



NORTH CAROLINA STANDARDS OF APPRENTICESHIP

Developed by

PHCC Academy of North Carolina

For the Occupation(s) of:

Occupation	Occupation Code	Term of Training	Type of Training
Heating and Air Conditioning Technician	49-9021.01	8050	Hybrid
Plumbing Technician	47-2152.02	8000	Hybrid

Approved by the North Carolina Community College System, ApprenticeshipNC:

Apprenticeship Director

Date

Program Number: 28674
Effective Date of Registration: 10/18/2015
Effective Date of Revision: 01/24/2024



ApprenticeshipNC
 North Carolina Community College System
 200 W. Jones St., 5001 Mail Service Center
 Raleigh, NC 27699-4301
 Phone: 919-807-7100
 apprenticeshipNC@nccommunitycolleges.edu

Apprenticeship Program Request Form

RA-001362
PHCC of NC Academy
 1521 Holland Hill Dr.
 Fuquay-Varina, NC 27526

Number of Employees: **50**
 Program Type: **Group Joint**
 Indenture: **N**
 Workers Compensation: **Y**
 VA Approved: **Y**
 Affirmative Action Pledge on File: **Y**

County: **Wake**
 Location: **1521 Holland Hill Dr.**
Fuquay-Varina, NC 27526
 Supervisor: **Stephanie Blazek**
 Title: **Executive Director**
 Email: **stephanie@phccnc.com**
 Telephone: **(919) 532-0522**

49-9021.00 - Heating and Air Conditioning Technician *Status: In Progress*

OJL Term: **5200** Minimum hours **8050** Total hours
 RI Contact Hours: **586**
 # of Journeyworkers: **95** Quota: **95** Ratio: **1 to 1**

Wage Scale: STANDARD	Journeyworker Rate: \$18.00	Rate Date: 11/22/2023
Interval	Time	Rate
1	2000	\$15.00
2	2000	\$16.00
3	2000	\$17.00
4	2050	\$17.50

47-2152.02 - Plumbing Technician *Status: In Progress*

OJL Term: **5200** Minimum hours **8000** Total hours
 RI Contact Hours: **586**
 # of Journeyworkers: **95** Quota: **95** Ratio: **1 to 1**

Wage Scale: STANDARD	Journeyworker Rate: \$18.00	Rate Date: 11/22/2023
Interval	Time	Rate

1	2000	\$15.00
2	2000	\$16.00
3	2000	\$17.00
4	2000	\$17.50

This document may be executed in counterparts, each of which will be deemed an original and all of which will constitute one and the same document. The parties may exchange signature pages electronically or by facsimile, and such signatures will be effective to bind the parties to all the terms contained in this document.

<p>Signature of Sponsor or Representative</p> <p><i>Stephanie Blazek</i></p> <p>Date: 1/24/2024</p>	<p>Signature of Apprentice Consultant</p> <p><i>Jill Hendrix</i></p> <p>Date: 01/23/2024</p>	<p>Signature of Director's Approval</p> <p><i>Dale Garborough</i></p> <p>Date: 1/24/2024</p>
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Registered Apprenticeship Standards

- National Program Standards
- Natl Guidelines for Appr Standards
- Statewide Apprenticeship Standards
- Local Apprenticeship Standards

PHCC OF NC ACADEMY

Occupation(s)

Heating and Air Conditioning Technician

Status: **In Progress**

O*NET Code: **49-9021.00**

RAPIDS Code: **0637R2**

Plumbing Technician

Status: **In Progress**

O*NET Code: **47-2152.02**

RAPIDS Code: **0432R1**

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

Approved by the
NC Community College System Office
ApprenticeshipNC

Registered By: Jill Hendrix
(For ApprenticeshipNC Use Only)

Certified By: Dale Yarborough
(For ApprenticeshipNC Use Only)

Signature: Jill Hendrix
(Sign here for Apprenticeship Standards)

Signature: Dale Yarborough
(Sign here for Apprenticeship Standards)

