



Registered Apprenticeship Standards

National Program Standards

National Guidelines for Apprenticeship Standards

Local Apprenticeship Standards



4035 DENTON ROAD
KANSAS CITY, MO 64133

Occupation(s): For All Occupations listed In These Standards

O*NET-SOC Code(s): "See Appendix A" **RAPIDS Code(s):** "See Appendix A"

Developed in Cooperation with the
U.S. Department of Labor
Office of Apprenticeship

Registered By: ROY KONKEY

Title: Apprenticeship and Training Representative
U.S. Department of Labor
Office of Apprenticeship

Registration date: 7/26/2004

Registration Number: MO007040006

Check here if these are revised standards

Approved by the
U.S. Department of Labor
Office of Apprenticeship

Approved By: DEBRA CREMEENS-RISINGER

**DEBRA CREMEENS-
RISINGER**
Signature: _____

Digitally signed by DEBRA
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Date: 2021.05.28 06:42:35 -05'00'

Title: Missouri State Director
U.S. Department of Labor
Office of Apprenticeship



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SECTION I – STANDARDS OF APPRENTICESHIP 29 CFR § 29.5

A. Responsibilities of the sponsor: The Associated Builders and Contractors, Inc., Heart of America Chapter must conduct, operate, and administer this program in accordance with all applicable provisions of Title 29 Code of Federal Regulations (CFR) part 29, subpart A and part 30, and all relevant guidance issued by the Office of Apprenticeship (OA). The sponsor must fully comply with the requirements and responsibilities listed below and with the requirements outlined in the document “Requirements for Apprenticeship Sponsors Reference Guide.”

Sponsors shall:

- Ensure adequate and safe equipment and facilities for training and supervision and provide safety training for apprentices on-the-job and in related instruction.
- Ensure there are qualified training personnel and adequate supervision on the job.
- Ensure that all apprentices are under written apprenticeship agreements incorporating, directly or by reference, these standards and the document “Requirements for Apprenticeship Sponsors,” and that meets the requirements of 29 CFR § 29.7. Form ETA 671 may be used for this purpose and is available upon logging into RAPIDS.
- Register all apprenticeship standards with the U.S. Department of Labor, including local variations, if applicable.
- Submit apprenticeship agreements within 45 days of enrollment of apprentices.
- Arrange for periodic evaluation of apprentices’ progress in skills and technical knowledge, and maintain appropriate progress records.
- Notify the U.S. Department of Labor within 45 days of all suspensions for any reason, reinstatements, extensions, transfers, completions and cancellations with explanation of causes. Notification may be made in RAPIDS or using the contact information in Section K.
- Provide each apprentice with a copy of these standards, Requirements for Apprenticeship Sponsors Reference Guide, and Appendix A, any applicable written rules and polices, and require apprentices to sign an acknowledgment of their receipt. If the sponsor alters these standards or any Appendices to reflect changes it has made to the apprenticeship program, the sponsor will obtain approval of all modifications from the Registration Agency, then provide apprentices a copy of the updated standards and Appendices and obtain another acknowledgment of their receipt from each apprentice.

B. Minimum Qualifications - 29 CFR §29.5(b)(10)

An apprentice must be at least 18 years(16 for high school youth apprentices), and must be employed



to learn an apprenticeable occupation.

1. Provide a certified copy of high school diploma OR official transcripts OR certified copy of GED. [or appropriate records of enrollment in high school for secondary school education programs.] Applicants must submit a DD-214 to verify military training and/or experience if they are a veteran and wish to receive consideration for such training/experience.
2. Have a dependable means of transportation to the employer's place of business and/or jobsite and to the place where classroom job-related instruction is conducted.
3. Be physically capable of performing the essential functions of the apprenticeship program, with or without a reasonable accommodation, and without posing a direct threat to the health and safety of the individual or others.
4. Submit a completed and signed official application and the required attachments by the application deadline to the Apprenticeship Committee at the location indicated on the application materials.
5. May be required to submit to: 1) a physical agility or fitness test, 2) screening for the current illegal use of drugs; or 3) both as a condition of acceptance into the program and prior to being employed.

C. Apprenticeship Approach and Term - 29 CFR § 29.5(b)(2)

The apprenticeship program(s) will select an apprenticeship training approach. See Appendix A to select approach.

D. Work Process Schedule and Related Instruction Outline - 29 CFR § 29.5(b)(4)

Every apprentice is required to participate in related instruction in technical subjects related to the occupation. Apprentices will will not be paid for hours spent attending related instruction classes. Insert Work Process Schedule and Related Instruction Outline at Appendix A.

E. Credit for Previous Experience - 29 CFR § 29.5(b)(12)

Apprentice applicants seeking credit for previous experience gained outside the apprenticeship program must furnish such transcripts, records, affidavits, etc. that may be appropriate to substantiate the claim. The Associated Builders and Contractors, Inc., Heart of America Chapter will evaluate the request for credit and make a determination during the apprentice's probationary period.

F. Probationary Period - 29 CFR § 29.5(b)(8) and (20)

Every applicant selected for apprenticeship will serve a probationary period which may not exceed 25 percent of the length of the program or 1 year whichever is shorter. Insert probationary period at Appendix A.

G. Ratio of Apprentices to Journeyworkers - 29 CFR § 29.5(b)(7)

Every apprenticeship program is required to provide an apprenticeship ratio of apprentices to journeyworkers for adequate supervision. Insert ratio at Appendix A.

H. Apprentice Wage Schedule - 29 CFR § 29.5(b)(5)

Apprentices must be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journeyworker wage rate. Insert the progressive wage schedule at Appendix A.



I. Equal Employment Opportunity and Affirmative Action

1. Equal Opportunity Pledge - 29 CFR §§ 29.5(b)(21) and 30.3(c)(1)

The Associated Builders and Contractors, Inc., Heart of America Chapter will not discriminate against apprenticeship applicants or apprentices based on race, color, religion, national origin, sex (including pregnancy and gender identity), sexual orientation, genetic information, or because they are an individual with a disability or a person 40-years old or older.

The Associated Builders and Contractors, Inc., Heart of America Chapter will 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.

The sponsor **will** display its EEO Pledge and the EEO Complaints Information Notice in a prominent, publicly available location, including on electronic media, where all apprentices and applicants could see them. (Pledge: 29 CFR § 30.3(b)(2)(ii); Notice: 29 CFR § 30.14(b)).

The sponsor **will** publish the EEO Pledge in company handbooks, Manuals, and similar documents. (29 CFR § 30.3(b)(2)(i))

The sponsor **will** include the EEO Pledge in all apprenticeship opportunity announcements that it has distributed, published, or posted. (29 CFR § 30.3(b)(3)(iii))

INVITATIONS TO SELF-IDENTIFY AS AN INDIVIDUAL WITH A DISABILITY

The sponsor **will** extend a voluntary invitation to apprentices to indicate whether they believe they have (or have had) a disability. The sponsor **will** remind their apprentices yearly that they may voluntarily update their disability status.

ENSURING APPRENTICES ARE FREE FROM HARASSMENT, INTIMIDATION, AND RETALIATION

Anti-harassment training **will** be provided to all the individuals connected with the administration or operation of the apprenticeship program, including: **Apprentices**, supervisors of apprentices, journeyworkers, and individuals who regularly work with apprentices.

The provided training communicated each of the following elements:

- that harassing conduct will not be tolerated;
- the definition of harassment;
- the types of conduct that constitute unlawful harassment; and the individual's right to file a harassment complaint with OA

CONDUCT UNIVERSAL OUTREACH AND RECRUITMENT TO REACH ALL POTENTIAL QUALIFIED APPLICANTS- 29 CFR § 30.10, 30.3(b)(3)

- Sponsor will Develop and annually update a list of recruitment sources and will identify a contact each of these sources.
- Sponsor will provide these sources with advanced notice of all apprenticeship openings so they can refer candidates.



2. Affirmative Action Program - 29 CFR §§ 29.5(b)(21), 30.4-30.9

The Associated Builders and Contractors, Inc., Heart of America Chapter acknowledges that it will adopt an affirmative action plan in accordance with 29 CFR § 30.4-30.9 (required for sponsors with five or more registered apprentices by two years from the date of the sponsor's registration or by two years from the date of registration of the program's fifth (5th) apprentice). Information and technical assistance materials relating to the creation and maintenance of an affirmative action plan will be made available on the Office of Apprenticeship's website.

3. Selection Procedures - 29 CFR § 30.10

Every sponsor will adopt selection procedures for their apprenticeship programs, consistent with the requirements set forth in 29 CFR § 30.10(b). See Appendix A to enter your selection procedures for each occupation for which the sponsor intends to train apprentices.

