ANALYSIS, UTILIZATION, AND GOALS

In order to allow positive recruitment and full utilization of minorities and women in the apprenticeship program, the Sponsor pledges to make the outreach efforts identified in Section IV. The Sponsor plans these efforts in coordination with an analysis of minority and female representation in the Sponsor’s registered occupational courses, as compared to such representation in its labor market area. For this purpose, a Workforce Analysis Worksheet is attached. If the analysis for one or more occupation course(s) reflects

underutilization of minority and/or female workers, the Worksheet will also identify percentage goals for their increased representation in the program's apprentice workforce.

SECTION IV - OUTREACH AND POSITIVE RECRUITMENT

The Sponsor undertakes the outreach and positive recruitment efforts described below, based on a reasonable expectation that they will increase participation of minority and female workers in the program. The Sponsor will document the implementation of all steps taken pursuant to this Plan.

(X) 1. Dissemination of information to OSAC, local schools, Ohio Department of Job and Family Services (ODJFS) local offices, women's centers, outreach programs, and other community organizations that can effectively reach minorities and women. **(Describe below:)**

Mechanical Systems Mini University outreaches to female and minority job seekers via newspaper ads in the Dayton Daily News, job postings placed on minority specific pages of Monster.com, job postings placed using ODJFS, NAACP and LULAC; Openings posted on magnetic vehicle signs operating in urban Cincinnati and Dayton. Ohio locations; Amigo's Latino Career Expo.

(X) 2. Participation in annual workshops, for the purpose of familiarizing school, ODJFS and other appropriate personnel with the Registered Apprenticeship system. **(Describe below:)**

Mechanical Systems Mini University outreaches to female and minority job seekers via career presentations at Mad River and Bethel Middle Schools; Hire Ohio Career Fairs; Columbus Career Fairs; Job News Career Fairs; Skilled Trades Career Fair-Cincinnati; WSU Veterans Career Fairs; University of Dayton Career Fairs; Stebbins HS Career Fairs; Miami Valley CTC Summer Career Fairs.

(X) 3. Cooperation with local schools and vocational education systems to develop programs to prepare students to meet the qualifications for enrollment in Registered Apprenticeship. **(Describe below:)**

Mechanical Systems Mini University outreaches to female and minority job seekers via active vocational educational programs with Stebbins High School, Miami Valley Career Technology Center, Springfield Clark Career Technology Center, Fortis College, Sinclair Community College. and Clark State Community College. Pending Programs with Greene Co. Career Center and Butler Tech.

(X) 4. Internal communication of EEO policies. **(Describe below:)**

EEO policies are communicated in accordance with company policies and procedures. Mechanical Systems Mini University actively engages employees in recruitment efforts.

(X) 5. Involvement in other organizations' programs of outreach, positive recruitment, and preparation for potential applicants. **(Describe below:)**

Mechanical Systems Mini University outreaches via active vocational educational programs with Stebbins High

School, Miami Valley Career Technology Center, Springfield Clark Career Technology Center, Fortis College, Sinclair Community College. and Clark State Community College. Pending Programs with Greene Co. Career Center and Butler Tech.

(X) 6. Encouraging the establishment of programs of recognized pre-apprenticeship, preparatory trade training, and/or other activities designed to provide related work experience. **(Describe below:)**

Mechanical Systems Mini University participates on advisory capacities for Miami Valley CTC, Upper Valley CTC and Stebbins High School vocational training programs.

(X) 7. Obtaining the assistance of journeypersons in the implementation of this AAP. **(Describe below:)**

Mechanical Systems Mini University has an active employee referral program and uses mobile vehicle sign job postings. Journeyman are required to participate in an enhanced training program increase their knowledge of the responsibility regarding AAP.

() 8. Other appropriate action, as described below, that is meant to ensure that the recruitment, selection, employment, and training of apprentices shall be without discrimination. **(Describe below:)**

SECTION V - ANNUAL REVIEW OF AFFIRMATIVE ACTION PLAN

The Sponsor will conduct an annual review of this Affirmative Action Plan and its effectiveness, and subject to approval by the Registration Agency, will institute any revisions or modifications warranted to achieve the purposes of the Plan as stated above. The review will include both an internal assessment by the Sponsor and consultation with other informed parties, and will analyze each activity under this plan, to gauge the nature and degree of its impact on outreach, recruitment, selection, employment, and training.

The Sponsor will continually monitor the rates of female and minority participation in the program, in order to assess progress toward achieving the purposes of this Plan, the reasons for such performance, and the need for starting, ending, or changing specific affirmative action efforts. All changes to this Plan must be submitted to the Registration Agency for approval.

The Sponsor's workforce goals also will be reviewed periodically as determined by the Registration Agency and will be updated where necessary.