Title: Apprenticeship Consultant / Coordinator

Date: 1/23/24

Registration Number: **001362**

Title: ANC Field Supervisor

Approval Date: 1/24/2024

Check here if these are revised standards

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SECTION I – STANDARDS OF APPRENTICESHIP 29 CFR § 29.5

- A. Provisional Registration:** Pursuant to 29 CFR §§ 29.3(g) and (h) and NC General Statutes § Chapter 115D, all new programs registered after December 1, 2010, receive provisional registration approval for one (1) year. At the end of the first year, the Division will evaluate the program for compliance and the program may either receive full recognition, continue in provisional status through the first full training cycle, or be recommended for deregistration procedures if not in operation or not conforming to the regulations during the provisional approval period.
- B. Responsibilities of the sponsor:** *PHCC of NC Academy* must conduct, operate, and administer this program in accordance with all applicable provisions of Title 29 Code of Federal Regulations (CFR) parts 29 and 30, and all relevant guidance issued by the North Carolina Community College System Office and the US Department of Labor (USDOL). 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 Title 29, CFR part 29.7. Apprenticeship agreements are available upon logging into NCRAN.
- Register all apprenticeship standards with the Registration Agency, ApprenticeshipNC 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 ApprenticeshipNC within 45 days of all suspensions for any reason, reinstatements, extensions, transfers, completions and cancellations with explanation of causes.
- 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.
- Adhere to Federal, State, and Local Law Requirements – The State Apprenticeship Agency's registration of the apprenticeship program described in these Standards of Apprenticeship on either a nationwide basis (under the National Program Standards of Apprenticeship) or within a particular State, and the registration of individual apprentices under the same program, does not exempt the program sponsor, and/or any employer(s) participating in the program, and/or the individual apprentices registered under the program from abiding by any applicable Federal, State, and local laws or regulations relevant to the occupation covered by these Standards, including those pertaining to occupational licensing requirements and minimum wage and hour requirements.
- The program's Standards of Apprenticeship must also conform in all respects with any such applicable Federal, State, and local laws and regulations. Any failure by the program to satisfy this requirement may result in the initiation of deregistration proceedings for reasonable cause by the ApprenticeshipNC under 29CFR § 29.8.

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

An apprentice must be at least **18** years of age, except where a higher age is required by law, and must be employed to learn an apprenticeable occupation. Please include any additional qualification requirements as appropriate (optional):

- There is an educational requirement of : **High School Diploma;High School Equivalency**
- There is a physical requirement of _____
- The following aptitude test(s) will be administered _____
- A valid driver's license is required.
- Other *as outlined in job description*

(List all other requirements)

D. 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.

E. Work Process Schedule and Related Instruction Outline - 29 CFR § 29.5(b) (3),(4) and NC General Statutes § Chapter 115D-11.11(4)

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

F. 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. PHCC of NC Academy will evaluate the request for credit and make a determination during the apprentice's probationary period.

Additional requirements for an apprentice to receive credit for previous experience [Optional]:

G. Probationary Period – (29 CFR § 29.5 (b)(8) and (20) NC General Statutes § Chapter 115D-11.11(7)

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.

H. Ratio of Apprentices to Journey workers - 29 CFR § 29.5 (b)(7)

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

I. 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 journey worker wage rate. Insert the progressive wage schedule at Appendix A.

J. Equal Employment Opportunity and Affirmative Action

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

PHCC of NC Academy 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.

PHCC of NC Academy 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.

[Optional] The equal opportunity pledge applies to the following additional protected bases (as applicable per the sponsor's state or locality):

2. Affirmative Action Program - 29 CFR §§ 29.5(b)(21), 30.4, and 30.10

PHCC of NC Academy acknowledges that it will adopt an affirmative action plan in accordance with 29 Title 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.

K. 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

- 2. 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. Any complaint described in that cannot be resolved by the program sponsor to the satisfaction of all parties may be submitted to the Registration Agency. Complaints may be filed with the Registration Agency at (To be completed by ApprenticeshipNC):

Name: *John Loyack*

Address: *5001 Mail Center*

Raleigh, NC 27699

Telephone Number: *919.703.5359*

Email Address: *loyackj@nccommunitycolleges.edu*

- 3. Registration Agency General Contact Information 29 CFR § 29.5(b)(17)**

- 4. The Registration Agency is the NC Community College System Office/ApprenticeshipNC. General inquiries, notifications and requests for technical assistance may be submitted to the Registration Agency using the contact information below: (To be completed by ApprenticeshipNC).**

Name: John Loyack
Address: 5001 Mail Center
Raleigh, NC 27699
Telephone Number: 919.703.5359
Email Address: loyackj@nccommunitycolleges.edu

Reciprocity of Apprenticeship Programs 29 CFR § 29.13 (a)(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 Journey-workers, Type of Occupation, Term of Apprenticeship, Selection Procedures, and Probationary Period*
- Appendix B** – *Apprenticeship Agreement*
- 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 an 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 provision of the Apprenticeship Standards formulated and registered by *PHCC of NC Academy*, by the 30th day of January, 2024.