J. Complaint Procedures - 29 CFR §§ 29.5(b)(22), 29.7(k), 29.12, and 29 CFR § 30.14

If an applicant or an apprentice believes an issue exists that adversely affects the apprentice's participation in the apprenticeship program or violates the provisions of the apprenticeship agreement or standards, the applicant or apprentice may seek relief. Nothing in these complaint procedures precludes an apprentice from pursuing any other remedy authorized under another Federal, State, or local law. Below are the methods by which apprentices may send a complaint:

1. **Complaints regarding discrimination.** Complaints must contain the complainant's name, address, telephone number, and signature, the identity of the respondent, and a short description of the actions believed to be discriminatory, including the time and place. Generally, a complaint must be filed within 300 days of the alleged discrimination. Complaints of discrimination should be directed to the following contact:

*U.S. Department of Labor, Office of Apprenticeship
200 Constitution Ave. NW, Washington, DC 20210*

Telephone Number: (202) 693-2796

Email Address: ApprenticeshipEEOcomplaints@dol.gov

Point of Contact: *Director, Division of Registered Apprenticeship and Policy*

Attn: *Apprenticeship EEO Complaints*

You may also be able to file complaints directly with the EEOC, or State fair employment practices agency.

Other General Complaints. The sponsor will hear and attempt to resolve the matter locally if written notification from the apprentice is received within 15 days of the alleged violation(s). The sponsor will make such rulings as it deems necessary in each individual case within 30 days of receiving the written notification.

Name: **Katie Grooms/Training Director**

Associated Builders and Contractors, Inc., Heart of America Chapter

Address: **4035 Denton Road Kansas City, MO 64133.**

Telephone Number: **816-994-5990**

Email Address: **katie@abcksmo.org**

Any complaint described above that cannot be resolved by the program sponsor to the satisfaction of



all parties may be submitted to the Registration Agency provided below in Section K.

K. Registration Agency General Contact Information 29 CFR § 29.5(b)(17)

The Registration Agency is the United States Department of Labor's Office of Apprenticeship. General inquiries, notifications and requests for technical assistance may be submitted to the Registration Agency using the contact information below:

Name: Roy Konkey

Address: 2300 Main Street, Suite 1060, Kansas City, MO 64108

Telephone Number: 816-216-4856

Email Address: konkey.roy@dol.gov

L. Reciprocity of Apprenticeship Programs 29 CFR § 29.13(b)(7)

States must accord reciprocal approval for Federal purposes to apprentices, apprenticeship programs and standards that are registered in other States by the Office of Apprenticeship or a Registration Agency if such reciprocity is requested by the apprenticeship program sponsor.

Program sponsors seeking reciprocal approval must meet the wage and hour provisions and apprentice ratio standards of the reciprocal State.

SECTION II - APPENDICES AND ATTACHMENTS

- Appendix A** – *Work Process Schedule, Related Instruction Outline, Apprentice Wage Schedule, Ratio of Apprentices to Journeyworkers, Type of Occupation, Term of Apprenticeship, Selection Procedures, and Probationary Period*
- Appendix B** – *ETA 671 - Apprenticeship Agreement and Application for Certification of Completion of Apprenticeship (To be completed after registration)*
- Appendix C** – *Affirmative Action Plan (Required within two years of registration unless otherwise exempt per 29 CFR §30.4(d))*
- Appendix D** – *Employer Acceptance Agreement (For programs with multiple-employers only)*

SECTION III - VETERANS' EDUCATIONAL ASSISTANCE AS MANDATED BY PUBLIC LAW 116-134 (134 STAT. 276)

Pursuant to section 2(b)(1) of the Support for Veterans in Effective Apprenticeships Act of 2019 (Pub. L. 116-134, 134 Stat. 276), by signing these program standards, the program sponsor official whose name is subscribed below assures and acknowledges to the U.S. Department of Labor's Office of Apprenticeship the following regarding certain G.I. Bill and other VA-administered educational assistance referenced below (and described in greater detail at the VA's website at: <https://www.va.gov/education/eligibility>) for which current apprentices and/or apprenticeship program candidates may be eligible:



-
- (1) The program sponsor is aware of the availability of educational assistance for a veteran or other eligible individual under chapters 30 through 36 of title 38, United States Code, for use in connection with a registered apprenticeship program;
 - (2) The program sponsor will make a good faith effort to obtain approval for educational assistance described in paragraph (1) above for, at a minimum, each program location that employs or recruits a veteran or other eligible individual for educational assistance under chapters 30 through 36 of title 38, United States Code; and
 - (3) The program sponsor will not deny the application of a qualified candidate who is a veteran or other individual eligible for educational assistance described in paragraph (1) above for the purpose of avoiding making a good faith effort to obtain approval as described in paragraph (2) above.

NOTE: The aforementioned requirements of Public Law 116-134 shall apply to “any program applying to become a registered apprenticeship program on or after the date that is 180 days after the date of enactment of this Act” (i.e., September 22, 2020). Accordingly, apprenticeship programs that were registered by a Registration Agency before September 22, 2020, are not subject to these requirements.

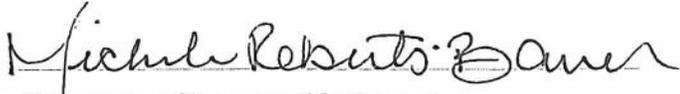


SECTION IV - SIGNATURES

OFFICIAL ADOPTION OF APPRENTICESHIP STANDARDS

The undersigned sponsor hereby subscribes to the provisions of the foregoing Apprenticeship Standards formulated and registered by The Associated Builders and Contractors, Inc., Heart of America Chapter, on this 26 day of **May, 2021**.

The signatories acknowledge that they have read and understand the document titled "Requirements for Apprenticeship Sponsors Reference Guide" and that the provisions of that document are incorporated into this agreement by reference unless otherwise noted.


Signature of Sponsor (designee)


Printed Name

Appendix A
ABC HEART OF AMERICA
WORK PROCESS AND RELATED TRAINING SCHEDULE
CARPENTER (CONSTRUCTION)
O*NET-SOC CODE: 47-2031.01 RAPIDS CODE: 0067

1. **APPRENTICESHIP APPROACH**

Time -based

2. **TERM OF APPRENTICESHIP**

The term of the occupation shall be four (4) years with an OJL attainment of 8000 hours supplemented by a minimum 144 hours of related technical instruction per year.

3. **RATIO OF APPRENTICES TO JOURNEYWORKERS**

One (1) Apprentice to one (1) Journeyworker

4. **APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS**

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate of **\$21.88**.

Term: 8000 Hours

1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments

2nd 1000 hours = 55 percent of journeyworker's rate and fringe benefit payments

3rd 1000 hours = 60 percent of journeyworker's rate and fringe benefit payments

4th 1000 hours = 70 percent of journeyworker's rate and fringe benefit payments

5th 1000 hours = 75 percent of journeyworker's rate and fringe benefit payments

6th 1000 hours = 80 percent of journeyworker's rate and fringe benefit payments

7th 1000 hours = 85 percent of journeyworker's rate and fringe benefit payments

8th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. **PROBATIONARY PERIOD**

The probationary period shall be 2000 hours of OJT or 1 year whichever is first.

6. **SELECTION PROCEDURE**

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

A. Applications will be accepted throughout the year by appointment only at the ABC office.

B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to hire letter.

C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

Appendix A
ABC HEART OF AMERICA
WORK PROCESS TRAINING SCHEDULE
CARPENTER (CONSTRUCTION)
O*NET-SOC CODE: 47-2031.01 RAPIDS CODE: 0067

<u>CARPENTER (CONSTRUCTION) WORK PROCESS SCHEDULE</u>		<u>HOURS</u>
1. Foundations, walls and floors		1500
	Laying out and leveling, Building and placing straight concrete forms, Lining up and bracing concrete walls and columns, Laying out footings, Building irregular concrete forms, Building forms for concrete stairways, Laying out building lines, Safety.	
2. Framing (foundations and forms)		800
	Laying out and framing sills and girders, Framing and setting floor joists, Erecting walls and partitions, Lining up and bracing walls and partitions, Installing sheathing and plaster grounds, Building staging's, Laying out walls and partitions, Safety	
3. Roofs		800
	Framing and setting common rafters, Framing and setting valley rafters, Framing and setting hip rafters, Framing and setting jack rafters, Applying sheathing, composition shingles, and other types of roof coverings, Safety	
4. Exterior mill work		1000
	Determining use of tools, materials, and equipment, Operating skill saw, electric drill and sander, Setting up and operating bench saw, Safety.	
5. Interior wall coverings		500
	Applying wood coverings, Applying composition, sheet rock, or fiberboard, Installing baseboards, Safety	
6. Floors		500
	Laying subfloors, Laying hardwood floors, Erecting forms for concrete, Safety.	
7. Stairs		500
	Laying out and cutting stair horse for various types of stairways, Laying out and cutting various Threads, Installing railings, Safety.	
8. Interior finish		1000
	Cutting and fitting base, Cutting and fitting molding, Setting doorjambs, Fitting and hanging Windows, Fitting and fastening hardware, Fitting and hanging doors, Safety.	
9. Miscellaneous		<u>1400</u>
	Building walkways, Erecting scaffolding, Making temporary sheds, Making miscellaneous repairs and additions, Erecting miscellaneous types of concrete forms, Safety	
TOTAL HOURS		8000

Appendix A
ABC HEART OF AMERICA
RELATED INSTRUCTION OUTLINE
CARPENTER (CONSTRUCTION)

O*NET-SOC CODE: 47-2031.01 RAPIDS CODE: 0067

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are estimates only.