**** SPONSOR: PLEASE FILL IN HIGHLIGHTED AREAS ONLY. ****

WORKFORCE ANALYSIS WORKSHEET

(A worksheet needs to be completed for each occupation)

Section 1: PROGRAM INFORMATION

Program ID#	OH002168511	Occupational Title:	Plumber/ Pipefitter
Sponsor:	Mechanical Systems Mini University	RAPIDS Code:	0432
Street Address:	4401 Springfield Street	O*Net Code:	47-2452.02
City, State, Zip:	Dayton, OH 45431		
Authorized Rep.:	Jackie Tangeman/Sharon Baber	Selection method:	Rank List
Sponsor Phone #:	(937) 254-3235		
Labor Market Area (county/counties):	Butler, Clark, Clermont, Clinton, Darke, Fairfield, Fayette, Franklin, Greene, Hamilton, Highland, Madison, Miami, Montgomery, Pickaway, Preble, Warren		

Section 2: LABOR MARKET AREA DEMOGRAPHICS (Data available at <http://census.gov/quickfacts/fact/table>)

Total Area Labor Force:	4,414,241	Number Female:	2,220,883	% of Labor Force:	50.31%
		Number Minority:	545,808	% of Labor Force:	12.36%

Section 3: SPONSOR'S CURRENT WORKFORCE

Total Apprentices:	13	Number Female:	0	% of Apprentices:	0.0%
		Number Minority:	1	% of Apprentices:	8%
Total Journey Workers:	19	Number Female:	0	% of Journey:	0.0%
		Number Minority:	0	% of Journey:	0.0%
Total (Apprentice + Journey):	32	Number Female:	0	% of Total:	0.0%
		Number Minority:	1	% of Total:	3.1%

Section 4: GOALS AND UTILIZATION

Prior Expectations for Workforce

22.0 % Female and 21.6 % Minority.

Date when goals were set: 8/12/2016 Initial Goal? No

Current Utilization (See Sec. 3, "% of Total")

-25.2 % Female and -9.3 % Minority.

New Goals -- The sponsor agrees to make good-faith efforts to attain apprentice enrollment that is:

25.2 % Female and 12.4 % Minority.

These goals shall not be used to discriminate against any qualified applicant on the basis of race, color, religion, national origin, age, or sex.

Estimated number of new apprentices to be hired during the next year: 15

**** SPONSOR: PLEASE FILL IN HIGHLIGHTED AREAS ONLY. ****

WORKFORCE ANALYSIS WORKSHEET

(A worksheet needs to be completed for each occupation)

Section 1: PROGRAM INFORMATION

Program ID#	OH002168511	Occupational Title:	HVAC Worker
Sponsor:	Mechanical Systems Mini University	RAPIDS Code:	0510
Street Address:	4401 Springfield Street	O*Net Code:	47-2211.00
City, State, Zip:	Dayton, OH 45431		
Authorized Rep.:	Jackie Tangeman / Sharon Baber	Selection Method:	Rank List
Sponsor Phone #:	(937) 254-3235		
Labor Market Area (county/counties):	Butler, Clark, Clermont, Clinton, Darke, Fairfield, Fayette, Franklin, Greene, Hamilton, Highland, Madison, Miami, Montgomery, Pickaway, Preble, Warren		

Section 2: LABOR MARKET AREA DEMOGRAPHICS (Data available at [http:// census.gov/quickfacts/fact/table](http://census.gov/quickfacts/fact/table))

Total Area Labor Force:	4,414,241	Number Female:	2,220,883	% of Labor Force:	50.31%
		Number Minority:	545,808	% of Labor Force:	12.36%

Section 3: SPONSOR'S CURRENT WORKFORCE

Total Apprentices:	14	Number Female:	0	% of Apprentices:	0.0%
		Number Minority:	2	% of Apprentices:	15%
Total JourneyWorkers:	16	Number Female:	0	% of Journey:	0.0%
		Number Minority:	0	% of Journey:	0.0%
Total (Apprentice + Journey):	30	Number Female:	0	% of Total:	0.0%
		Number Minority:	2	% of Total:	6.7%

Section 4: GOALS AND UTILIZATION

Prior Expectations for Workforce

22.0 % Female and 21.6 % Minority.

Date when goals were set: **8/12/2016**

Initial Goal? **No**

Current Utilization (See Sec. 3, "% of Total")

-25.2 % Female and -5.7 % Minority.

New Goals -- The sponsor agrees to make good-faith efforts to attain apprentice enrollment that is:

25.2 % Female and 12.4 % Minority.

These goals shall not be used to discriminate against any qualified applicant on the basis of race, color, religion, national origin, age, or sex.

Estimated number of new apprentices to be hired during the next year: 15

SECTION VI - OFFICIAL ADOPTION

This Affirmative Action Plan is officially adopted by:

Mechanical Services & Design Inc

(Name of Sponsor Organization)

On this 12 day of April, in the year 2022.

Jackie Tangeman

(Name of Sponsor's Authorized Representative)

Sponsor Representative/ Vice President of Human Resources

Title

J. Tangeman
Signature

04-12-2022
Date