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)

(Requires Manual Signature)

Stephanie Blazek

Printed Name

Signature of Sponsor (designee)

(Requires Manual Signature)

Printed Name

SECTION V - DISCLOSURE AGREEMENT *(Optional)*

ApprenticeshipNC routinely makes public general information relating to Registered Apprenticeship programs. General information includes the name and contact information of the sponsor, the location of the program, and the occupation(s) offered.

In addition, sponsors submitting National Program Standards or Local Standards have the option of allowing ApprenticeshipNC to share publicly the contents of a sponsor's application for registration to assist in building a high-quality National Apprenticeship System. This may include a copy of the Standards, Appendix A, Appendix D (as applicable), but not completed versions of Agreements, or Appendix C "Affirmative Action Plan" because those documents are submitted after a sponsor's application is approved and the program is registered. **Please note that ApprenticeshipNC will consider a sponsor's application as releasable to the public unless the sponsor requests non-disclosure by signing below.**

I, _____ *(Sponsor Representative)*, acting on behalf of *PHCC of NC Academy* request that ApprenticeshipNC not publicly disclose its application, other than general information about the program, as described above as it is considered confidential commercial information and steps are taken to preserve it. Further, I understand that if Apprenticeship receives a request for this application pursuant to 5 U.S.C. 552, we may be contacted to support ApprenticeshipNC's withholding of the information, including in litigation, if necessary. I understand that my request that ApprenticeshipNC not publicly disclose this application will remain in effect, including with respect to subsequent amendments to this application, unless and until I notify ApprenticeshipNC otherwise.

Signature
(Requires Manual Signature)

Date

Printed Name

Appendix A

WAGE SCALE, WORK PROCESS SCHEDULE, AND RELATED INSTRUCTION OUTLINE

**PHCC of NC Academy
(RA-001362)**

Heating and Air Conditioning Technician 49-9021.00 (0637R2)

In Progress

APPRENTICESHIP APPROACH

Time-based Competency-based Hybrid

TERM OF APPRENTICESHIP

The term of the apprenticeship is **4.025** years over **8050** hours of OJL training with a minimum of **5200** required hours of OJL training, and a required **586** hours of Related Instruction

RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journey-worker ratio is: **1 to 1**

APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journey-worker wage rate, which is:

STANDARD Wage Scale		\$18.00 per hour Journeyworker rate
Seq	Hours	Rate
1	2000	\$ 15.00
2	2000	\$ 16.00
3	2000	\$ 17.00
4	2050	\$ 17.50

PROBATIONARY PERIOD

A 500 hour (90 Day) probationary period is required before enrollment to assess interest and compatibility with the program.

SELECTION PROCEDURES

Please enter selection procedures for this occupation:

Alternative selection methods

The sponsor may select apprentices by any other method, including its present selection method, provided that the sponsor meets the requirements listed in 29 CFR § 30.5(b)(4).

Selection on basis of rank from pool of eligible applicants

The sponsor may select apprentices from a pool of eligible applicants on the basis of the rank order of their scores on one or more qualification standards where there is a significant statistical relationship between rank order of scores and performance in the apprenticeship program. The selection of any qualification standards beyond minimum legal working age, the use of oral

interviews, the notification of applicants, and the establishment of goals for the admission of minorities and women (minority and nonminority) into the pool of eligible must proceed in accordance with the requirements of 29 CFR § 30.5(b)(1).

Random selection from pool of eligible applicants

The sponsor may select apprentices from a pool of eligible applicants on a random basis. The method of random selection is subject to approval by the U.S. Department of Labor. Supervision of the random selection process shall be by an impartial person or persons selected by the sponsor but not associated with the administration of the apprenticeship program. The time and place of the selection, and the number of apprentices to be selected, shall be announced. The place of the selection shall be open to all applicants and the public. The names of apprentices drawn by this method shall be posted immediately following the selection at the program sponsor's place of business.