CARPENTER RELATED CLASSROOM INSTRUCTION	Approximate Hours
Basic Safety	15
Introduction to Construction Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Orientation to the Trade	2.5
Wood Building Materials, Fasteners, and Adhesives	7.5
Hand and Power Tools	20
Floor Systems	25
Wall and Ceiling Framing	20
Roof Framing	37.5
Windows and Exterior Doors	12.5
Reading Plans and Elevations	20
Site Layout One — Distance Measurement and Leveling	22.5
Introduction o Concrete and Reinforcing Materials	10
Foundations and Flatwork	15
Concrete Forms	32.5
Reinforcing Forms	15
Handling and Placing Concrete	22.5
Manufactured Forms	22.5
Exterior Finish	35
Roofing Applications	25
Thermal and Moisture Protection	5
Stairs	15
Framing with Metal Studs	15
Drywall One: Installation	15
Drywall Two: Finishing	12.5
Interior Finish One: Doors	20
Interior Finish Two: Suspended Ceilings	25
Interior Finish Three: Window, Door, Floor, and Ceiling Trim	25
Interior Finish Four: Cabinet Installation	10
Site Layout Two: Angular Measurement	25
Advanced Roof Systems	15
Advanced Floor Systems	15
Advanced Wall Systems	20
Advanced Stair Systems	25
Introduction to Light Equipment	10
Welding	25
Metal Buildings	15
Introduction to Project Management and Supervision	15
TOTAL HOURS	<u>725</u>

Appendix A
ABC HEART OF AMERICA
WORK PROCESS SCHEDULE
CEMENT MASON
O*NET-SOC CODE: 47-2051.00 RAPIDS CODE: 0075
ALTERNATE TITLES: Cement Finisher, Cement Paver, Concrete
Finisher, Concrete Form Builder, Concrete Floater

1. **APPRENTICESHIP APPROACH**

Time-based

2. **TERM OF APPRENTICESHIP**

The term of the occupation shall be two (2) years with an OJL attainment of 4,000 hours supplemented by a minimum of 144 hours of related technical instruction per year.

3. **RATIO OF APPRENTICES TO JOURNEYPERSONS**

One (1) Apprentice to one (1) Journey person

4. **APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS**

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate of **\$21.00**.

Term: 4000 Hours

1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments

2nd 1000 hours = 65 percent of journeyworker's rate and fringe benefit payments

3rd 1000 hours = 80 percent of journeyworker's rate and fringe benefit payments

4th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. **PROBATIONARY PERIOD**

The probationary period shall be 1,000 hours of OJT or 6 months whichever is first

6. **SELECTION PROCEDURE**

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

A. Applications will be accepted throughout the year by appointment only at the ABC office.

B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to hire letter.

C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

Appendix A

**ABC HEART OF AMERICA
WORK PROCESS SCHEDULE
CEMENT MASON**

**O*NET-SOC CODE: 47-2051.00 RAPIDS CODE: 0075
ALTERNATE TITLES: Cement Finisher, Cement Paver, Concrete
Finisher, Concrete Form Builder, Concrete Floater**

WORK PROCESS SCHEDULE HOURS

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

1. Safety and good work habits	80
1. Learning to set screeds and layout work	600
2. Learning proper mix and consistency	400
3. Pouring and tamping concrete	300
4. Using vibrating machine	220
5. Rough finishing, hand or machine. Floating	400
6. Floating hand troweling to smooth finish	800
7. Patching, hand rubbing	200
8. Marking and edging	400
9. Protecting newly poured and laid concrete from weather, rain, sun and wind	600

TOTAL HOURS 4000

Appendix A
ABC HEART OF AMERICA
WORK PROCESS SCHEDULE
CEMENT MASON
O*NET-SOC CODE: 47-2051.00 RAPIDS CODE: 0075
ALTERNATE TITLES: Cement Finisher, Cement Paver, Concrete
Finisher, Concrete Form Builder, Concrete Floater

CEMENT MASON RELATED CLASSROOM INSTRUCTION

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are estimates only.

Modules	Approximate Hours
Basic Safety	15
Introduction to Construction Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Introduction to Concrete Construction and Finishing	10
Properties of Concrete	10
Preparing for Placement	12.5
Placing Concrete	12.5
Finishing: Part 1	20
Curing and Protecting Concrete	5
Introduction to Troubleshooting	5
Properties of Concrete, Part Two	7.5
Estimating Concrete Quantities	10
Forming	20
Site Concrete	30
Architectural Finishes	20
Industrial Floors	22.5
Super Flat Floors	22.5
Surface Treatments	12.5
Quality Control	10
Making Repairs	<u>10</u>
TOTAL HOURS	312.50

Appendix A
ABC HEART OF AMERICA
WORK PROCESS AND RELATED TRAINING SCHEDULE
CONSTRUCTION CRAFT LABORER
O*NET-SOC CODE: 47-2061.00 RAPIDS CODE: 0661

1. **APPRENTICESHIP APPROACH**

Time-based

2. **TERM OF APPRENTICESHIP**

The term of the occupation shall be two (2) years with an OJL attainment of 4000 hours supplemented by a minimum 144 hours of related technical instruction per year.

3. **RATIO OF APPRENTICES TO JOURNEYWORKERS**

One (1) Apprentice to one (1) Journeyworker

4. **APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS**

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate of **\$22.00**.

Term: 4000 Hours

1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments

2nd 1000 hours = 65 percent of journeyworker's rate and fringe benefit payments

3rd 1000 hours = 80 percent of journeyworker's rate and fringe benefit payments

4th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. **PROBATIONARY PERIOD**

The probationary period shall be 1000 hours of OJT or 6 months whichever is first.

6. **SELECTION PROCEDURE**

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

A. Applications will be accepted throughout the year by appointment only at the ABC office.

B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to hire letter.

C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

Appendix A
ABC HEART OF AMERICA
WORK PROCESS TRAINING SCHEDULE
CONSTRUCTION CRAFT LABORER
O*NET-SOC CODE: 47-2061.00 RAPIDS CODE: 0661

WORK PROCESS SCHEDULE	HOURS
1. Site/Project Preparation and Maintenance	600
a. Clearing bucking and falling	
b. Transportation, dismantling and stockpiling of scaffolding and work platforms	
c. Grading and compaction	
d. Layout and staking protocols	
e. Rigging and signaling for work traditionally done by Construction Craft Laborers	
f. Site Preparation, clean up and security	
2. Tools, Equipment and Materials	500
a. Recognition and preparation	
b. Hand, Electric, gas, pneumatic and power tool equipment use and maintenance	
c. Material storage and security	
3. Safety	500
a. Confined space safety	
b. Flagging, signaling and traffic safety awareness	
c. Hazard material recognition	
d. Trenching and site excavation safety	
4. Environmental Remediation	800
a. Asbestos abatement, hazardous waste abatement, lead abatement, and petro-chemical abatement	
b. Radiation and radiation remediation	
5. Building Construction	800
a. Concrete - tending, placement and removal	
b. Landscaping	
c. Mason/Plasterer tending	
d. Pipe Laying	
6. Heavy/Highway Construction	<u>800</u>
a. Asphalt, drilling and blasting	
b. Pipe laying for work traditionally performed by Construction Craft Laborers	
c. Tunnel and shaft	
d. Concrete - tending, placement and removal	
e. Bridges	
TOTAL HOURS	4000

Appendix A
ABC HEART OF AMERICA
RELATED TRAINING SCHEDULE
CONSTRUCTION CRAFT LABORER
O*NET-SOC CODE: 47-2061.00 RAPIDS CODE: 0661

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests. Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are estimates only.