Selection from pool of current employees

The sponsor may select apprentices from an eligibility pool of the workers already employed by the program sponsor or by the sponsor's established promotion policy. The sponsor adopting this method of selecting apprentices shall establish goals for the selection of minority and female apprentices, unless the sponsor concludes, in accordance with the provisions of 29 CFR §§ 30.4(d), (e), and (f) that it does not have deficiencies in terms of underutilization of minorities and/or women (minority and nonminority) in the apprenticeship of journey-worker occupations represented by the program.

DIRECT ENTRY

Sponsors that wish to invoke the direct entry provision may do so without regard to the existing selection procedure or minimum qualifications used for entry into the apprenticeship program. Individuals selected into the apprenticeship program via direct entry shall include only those individuals described below who have received training or employment in an occupation directly or indirectly related to the occupation(s) registered in these standards. The sponsor will award credit for previous experience in accordance with Section XII of these standards and will pay each apprentice at the wage rate commensurate with his or her skill attainment. The credit for previous experience shall be awarded without regard to race, color, religion, national origin, or sex. The methods for direct entry are as follows:

Pre-Apprenticeship Program

An individual who has completed a structured pre-apprenticeship training program that meets the requirements outlined in Training and Employment Notice 13-12, Defining a Quality Pre-Apprenticeship Program and Related Tools and Resources, in any occupational area covered in these standards of apprenticeship and who meets the minimum qualifications of the apprenticeship program may be admitted directly into the program. The candidate shall provide official documentation confirming that he or she fulfilled the specific requirements of the pre-apprenticeship program, such as completion/graduation certificates, transcripts, notarized letters of confirmation, and sworn statements.

□ ***Veteran with military training in industry***

A military veteran who are registered with the Helmets to Hardhats program or have completed military technical training school and/or participated in a registered apprenticeship program or related occupation while in the military in the occupations registered in the **Construction** industry may be given direct entry into the apprenticeship program. The sponsor shall 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 the veteran needs to meet to ensure he or she receives all necessary training for completion of the apprenticeship program. 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. Entry of military veterans shall be done without regard to race, color, religion, national origin, or sex. ***(Note: This is a method of direct entry into the apprenticeship program.)***

WORK PROCESS SCHEDULE
Heating and Air Conditioning Technician 49-9021.00

Hybrid Occupation: Please include the minimum/maximum number of hours (right column) with the breakdown of the Job Tasks and the successful demonstration of competencies described in the WPS (left column), required to complete the apprenticeship program and identify an appropriate means of testing and evaluation for such competencies.

The term of the apprenticeship is **8050** hours of OJL training with a minimum of **5200** required hours of OJL training.

Description	Hours
Safety is included in all aspects of on the job training	
I. GENERAL	8050
1. Familiarity with policies & procedures	0
2. Understand and uses basic hand & power tools	0
3. Familiar with and observes safety procedures	0
4. Wears personal protective equipment	0
5. Attend required safety meetings & technical training classes	0
6. Maintains clean job site and truck	0
7. Obtains EPA Refrigerant Certification	0
-	0
II. RESIDENTIAL	0
1. Brazing cooper pipe	0
2. Familiar w/ductwork, venting materials and applications	0
3. Installation of vent systems for furnaces, water heaters, bath vents, kitchen hoods, and downdraft appliances	0
4. Install drain lines, thermostats, refrigerant piping, gas piping, wardflex, vent systems, and TXV's	0
5. Set-up, and install all types of residential equipment	0
6. Basic understanding of the different types of equipment, basic operation & start-up	0
7. Control wiring, zone controls	0
8. Knowledge of residential code requirements	0
9. Advanced installation & start-up procedures of multi-stage equipment, filter systems, UV lights, programmable, wireless and WiFi thermostats	0
-	0
III. COMMERCIAL	0
1. Powder gun certification	0

2. Forklift, scissors lift certification	0
3. Read/interpret drawings	0
4. Knowledge of commercial code requirements	0
5. Installation of commercial duct systems, duct fitting, VAV	0
6. Installation of commercial hvac systems: RTU,split systems, mini splits, unit heaters, zone dampers	0
-	0
IV. SERVICE	0
1. Customer Service	0
2. Customer Service	0
3. Maintenance procedures, filter changes, coil cleaning, electrical component inspection	0
4. Refrigerant recovery & evacuation procedures	0
5. Refrigerant leak check	0
6. Refrigerant leak repair	0
7. Electrical component diagnosis	0
8. Replace electrical components: thermostats, relays, contactors, control boards, zone boards, capacitors, fan motors, inducer motors, transformers, fuses, solenoids, circuit breakers, etc.	0
9. Replace cooling system components: compressors, evaporator & condensor coils, reversing valves, driers, accumulators, metering devices, pressure switches, and service valves	0
10. Replace heating system components: gas valves, inducer motors, heat exchangers	0

RELATED INSTRUCTION OUTLINE
Heating and Air Conditioning Technician 49-9021.00

Please provide the Related Instruction Outline to include a list of the anticipated courses, the learning objectives, and the estimated number of contact hours for each course or the total minimum number of contact hours for all courses.

Provider: **Plumbing-Heating-Cooling Contractors-Nc**
 Ttl Min Num of Contact Hrs: **586**
 Instruction Type: **Classroom;Online**
 Credentials: **Other**
 Description:

Description	Course	Hours
Safety and Anti-Harassment training is included in all aspects of Related Instruction.		
Provider: Plumbing-Heating-Cooling Contractors-NC, Program Sponsor		586
HVAC-Year 1		0
Introduction to HVAC		0
Introduction to System & Major Components		0
Introduction to Basic Electricity & Safety		0
Introduction to Thermodynamics		0
Basic Refrigeration Cycle		0
Scheduled Maintenance		0
Systematic Problem Solving		0

Basic Installation & Repairing Methods	0
Energy Efficient Installations	0
Selling & Customer Service	0
-	0
HVAC-Year 2	0
Refrigeration Cycle Review	0
Compressors	0
Refrigerants & Lubrication	0
Condensers	0
Metering Devices	0
Refrigeration Accessories	0
Evaporators	0
Evacuation & Charging Procedures	0
Heating	0
Electrical & Safety	0

Electrical Troubleshooting	0
Introduction to Motors	0
Cooling Equipment	0
Mechanical Troubleshooting	0
Advanced Installation Techniques	0
Control Systems	0
Psychrometrics	0
Basic Sizing	0
-	0
HVAC-Year 3	0
Servicing & Troubleshooting Systems & Safety	0
TAB (Testing, Adjusting, & Balancing)	0
Energy Efficient Mechanical Systems	0
Fluid Handling Systems	0
Applied Electrical Problem Solving	0

Applied Refrigeration System Problem Solving	0
Troubleshooting with the Psychrometric Chart	0
Cooling Towers & Evaporative Condensers	0
Commercial AC & Refrigeration Systems	0
Water Treatment	0
Indoor Air Quality	0
-	0
HVAC-Year 4	0
The One Way Heat Pump: A Review of the Comfort Conditioning Refrigeration Cycle	0
The Outdoor Coil: Absorbing Heat	0
The Indoor Coil: Rejecting Heat	0
The Heat Pump Thermostat	0
Heat Pump Components	0
Motors	0
Compressors	0

Specific Defrost	0
Electrical Schematics	0
ASHP Installation	0
Scheduled Maintenance & Safety	0
Troubleshooting ASHP's	0
Geothermal Heat Pumps	0
Ground-Source Heat Pumps	0
Water-Source Heat Pumps	0
Pumping Configuration & Flow Centers	0
Geothermal Sequence of Operation & System Chks	0
Geothermal Installation	0
Geothermal Scheduled Maintenance	0
Troubleshooting GSHP's	0
Energy & Efficiency Calculations	0
Anti-Harassment Training	0

* RELATED INSTRUCTION PROVIDED IN-HOUSE, ON-LINE,
AND VENDORS*

0

Plumbing Technician 47-2152.02 (0432R1)

In Progress

APPRENTICESHIP APPROACH

Time-based Competency-based Hybrid

TERM OF APPRENTICESHIP

The term of the apprenticeship is 4 years over 8000 hours of OJL training with a minimum of 5200 required hours of OJL training, and a required 586 hours of Related Instruction (**Note: The competency-based training approach does not require hours.**)

RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journey-worker ratio is: **1 to 1**

APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journey-worker wage rate, which is:

STANDARD Wage Scale **\$18.00** per hour Journeyworker rate

Seq	Hours	Rate
1	2000	\$ 15.00
2	2000	\$ 16.00
3	2000	\$ 17.00
4	2000	\$ 17.50

PROBATIONARY PERIOD

A 500 hour (90 Day) probationary period is required before enrollment to assess interest and compatibility with the program.