Modules	Approximate Hours
Basic Safety	15
Basic Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Carpentry - Orientation to the Trade	2.5
Wood Building Materials, Fasteners, and Adhesives	7.5
Site Layout 1 - Distance Measurements and Leveling	22.5
Introduction to Concrete and Reinforcing Materials	20
Handling and Placing Concrete	22.5
Exploring Careers in Construction	20.0
Foundations and Flatwork	15
Reinforcing Concrete	15
Concrete Forms	32.5
Patented Forms	22.5
Masonry - Elevated Work	15
Mobile Crane Operations - Orientation to the Trade	15
Ironworking - Introduction to the Trade	5
Electrical Safety	12.5
Metal Building Assembly - Forklifts	17.5
Industrial Welding - Ox fuel Cutting	17.5
Masonry in High-Rise Construction	17.5
Introduction to Materials Handling	5.0
Introduction to Light Equipment	10
Heavy Equipment	15
Below Grade Construction	12.5
Earthmoving	12.5
Structures	12.5
Hazardous Material Recognition; Personal Protection; and Remediation	
• Environmental Awareness	5
• Hazard Communications	2.5
• Personal Protective Equipment	5
• Work zone Safety	<u>2.5</u>
TOTAL HOURS	435

Appendix A
ABC HEART OF AMERICA
WORK PROCESS AND RELATED TRAINING SCHEDULE
ELECTRICIAN (CONSTRUCTION)
O*NET-SOC CODE: 47-2111.00 RAPIDS CODE: 0159

1. **APPRENTICESHIP APPROACH**

Time-based

2. **TERM OF APPRENTICESHIP**

The term of the occupation shall be four (4) years with an OJL attainment of 8000 hours supplemented by a minimum 144 hours of related technical instruction per year.

3. **RATIO OF APPRENTICES TO JOURNEYWORKERS**

The sponsor is using the optional Ratio of two (2) Apprentices to one (1) Journeyworker as stated below.

The number of electrician apprentices employed on a given job site will not exceed a ratio of two apprentices for each electrician journeyworker normally employed where the Program Sponsor or its Apprenticeship Committee deems such a ratio to be consistent with proper supervision, training, safety, and continuity of employment throughout the apprenticeship, and is limited to the electrician occupation, in accordance with the following provisions:

(a) One apprentice may be in any period of training in their apprenticeship, and will be under the direct supervision of a journeyworker.

(b) A second apprentice who has successfully completed a minimum of 5,000 hours of OJL and the appropriate period of related and supplemental instruction may be permitted to perform work under the indirect supervision of the same journeyworker.

(c) Any work assigned to an apprentice eligible under (b) of this provision, must be reasonable and prudent in relation to the individual apprentice's knowledge, skills and ability, consistent with their progress in apprenticeship.

The Program Sponsor agrees that only such number of apprentices will be employed as can be given proper and thorough training and supervision, as well as a reasonable opportunity for employment in the occupation after completion.

This provision for increased apprentice to journeyworker ratio will provide local area Program Sponsors with expanded opportunity to increase female and/or minority participation in the construction industry.

For purposes of this section, a job site is considered to be the physical location where apprentices report for their work assignments. All other physical locations where workers report for work are each to be considered a single, separate job site.

In accordance with U.S. Dept. of Labor/ETA, Office of Apprenticeship Circular 2021-02 (Jan 12, 2021), Section II.A.1:

"For purposes of this circular, an industry sector (as defined by utilizing the two-digit industry sector code assigned by the North American Industry Classification System (NAICS) Manual) with a high rate of fatal work related injuries is one that, utilizing the data compiled by the U.S. Department of Labor's Bureau of Labor Statistics (BLS), has an average fatal work injury rate exceeding five (5) deaths per 100,000 full-time equivalent workers over the three (3) most recent calendar years for which such statistics are available. Utilizing this empirical approach, new Registered Apprenticeship programs operating within the following four industry sectors would be subject to a heightened level of scrutiny with respect to their utilization of expanded

ratios under this circular: (1) Construction; (2) Transportation and warehousing; (3) Mining, quarrying, and oil and gas extraction; and (4) Agriculture, forestry, fishing, and hunting. (For more information on the rate of fatal work injuries by industry sector, visit the BLS website at <https://www.bls.gov/iif/oshcfoi1.htm>, and the most current as of the date of this circular - <https://www.bls.gov/news.release/cfoi.t04.htm>). Note – This list may vary based on the most current BLS data. In this connection, apprenticeship programs falling within this category should furnish OA with objective data (**examples provided below in section II.A.4**) that is sufficient to justify the utilization of an expanded ratio.

Circular 2021-02, Section II.A.2:

*“Existing Apprenticeship Programs Registered by OA in High-Hazard Industry Sectors - For those apprenticeship programs that were previously registered by OA on a national, State, or local basis as of the date of this circular and that utilize expanded ratios in the industry sectors **described in section II.A.1 above**, such programs are also subject to monitoring by OA. In order to support their continued use of an expanded ratio, such existing programs should provide OA with the safety-related data **described below in Section II.A.4** to verify that the sponsor’s workplace continues to be safe for apprentices, and that the expanded apprentice-to-journeyworker ratio for the program remains appropriate.”*

Circular 2021-02, Section II.A.4 reads, as follows:

“Ongoing Safety Assessments of Program Sponsors Utilizing Expanded Ratios in High-Hazard Industry Sectors and/or Occupations - In conducting reviews of programs that have been granted expanded ratios in high-hazard industry sectors and/or occupations, OA staff should consider the following objective sources of data in evaluating whether the maintenance of such an expanded ratio continues to be warranted:

- *Review of Form(s) 300 and/or Form(s) 300-A from the Department’s Occupational Safety and Health Administration (OSHA) recording work-related injuries and illnesses, where applicable;*
- *Proof that the sponsor has a current agreement with OSHA pursuant to the OSHA Alliance Program (for more information on this topic, please see the following link: <https://www.osha.gov/alliances/>)*
- *A demonstration of adequate safety training in the apprenticeship program (via standards or curricula), including details on how the program’s standards ensure that an apprentice receives direct supervision and training from a qualified journeyworker in a manner consistent with the requirements contained in 29 CFR §29.5(b)(7); and/or*
- *Available worker’s compensation insurance information or documentation.*

In addition to this data, OA reserves the right to consider additional objective data in those limited instances where the foregoing data points are inconclusive in assessing overall program safety and quality.”

To demonstrate compliance with Circular 2021-02, and warrant continued use of an expanded apprentice to journeyworker ratio, **this program is required to provide the Office of Apprenticeship (OA) with the safety-related data described in Section II.A.4 every two (2) years** “to verify that the sponsor’s workplace continues to be safe for apprentices, and that the expanded apprentice-to-journeyworker ratio for the program remains appropriate.”

Appendix A
ABC HEART OF AMERICA
WORK PROCESS AND RELATED TRAINING SCHEDULE
ELECTRICIAN (CONSTRUCTION)
O*NET-SOC CODE: 47-2111.00 RAPIDS CODE: 0159

4. APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate of **\$22.56**.

Term: 8000 Hours

- 1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments
- 2nd 1000 hours = 55 percent of journeyworker's rate and fringe benefit payments
- 3rd 1000 hours = 60 percent of journeyworker's rate and fringe benefit payments
- 4th 1000 hours = 70 percent of journeyworker's rate and fringe benefit payments
- 5th 1000 hours = 75 percent of journeyworker's rate and fringe benefit payments
- 6th 1000 hours = 80 percent of journeyworker's rate and fringe benefit payments
- 7th 1000 hours = 85 percent of journeyworker's rate and fringe benefit payments
- 8th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. PROBATIONARY PERIOD

The probationary period shall be 2000 hours of OJT or 1 year whichever is first

6. SELECTION PROCEEDURE

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

A. Applications will be accepted throughout the year by appointment only at the ABC office.

B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to hire letter.

C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

Appendix A
ABC HEART OF AMERICA
WORK PROCESS TRAINING SCHEDULE
ELECTRICIAN (CONSTRUCTION)
O*NET-SOC CODE: 47-2111.00 RAPIDS CODE: 0159

ELECTRICIAN (CONSTRUCTION) WORK PROCESS SCHEDULE **HOURS**

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

1. Preliminary work	600
a. Learning the names and uses of the equipment used in the occupation, such as kind, size, and use of cable, wire, boxes, conduits and fitting, switches, receptacles, service switches, cutouts, etc	
b. Learning names and uses of the various tools use in assembling this material, care of these tools, and other instructions necessary to familiarize the apprentice with the material and tools of the occupation	
c. Safety	
2. Residential and commercial rough wiring	2500
3. Residential and commercial finish work	1500
4. Industrial lighting and service installation	2000
5. Troubleshooting	1000
6. Motor installation and control	<u>400</u>
TOTAL HOURS	8000

Appendix A
ABC HEART OF AMERICA
RELATED TRAINING SCHEDULE
ELECTRICIAN (CONSTRUCTION)
O*NET-SOC CODE: 47-2111.00 RAPIDS CODE: 0159

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are estimates only.

ELECTRICIAN RELATED CLASSROOM INSTRUCTION	Approximate Hours
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OSHA Construction and Electrical Safety

Electrical Safety and Personal Protective Equipment (PPE)	12
Introduction to Hand and Power Tools—Tool Safety	12
Fall Protection—Ladders and Stairways—Scaffolds	3
Confined Space Entry—Emergency Response—Lockout/Tagout(LOTO)	3
Excavations—Motor Vehicles—Tool Safety Review	3
Hazard Communications—Jobsite Exposures—Work Zone Safety	3

Basic Electrical Theory—Electrical Fundamentals

Matter—Electron Theory—Magnetism—Electricity	12
Digital Multimeter Principles	12
Electromagnetism—Uses of Electromagnetism—The Electrical Circuit—Basic Math—Electrical Formulas	15
Series Circuits—Parallel Circuits—Series Parallel Circuits—Multiwire Circuits	12
The Electrical System—Protection Devices—Alternating Current—Capacitance—Inductance	15
Power Factor and Efficiency—Motors—Generators—Transformers	15

The National Electrical Code®

Introduction to the National Electrical Code	18
NEC Chapter 1—Definitions, Requirements for Electrical Installations	9
NEC Chapter 2—Grounded Conductors, Branch Circuits, Load Calculations, Outside Branch Circuits and Feeders, Services, Overcurrent Protection, and Overvoltage Protection	45
NEC Chapter 3—Wiring Methods, Conductors, Cabinets, Cutout Boxes, and Meter Sockets, Boxes, Conduit Bodies, Fittings, Handholes, Cables, Raceways, and Cable Trays	18
NEC Chapter 4—Flexible Cords and Cables, Fixture Wires, Lighting, Low-voltage Lighting, Motors, Air Conditioning and Refrigeration, Generators, Transformers, and Storage Batteries	27
NEC Article 250—Grounding and Bonding	15
NEC Chapter 5—Hazard/Classified Locations, Commercial Garages and Motor Fuel Dispensing, Healthcare Facilities, Assembly Occupancies, Mobile/Manufactured Homes, and Temporary Installations	6
NEC Chapter 6—Electric Signs, Manufactured Wiring Systems, Elevators, Electric Vehicle Charging Systems, Electric Welders, Audio Signal Processing, Information Technology Equipment, And Swimming Pools, Spas, Hot Tubs, Fountains, and Similar Installations	15
NEC Chapter 7—Emergency, Legally Required, and Optional Standby Systems, Remote Control Signaling and Power-Limited Circuits, Fire Alarm Systems, Optical Fiber Cables and Raceways	9
NEC Chapter 8—Communications Circuits, Radio and Television Equipment, and CATV and Radio Distribution	

Systems	
Solar Photovoltaic (PV) and Energy Storage Systems	15
Basic Motor and Motor Control	21
Electrical Estimating	15
Leadership Training	6
National Electrical Code and Electrical Fundamentals Review	27
Exam Preparation—NEC Calculations	42
OSHA Safety Review	3
Electrical Theory and Electrical Calculations Review	6

ELECTRICIAN RELATED CLASSROOM INSTRUCTION

Journeyman Practice Exams—Parts 1, 2, and 3	18
Term Review and Exams—(16 Terms)	96
Level Review and Exams—(4 Levels)	36

Lab Activities and Flexible Training (throughout program)

<ul style="list-style-type: none"> • 3 and 4-Way switching • Box fill • GFCI Devices • Voltage Drop Calculations • Lighting Ballasts and Transformers • Blueprints/Take-offs 	<ul style="list-style-type: none"> • Flex Training/Instructor, Institution Choice • Conductor Ampacity • Conduit Bending • Raceway Sizing Calculations • Variable Speed Drives • Fire Alarm Systems 	60
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Total Program Hours 624

Appendix A

**ABC HEART OF AMERICA
WORK PROCESS SCHEDULE
HEATING AND AIR-CONDITIONING INSTALLER-SERVICER
O*NET-SOC CODE: 49-9021.01 RAPIDS CODE: 0637
ALTERNATE TITLES: AIR-CONDITIONING MECHANIC, ENVIRONMENTAL-CONTROL SYSTEM
INSTALLER-SERVICER, HEATING AND AIR-CONDITIONING MECHANIC, HEATING MECHANIC**

1. APPRENTICESHIP APPROACH

Time-based

2. TERM OF APPRENTICESHIP

The term of the occupation shall be four (4) years with an OJL attainment of 8000 hours supplemented by a minimum 144 hours of related technical instruction per year.

2. RATIO OF APPRENTICES TO JOURNEYPERSONS

One (1) Apprentice to one (1) Journeyperson

3. APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate.

Term: 8000 Hours

- 1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments
- 2nd 1000 hours = 55 percent of journeyworker's rate and fringe benefit payments
- 3rd 1000 hours = 60 percent of journeyworker's rate and fringe benefit payments
- 4th 1000 hours = 70 percent of journeyworker's rate and fringe benefit payments
- 5th 1000 hours = 75 percent of journeyworker's rate and fringe benefit payments
- 6th 1000 hours = 80 percent of journeyworker's rate and fringe benefit payments
- 7th 1000 hours = 85 percent of journeyworker's rate and fringe benefit payments
- 8th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. PROBATIONARY PERIOD

The probationary period shall be 2000 hours of OJT or 1 year whichever is first

6. SELECTION PROCEEDURE

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

A. Applications will be accepted throughout the year by appointment only at the ABC office.

B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to hire letter.

C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

Appendix A
ABC HEART OF AMERICA
WORK PROCESS TRAINING SCHEDULE
HEATING AND AIR-CONDITIONING INSTALLER-SERVICER
O*NET-SOC CODE: 49-9021.01 RAPIDS CODE: 0637
ALTERNATE TITLES: AIR-CONDITIONING MECHANIC, ENVIRONMENTAL-CONTROL SYSTEM
INSTALLER-SERVICER, HEATING AND AIR-CONDITIONING MECHANIC, HEATING MECHANIC

A12.1 - WORK PROCESS SCHEDULE	HOURS
1. General Trade Orientation	350
a. Care and use of tools	
b. Test and measurement devices	
c. Types and sizes of fittings, piping, and tubing	
d. Safety procedures	
e. Equipment records and reports	
f. Environmental safety, CFC handling	
2. Fabrication of Systems Components	550
a. Cut, thread, flare, bend, shape piping and tubing	
b. Install fittings	
c. Solder and braze tin fittings and components	
d. Care and use of torches	
e. Silver and soft soldering	
3. System Installation and connection	1600
a. Electrical supply lines and cables	
b. Electrical connections	
c. Water service lines	
d. Air supply lines	
e. Steam lines and steam return lines	
f. Steam traps and strainers	
g. Pressure reduction, expansion, evaporators, stop valves	
h. Suction and discharge lines	
i. Gauges	
j. Dehydrators	
k. Filters and strainers	
l. Controls	
4. Equipment Installation	950
a. Install condensers	
b. Prepare compressor and motor bases	
c. Install and align compressors and motors	
d. Install evaporators and other cooling coils	
e. Install and align centrifugal pumps and bases	
f. Use slings, lines, blocks and falls, chain hoists, rollers, dollies and skids	
5. System Maintenance	1050
a. Troubleshoot field systems	
b. Test pressure and flow	
c. Check liquid levels	
d. Check and repair leaks	

e. Purge, dehydrate, and recharge systems	
f. Repair, align, adjust fans and blowers	
g. Align pulleys, bearing blocks, and belt tension	
6. Equipment Repair	2900
a. Disassemble and clean, repair, renew, and test compressors	
b. Repair, pressure test, dehydrate evaporators	
c. Repair condensers, roll condensor tubes	
d. Remove, replace, disassemble, test, clean, calibrate, and renew parts on controls of all types	
1. Pneumatic	
2. Electrical	
3. Electro-pneumatic	
4. Thermostatic	
5. Humidity	
5. Pressure	
6. Vacuum	
7. Machine Shop Practice	300
a. Use of grinders, drill presses, lathes	
b. Tool and drill sharpening	
8. Miscellaneous	300
a. Housekeeping	
b. Safety	
TOTAL HOURS	8000

Appendix A
ABC HEART OF AMERICA
WORK PROCESS TRAINING SCHEDULE
HEATING AND AIR-CONDITIONING INSTALLER-SERVICER
O*NET-SOC CODE: 49-9021.01 RAPIDS CODE: 0637

**ALTERNATE TITLES: AIR-CONDITIONING MECHANIC, ENVIRONMENTAL-CONTROL SYSTEM
INSTALLER-SERVICER, HEATING AND AIR-CONDITIONING MECHANIC, HEATING MECHANIC**

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are estimates only.