SELECTION PROCEDURES Please enter selection procedures for this occupation:

Alternative selection methods

The sponsor may select apprentices by any other method, including its present selection method, provided that the sponsor meets the requirements listed in 29 CFR § 30.5(b)(4).

Selection on basis of rank from pool of eligible applicants

The sponsor may select apprentices from a pool of eligible applicants on the basis of the rank order of their scores on one or more qualification standards where there is a significant statistical relationship between rank order of scores and performance in the apprenticeship program. The selection of any qualification standards beyond minimum legal working age, the use of oral interviews, the notification of applicants, and the establishment of goals for the admission of

minorities and women (minority and nonminority) into the pool of eligible must proceed in accordance with the requirements of 29 CFR § 30.5(b)(1).

Random selection from pool of eligible applicants

The sponsor may select apprentices from a pool of eligible applicants on a random basis. The method of random selection is subject to approval by the U.S. Department of Labor. Supervision of the random selection process shall be by an impartial person or persons selected by the sponsor but not associated with the administration of the apprenticeship program. The time and place of the selection, and the number of apprentices to be selected, shall be announced. The place of the selection shall be open to all applicants and the public. The names of apprentices drawn by this method shall be posted immediately following the selection at the program sponsor's place of business.

Selection from pool of current employees

The sponsor may select apprentices from an eligibility pool of the workers already employed by the program sponsor or by the sponsor's established promotion policy. The sponsor adopting this method of selecting apprentices shall establish goals for the selection of minority and female apprentices, unless the sponsor concludes, in accordance with the provisions of 29 CFR §§ 30.4(d), (e), and (f) that it does not have deficiencies in terms of underutilization of minorities and/or women (minority and nonminority) in the apprenticeship of journey-worker occupations represented by the program.

DIRECT ENTRY

Sponsors that wish to invoke the direct entry provision may do so without regard to the existing selection procedure or minimum qualifications used for entry into the apprenticeship program. Individuals selected into the apprenticeship program via direct entry shall include only those individuals described below who have received training or employment in an occupation directly or indirectly related to the occupation(s) registered in these standards. The sponsor will award credit for previous experience in accordance with Section XII of these standards and will pay each apprentice at the wage rate commensurate with his or her skill attainment. The credit for previous experience shall be awarded without regard to race, color, religion, national origin, or sex. The methods for direct entry are as follows:

Pre-Apprenticeship Program

An individual who has completed a structured pre-apprenticeship training program that meets the requirements outlined in Training and Employment Notice 13-12, Defining a Quality Pre-Apprenticeship Program and Related Tools and Resources, in any occupational area covered in these standards of apprenticeship and who meets the minimum qualifications of the apprenticeship program may be admitted directly into the program. The candidate shall provide official documentation confirming that he or she fulfilled the specific requirements of the pre-apprenticeship program, such as completion/graduation certificates, transcripts, notarized letters of confirmation, and sworn statements.

☐ ***Veteran with military training in industry***

A military veteran who are registered with the Helmets to Hardhats program or have completed military technical training school and/or participated in a registered apprenticeship program or related occupation while in the military in the occupations registered in the **Construction** industry may be given direct entry into the apprenticeship program. The sponsor shall 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 the veteran needs to meet to ensure he or she receives all necessary training for completion of the apprenticeship program. 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. Entry of military veterans shall be done without regard to race, color, religion, national origin, or sex. ***(Note: This is a method of direct entry into the apprenticeship program.)***

WORK PROCESS SCHEDULE
Plumbing Technician 47-2152.02

Competency-based Occupation: Please describe competencies required for the apprenticeship (left column and identify an appropriate means of testing and/or evaluating for such competencies (right column)).

The term of the apprenticeship is **8000** hours of OJL training with a minimum of **5200** required hours of OJL training.