A12.2 - HEATING AND AIR-CONDITIONING INSTALLER-SERVICER RELATED
CLASSROOM INSTRUCTION

Modules	Approximate Hours
Basic Safety	15
Introduction to Construction Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Introduction to HVAC	2.5
Copper and Plastic Piping Practices	5
Soldering and Brazing	7.5
Basic Electricity	12.5
Introduction to Cooling	30
Introduction to Heating	15
Air Distribution Systems	10
Chimneys, Vents, and Flues	5
Maintenance Skills for the Service Technician	17.5
Alternating Current	7.5
Basic Electronics	5
Electric Heating	5
Introduction to Control Circuit Troubleshooting	30
Accessories and Optional Equipment	7.5
Metering Devices	7.5
Compressors	15
Heat Pumps	15
Leak Detection, Evacuation, Recovery, and Charging	20
Planned Maintenance	20
Troubleshooting Gas Heating	12.5
Troubleshooting Electric Heating	5
Troubleshooting Oil Heating	10
Troubleshooting Cooling	20
Troubleshooting Heat Pumps	12.5

Troubleshooting Accessories	10
Troubleshooting Electronic Controls	7.5
Hydronic Heating and Cooling Systems	30
Airside Systems	15
Air Properties and Balancing	20
Advanced Blueprint Reading	25
Indoor Air Quality	15
Energy Conservation Equipment	10
Building Management Systems	17.5
Water Treatment	10
System Start-Up and Shut-Down	22.5
Heating and Cooling System Design	25
Commercial and Industrial Refrigeration	22.5
TOTAL HOURS	600

Appendix A
ABC HEART OF AMERICA
WORK PROCESS AND RELATED TRAINING SCHEDULE
OPERATING ENGINEER
O*NET-SOC CODE: 47-2071.00 RAPIDS CODE: 0872

1. APPRENTICESHIP APPROACH

Time-based

2. TERM OF APPRENTICESHIP

The term of the occupation shall be three (3) years with an OJL attainment of 6000 hours supplemented by the required hours of related technical instruction. by a minimum 144 hours of related technical instruction per year.

3. RATIO OF APPRENTICES TO JOURNEYWORKERS

One (1) Apprentice to one (1) Journeyworker

4. APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate.

Term: 6000 Hours

- 1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments
- 2nd 1000 hours = 60 percent of journeyworker's rate and fringe benefit payments
- 3rd 1000 hours = 70 percent of journeyworker's rate and fringe benefit payments
- 4th 1000 hours = 75 percent of journeyworker's rate and fringe benefit payments
- 5th 1000 hours = 85 percent of journeyworker's rate and fringe benefit payments
- 6th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. PROBATIOANRY PERIOD

The probationary period shall be 2000 hours of OJT or 1 year whichever is first

6. SELECTION PROCEEDURE

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

- A. Applications will be accepted throughout the year by appointment only at the ABC office.
- B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to hire letter.
- C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

Appendix A
ABC HEART OF AMERICA
WORK PROCESS TRAINING SCHEDULE
OPERATING ENGINEER
O*NET-SOC CODE: 47-2071.00 RAPIDS CODE: 0872

OPERATING ENGINEER WORK PROCESS SCHEDULE	HOURS
1. Graders Learn to check, read, and set grade stakes and read plans, Learn to service, maintain, and adjust the machine, Learn the different types of work the machine does, such as find grading, black sloping, mixing and laying oil, Learn to operate and maintain elevating graders, Learn to make adjustments and minor repairs with the heavy-duty repairer and welder.	750
2. Scrapers, self-propelled Learn to operate the various types of motor and motor-electric driven machines, Learn to make proper cuts and fills to the grade stakes, Learn to service, maintain, and repair the different makes of machines	750
3. Rollers, flat wheel, sheep foot, and pneumatic, and other type compacting machines. Learn the purpose of the different machines, the different procedures for compaction for various materials, and the operation and care of different types of rollers and other compaction equipment.	600
4. Tractor-type skin loaders and hi-lift Learn to operate the various types and to service and make minor repairs and adjustments	300
5. Wheel-type tractors, including forklifts, lumber carriers, etc. Learn service, maintain, and make minor repairs and adjustments.	300
6. Trenching machines Learn to read grade stakes and cut trench to grades so indicated, Learn to operate the various types and sizes of machines and their maintenance and repair.	300
7. Bulldozer and electric-propelled dozers Learn the different types of work assigned the dozer from pioneer and rough excavation to finish work. Learn to read grade stakes, Learn to make minor adjustments and repairs and work with mechanic on major repairs, Learn the operation, service, and adjustment of auxiliary equipment, such as tractor crane, side boom, pipeline equipment, etc.	450
8. Scraper, towed Learn to operate properly, Learn to service, adjust, and change cables on cable-controlled machines. Learn to read grade stakes for cuts and fills.	350
9. General equipment Learn to operate, service, and adjust all types of pumps, Learn operation and maintenance of pumping machines, such as pump crete machine, concrete pump, gunite machine. Learn the installation, operation and maintenance of well point systems Learn to operate, service and adjust all types of mechanical heaters Learn to operate, service, and adjust all types of electrical generating plants	500

Learn to operate, service and adjust all types of air compressors and use and operation of auxiliary equipment. Safety.

10. Concrete, stone, and asphalt spreaders, screed and finishing machines	450
Learn to service, make minor repairs, adjust, and be able to operate the machines	
11. Concrete mixer-paver	400
Learn to operate and also become familiar with control of mixing time apparatus, Learn to make adjustments and repairs and to service machine.	
12. Specialty paving equipment	450
Learn to operate, service, and adjust gutter pavers, curb pavers, vibrators, concrete saws, pavement breakers, and similar-type equipment	
13. Maintenance, cutting and burning, grease and oils	<u>400</u>
Learn use of various welders and welding equipment, Learn minor repairs and adjustments, Learn minor welding repair and cutting, Learn the types of greases and oils and their use.	
TOTAL HOURS	6000

Appendix A
WORK PROCESS TRAINING SCHEDULE
OPERATING ENGINEER
O*NET-SOC CODE: 47-2071.00 RAPIDS CODE: 0872

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are estimates only.

Modules	APPROXIMATE Hours
Basic Safety	15
Introduction to Construction Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Introduction to the Trade	15
Trucks	7.5
Heavy Equipment	15
Cranes	7.5
Below-Grade Construction	12.5
Earthmoving	12.5
Plant Operations	7.5
Paving	7.5
Structures	12.5
Orientation to the Trade	10
Safety, Part One	10
Identification of Heavy Equipment	7.5
Equipment Preventive Maintenance	10
Dump Trucks	27.5
Tractors	10
Soils, Part One	10
Grades, Part One	10
Finish Operator	25
Advanced Safety	17.5
Telescoping Excavators	20
Motor Graders	25
Excavators	25
Finishing and Grading	20
Soils, Part Three	17.5
TOTAL HOURS	415

Appendix A
ABC HEART OF AMERICA
WORK PROCESS AND RELATED TRAINING SCHEDULE
PIPEFITTER
O*NET-SOC CODE: 47-2152.01 RAPIDS CODE: 0414
ALTERNATE TITLES: CONSTRUCTION PIPEFITTER

1. APPRENTICESHIP APPROACH

Time-based

2. TERM OF APPRENTICESHIP

The term of the occupation shall be four (4) years with an OJL attainment of 8000 hours supplemented by a minimum 144 hours of related technical instruction per year.

3. RATIO OF APPRENTICES TO JOURNEYWORKERS

One (1) Apprentice to one (1) Journeyworker

4. APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate.

Term: 8000 Hours

- 1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments
- 2nd 1000 hours = 55 percent of journeyworker's rate and fringe benefit payments
- 3rd 1000 hours = 60 percent of journeyworker's rate and fringe benefit payments
- 4th 1000 hours = 70 percent of journeyworker's rate and fringe benefit payments
- 5th 1000 hours = 75 percent of journeyworker's rate and fringe benefit payments
- 6th 1000 hours = 80 percent of journeyworker's rate and fringe benefit payments
- 7th 1000 hours = 85 percent of journeyworker's rate and fringe benefit payments
- 8th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. PROBATIONARY PERIOD

The probationary period shall be 2000 hours of OJT or 1 year whichever is first

6. SELECTION PROCEDURE

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

A. Applications will be accepted throughout the year by appointment only at the ABC office.

B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum

qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to hire letter.

C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

Appendix A
ABC HEART OF AMERICA
WORK PROCESS TRAINING SCHEDULE
PIPEFITTER
O*NET-SOC CODE: 47-2152.01 RAPIDS CODE: 0414
ALTERNATE TITLES: REFRIGERATION, HEATING, AND AIR-CONDITIONING

<u>PIPEFITTER WORK PROCESS SCHEDULE</u>	<u>HOURS</u>
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This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

1. Use and care of tools and equipment and safety	700
2. Installation and service (compression systems)	700
3. Refrigerant controls	500
4. Motor controls (installation and service)	500
5. Electric motors (service) up to 5 horsepower	200
6. Installation and service (absorption systems)	200
7. Installation and service (hermetic, semi hermetic)	200
8. Commercial refrigeration (various applications)	1500
9. Installation and service (air conditioning systems)	900
10. Installation and service (heating equipment)	900
11. Installation and service (fuel-burning equipment)	400
12. Boiler room piping (service and installation)	400
13. Installation (heating systems)	<u>900</u>
TOTAL HOURS	8000

**Appendix A
ABC HEART OF AMERICA
RELATED TRAINING SCHEDULE
PIPEFITTER**

O*NET-SOC CODE: 47-2152.01 RAPIDS CODE: 0414

ALTERNATE TITLES: REFRIGERATION, HEATING, AND AIR-CONDITIONING

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are estimates only.

PIPEFITTER RELATED CLASSROOM INSTRUCTION	Approximate Hours
Basic Safety	15
Introduction to Construction Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Pipefitting Hand Tools	20
Pipefitting Power Tools	15
Threaded Pipe Fabrication	15
Ladders and Scaffolds	10
Motorized Equipment	10
Excavations	10
Underground Pipe	12.5
Intermediate Excavations	10
Underground Pipe Installation	20
Drawings and Detail Sheets	12.5
Piping Systems	5
Pipefitting Trade Math	15
Socket Weld Pipe Fabrication	12.5
Butt Weld Pipe Fabrication	45
Rigging	17.5
Pipe Hangers and Supports	15
Advanced Blueprint Reading	15
Standards and Specifications	7.5
Advanced Trade Math	20
Motorized Equipment	15
Introduction to Aboveground Pipe Installation	20
Identifying and Installing Valves	20
Field Routing and Vessel Trim	15
Spring Can Supports	10
Testing Piping Systems and Equipment	20
Basic Plumbing	12.5
Planning Work Activities	7.5
Advanced Pipe Fabrication	50
Performing NDE Testing	15
Stress Relieving and Aligning	10
Steam Traps	10
In-Line Specialties	10
Special Piping	25
Hot Taps	10
Maintaining Valves	10

TOTAL HOURS

620

Appendix A
ABC HEART OF AMERICA
WORK PROCESS AND RELATED TRAINING SCHEDULE
PLUMBER
O*NET-SOC CODE: 47-2152.02 RAPIDS CODE: 0432

This work process schedule is attached to and a part of the Apprenticeship Standards for the above identified occupation. This sequence of Related Classroom Instruction is time based and will be offered as traditional classroom training or independent study, which may include electronic media.

1. APPRENTICESHIP APPROACH

Time-based

2. TERM OF APPRENTICESHIP

The term of the occupation shall be four (4) years with an OJL attainment of 8000 hours supplemented by a minimum 144 hours of related technical instruction per year.

3. RATIO OF APPRENTICES TO JOURNEYWORKERS

One (1) Apprentice to one (1) Journeyworker:

4. APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate.

Term: 8000 Hours

- 1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments
- 2nd 1000 hours = 55 percent of journeyworker's rate and fringe benefit payments
- 3rd 1000 hours = 60 percent of journeyworker's rate and fringe benefit payments
- 4th 1000 hours = 70 percent of journeyworker's rate and fringe benefit payments
- 5th 1000 hours = 75 percent of journeyworker's rate and fringe benefit payments
- 6th 1000 hours = 80 percent of journeyworker's rate and fringe benefit payments
- 7th 1000 hours = 85 percent of journeyworker's rate and fringe benefit payments
- 8th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. PROBATIONARY PERIOD

The probationary period shall be 2000 hours of OJT or 1 year whichever is first

6. SELECTION PROCEDURE

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

A. Applications will be accepted throughout the year by appointment only at the ABC office.

B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to hire letter.

C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

Appendix A
ABC HEART OF AMERICA
WORK PROCESS TRAINING SCHEDULE
PLUMBER
O*NET-SOC CODE: 47-2152.02 RAPIDS CODE: 0432

<u>PLUMBER WORK PROCESS SCHEDULE</u>	<u>HOURS</u>
1. Interior and exterior underground sanitary and storm sewer or private sewage system work	1200
2. Vertical stacks, horizontal lines, and branch lines for soil, waste, and venting piping	2100
3. Water supply system – Sizing of lines, selecting of material to use, and job, cross-laying out connection control and water treatment equipment	1700
4. Setting and connecting of all types of plumbing fixtures and appliances and water treatment equipment	1500
5. Care and safe use of tools, materials and equipment used on the job. Job lay out and site safety requirements. Driving and operating of equipment used in the job	500
6. Industrial , process piping, gas piping, compressed air piping, and chemical piping . welding and rigging of equipment.	500
7. Installing and maintenance of high/low pressure boilers, and chilled water cooling systems	<u>500</u>
TOTAL HOURS	8000

**Appendix A
ABC HEART OF AMERICA
RELATED TRAINING SCHEDULE
PLUMBER**

O*NET-SOC CODE: 47-2152.02 RAPIDS CODE: 0432

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are estimates only.

PLUMBER RELATED CLASSROOM INSTRUCTION	Approximate Hours
Basic Safety	15
Introduction to Construction Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Introduction to the Plumbing Trade	5
Plumbing Tools	7.5
Introduction to Plumbing Math	7.5
Introduction to Plumbing Drawings	12.5
Plastic Pipe and Fittings	10
Copper Pipe and Fittings	10
Cast Iron Pipe and Fittings	10
Carbon Steel Pipe and Fittings	10
Fixtures and Faucets	10
Introduction to Drain, Waste, and Vent (DWV) Systems	10
Introduction to Water Distribution Systems	10
Intermediate Math	15
Reading Commercial Drawings	20
Installing and Testing DWV Piping	30
Installing Roof, Floor, and Area Drains	5
Types of Valves	5
Installing and Testing Water Supply Piping	25
Installing Fixtures, Valves, and Faucets	15
Installing Water Heaters	5
Fuel Gas Systems	20
Servicing Fixtures, Valves, and Faucets	5
Applied Math	17.5
Codes	7.5
Types of Venting	15
Indirect and Special Waste	15
Sewage and Sump Pumps	17.5
Sizing Water Supply Piping	20
Backflow Preventers	20
Water Pressure Boosters and Recirculating Systems	20
Servicing Piping Systems, Fixtures, and Appliances	20
Business Math for Plumbers	10
Sizing DWV and Storm Systems	15
Private Water Supply Systems	12.5
Private Waste Disposal Systems	12.5
Locating Buried Water and Sewer Lines	12.5
Hydronic and Solar Heating Systems	15

Water Supply Treatment	25
Swimming Pools and Hot Tubs	15
Compressed Air	10
Corrosive-Resistant Waste Piping	12.5
Plumbing for Mobile Homes & Mobile Home Parks	<u>10</u>
TOTAL HOURS	622.5

Appendix A
ABC HEART OF AMERICA
WORK PROCESS AND RELATED TRAINING SCHEDULE
ROOFER
O*NET-SOC CODE: 47-2181.00 RAPIDS CODE: 0480

1. APPRENTICESHIP APPROACH

Time-based

2. TERM OF APPRENTICESHIP

The term of the occupation shall be two (2) years with an OJL attainment of 4000 hours supplemented by the required hours of related technical instruction. by a minimum 144 hours of related technical instruction per year.

3. RATIO OF APPRENTICES TO JOURNEYWORKERS

One (1) Apprentice to one (1) Journeyworker

4. APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate.

Term: 6000 Hours

- 1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments
- 2nd 1000 hours = 60 percent of journeyworker's rate and fringe benefit payments
- 3rd 1000 hours = 70 percent of journeyworker's rate and fringe benefit payments
- 4th 1000 hours = 80 percent of journeyworker's rate and fringe benefit payments

5. PROBATIONARY PERIOD

The probationary period shall be 1,000 hours of OJT or 1 year whichever is first

6. SELECTION PROCEEDURE

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

- A. Applications will be accepted throughout the year by appointment only at the ABC office.
- B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to hire letter.
- C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

**Appendix A
WORK PROCESS TRAINING SCHEDULE
ROOFER**

O*NET-SOC CODE: 47-2181.00 RAPIDS CODE: 0480

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

WORK PROCESS SCHEDULE	HOURS
General	400
a. Carrying and placing materials for use by journeyworker	
b. Material handling, setting up job site, cleaning up job site	
c. Hoisting, loading and unloading all materials and tools	
Built-up roofing, tar, asphalt, and general work	2700
a. Preparing materials, equipment; regulating and heat of pitch and asphalt	
b. Preparing roof surfaces for covering	
c. Apply pitch or asphalt to roof	
d. Prepare, cut, place, fit trim strips to felt, tar paper, roofing paper or insulating board to roof	
e. Apply additional layers of roofing material to roof as required	
f. Cement tar paper with hot tar, or asphalt, or flashing cement	
g. Evenly distribute crushed gravel or slag over top coat or tar or asphalt	
h. Properly install gravel stop, scuppers, roof drains, etc.	
i. Properly flash all curbs, parapets and other openings in roof	
Shingle work	450
a. Asphalt shingles and 90# roll roofing	
b. Cover roof sheathing with felt	
c. Nail shingles, provide for proper overlap	
d. Cut shingles to fit ridges, valleys and edges	
e. Apply flashing	
f. Cleaning complete job	
Other materials	225
a. Felt, wood, coal, oil, lumber, roofing paper, insulation board, pitch, flashing cement, gravel, or slag	
b. Tile blocks, cement mortar, grout, water, dilute acid solution, asphalt	
c. Roofing cement, slate, terra cotta, asbestos shingles, wood shakes, roofing felt, sheet metal flashing and all other materials used by roofers	
Tools and equipment	225
Axe, ladders, iron buckets, hoist, heater, scaffolding, nails, hatchet, saw, knife, dipper, cotton mop, scoop shovel, bucket, rake, stiff bristled broom, ladder rule, trowel, hammer, level, straight-edge, roofer's hammer, punch, pliers, roofer's take, chalk line, paper cutter, rule and other tools.	
Total Hours	4000

Appendix A
WORK PROCESS TRAINING SCHEDULE
ROOFER
O*NET-SOC CODE: 47-2181.00 RAPIDS CODE: 0480

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

Modules	Approximate Hours
Basic Safety	15
Introduction to Construction Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Nails, Fasteners and Adhesives	7.5
Concrete and Reinforcement Materials	10
Fasteners, Hangers and Supports	7.5
Steel and Other Metals	2.5
Introduction to Sheet Metal Layout and Processes	7.5
Bolting and Aligning	5
Roof Framing	37.5
Soldering	15
Gutters and Downspouts	10
Roof Flashing	7.5
Trim and Flashing	10
Roof Panel Types and Systems Design	10
Installing Standing Seam Roof Systems	32.5
Installing Lap Seam Roof Systems	12.5
Physical Characteristics/ Properties of Metals	1
Introduction to Welding, Brazing and Cutting	20
Roofing Applications	25
Installation of Cornices, Gutters, and Downspouts	12
Fabrication II-Radial Line Development	55
Reroofing	20
Roof Coatings	1
Shop Production and Organization	25
Fabrication IV-Comprehensive Review	60
Total Hours	466.5

*DOL apprenticeship program standards recommend 144 hours related instruction per level and/or year

Appendix A

ABC HEART OF AMERICA WORK PROCESS AND RELATED TRAINING SCHEDULE SHEET METAL WORKER O*NET-SOC CODE: 47-2211.00 RAPIDS CODE: 0510

1. APPRENTICESHIP APPROACH

Time-based

2. TERM OF APPRENTICESHIP

The term of the occupation shall be four (4) years with an OJL attainment of 8000 hours supplemented by a minimum 144 hours of related technical instruction per year.

2. RATIO OF APPRENTICES TO JOURNEYWORKERS

One (1) Apprentice to one (1) Journeyworker

3. APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate.

Term: 8000 Hours

- 1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments
- 2nd 1000 hours = 55 percent of journeyworker's rate and fringe benefit payments
- 3rd 1000 hours = 60 percent of journeyworker's rate and fringe benefit payments
- 4th 1000 hours = 70 percent of journeyworker's rate and fringe benefit payments
- 5th 1000 hours = 75 percent of journeyworker's rate and fringe benefit payments
- 6th 1000 hours = 80 percent of journeyworker's rate and fringe benefit payments
- 7th 1000 hours = 85 percent of journeyworker's rate and fringe benefit payments
- 8th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. PROBATIONARY PERIOD

The probationary period shall be 2000 hours of OJT or 1 year whichever is first

6. SELECTION PROCEDURE

The sponsor has adopted the following selection procedures, consistent with the requirements set forth in 29 CFR § 30.10(b):

The sponsor will utilize 2 different pathways for selection into the program. Incumbent employees and an Alternate letter of intent to hire system.

APPLICATION & SELECTION PROCEDURES FOR INCUMBENT EMPLOYEES

A. Apprentices will be accepted from incumbent employees who meet minimum requirements.

APPLICATION & SELECTION PROCEDURES FOR LETTER OF INTENT TO HIRE SYSTEM

A. Applications will be accepted throughout the year by appointment only at the ABC office.

B. Applicants meeting the minimum qualifications and submitting the required documents will be provided a Letter of Acceptance and be furnished a list of all the employers who have acceptance agreements with ABC Heart of America along with a letter of introduction indicating they have met the minimum qualifications for entry into the ABC Heart of America apprenticeship program along with employer intent-to-hire letter.

C. Once an applicant or their sponsoring employer provides a Letter of Intent to Hire, they will receive the apprenticeship agreement to sign and complete.

Appendix A
ABC HEART OF AMERICA
WORK PROCESS TRAINING SCHEDULE
SHEET METAL WORKER
O*NET-SOC CODE: 47-2211.00 RAPIDS CODE: 0510

SHEET METAL WORKER WORK PROCESS SCHEDULE **HOURS**

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

1. Use of hand tools	350
2. Use of machine tools and processes	1000
3. Flux, rivets, and fastening devices	500
4. Measurements and layouts	650
5. Bench work	1100
6. Welding	750
7. Installing duct work and equipment	2050
8. General sheet fabrication and installation of skylights and ventilators	1000
9. Safety practices	500
10. Insulation of duct work (lining, etc.)	<u>100</u>
TOTAL HOURS	8000

**Appendix A
ABC HEART OF AMERICA
RELATED TRAINING SCHEDULE
SHEET METAL WORKER**

O*NET-SOC CODE: 47-2211.00 RAPIDS CODE: 0510

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are estimates only.

Modules	Approximate Hours
Basic Safety	15
Introduction to Construction Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Introduction to the Sheet Metal Trade	5
Fasteners, Hangers, and Supports	7.5
Installation of Air Distribution Accessories	5
Insulation	7.5
Introduction to Sheet Metal Layout and Processes	7.5
Trade Math I	12.5
Fabrication I — Parallel Line Development	22.5
Trade Math II	20
Basic Piping Practices	7.5
Fabrication II-Radial Line Development	55
Bend Allowances	5
Blueprints and Specifications	20
Air Properties and Distribution	15
Sheet Metal Duct Fabrication Standards	7.5
Soldering	15
Fiberglass Duct	20
Trade Math III: Field Measuring and Fitting	15
Airside Systems	10
Introduction to Welding, Brazing, and Cutting	20
Principles of Refrigeration	7.5
Principles of Air Flow	22.5
Comprehensive Blueprint and Specification Reading	30
Fabrication Three: Triangulation	40
Architectural Sheet Metal	15
Shop Production and Organization	25
Air Balance	15
Fabrication Four	60
Louvers, Dampers and Access Doors	17.5
Hoods and Ventilators	10
Fume and Exhaust Systems Design	<u>25</u>
TOTAL HOURS	617.50

Associated Builders and Contractors, Inc.