Description	Hours
Safety is included in all aspects of on the job training	
I. INSTALLATION	8000
1. Installation of piping for waste	0
2. Soil	0
3. Vent	0
4. Leader Lines	0
5. Sewerage	0
6. Installation of lead pipe, tin pipe, lead joints, sheet lead, solder work and lead burning	0
7. Installation of piping for hot and cold water for domestic purposes	0
II. ASSEMBLY	0
1. Assembly in position and connection of fixtures and appliances	0
2. Domestic Heating	0
3. Gas Fittings	0
4. Plumbing and Drainage Systems	0
III. WELDING	0
1. Welding and brazing connected with trade	0
IV. MAINTENANCE	0
1. Maintenance and repairing of heating, plumbing, gas fittings, and refrigeration service	0
V. OPERATIONS	0
1. Operation, care, and use of all tools and equipment connected with the trade	0
2. Operation and maintenance of complete repair service and drain cleaning	0
VI. SAFETY	0
1. Code, blueprint reading, and sketching, and safety	0

RELATED INSTRUCTION OUTLINE
Plumbing Technician 47-2152.02

Please provide the Related Instruction Outline to include a list of the anticipated courses, the learning objectives, and the estimated number of contact hours for each course or the total minimum number of contact hours for all courses.

Provider: **Plumbing-Heating-Cooling Contractors-Nc**
 Ttl Min Num of Contact Hrs: **586**
 Instruction Type: **Classroom;Online**
 Credentials: **Other**
 Description:

Description	Course	Hours
Safety and Anti-Harassment training is included in all aspects of Related Instruction.		
PROVIDER:PLUMBING-HEATING-COOLING CONTRACTORS-NC, PROGRAM SPONSOR		586
-		0
PLUMBING-YEAR I		0
1. PLUMBING ESSENTIALS AND TOOLS		0
2. FIRST AID AND SAFETY		0
3. BASIC MATH FOR PLUMBING		0
4. PLUMBING AND CONSTRUCTION BASICS		0
5. PIPING MATERIALS AND JOINING METHODS		0
6. SQUARES, SQUARE ROOTS AND BASIC GEOMETRY		0

7. FIXTURES, FAUCETS AND VALVES	0
8. WATER HEATERS	0
9. FUNDAMENTALS OF PLUMBING DRAWINGS	0
-	0
PLUMBING YEAR-II	0
1. INSTALLATION PRACTICES	0
2. PLUMBING MATHEMATICS	0
3. BLUEPRINT READING AND BASIC DRAWINGS	0
4. JOINING METHODS	0
5. PLUMBING VENTS AND SEWAGE PUMPS	0
6. RELATED SCIENCE	0
7. INSTALLATION PRACTICES-PLASTIC PIPE AND FITTINGS	0
8. SAFETY PRACTICES	0
-	0
PLUMBING-YEAR III	0

1. INSTALLATION PRACTICES	0
2. BLUEPRINT READING	0
3. NATIONAL FUEL GAS CODE- PART 1	0
4. NATIONAL FUEL GAS CODE- PART 2	0
5. SURVEYING INSTRUMENTS	0
6. MATHEMATICS	0
7. RELATED SCIENCE	0
8. ELECTRICITY	0
-	0
PLUMBING- YEAR IV	0
1. SERVICE AND REPAIR- PART 1	0
2. SERVICE AND REPAIR- PART 2	0
3. BLUEPRINT READING	0
4. INSTALLATION PRACTICES	0
5. HEATING SYSTEMS	0

6. RELATED SCIENCE	0
7. PLUMBING CODE	0
8. FINAL PROJECT	0
Anti-Harassment Training	0
RELATED INSTRUCTION PROVIDED-IN-HOUSE, ONLINE, AND NCCER	0

SCHEDULE OF WORK PROCESS



Below is an example of spreadsheet that employer should keep on each apprentice for each year enrolled in program. Does not have to be this form but should indicate hours towards required processes. This should be submitted to NCPHCC as the apprentice completes each year.

PROGRAM: PHCC of North Carolina
APPRENTICE NAME: _____
OCCUPATION: HVAC TECHNICIAN
HIRE DATE: _____

	GENERAL	HOURS	100	TRAINING CHECKLIST			Total Hours Completed	1/1	1/2
				EMP	MENTOR	DIRECTOR			
1	Familiarity with policies & procedures						0.0		
2	Understand & uses basic hand & power tools						0.0		
3	Familiar with and observes safety procedures						0.0		
4	Wears personal protective equipment						0.0		
5	Attend required safety meetings & technical training classes						0.0		
6	Maintains clean jobsite and truck						0.0		
7	Obtains EPA refrigerant certification						0.0		
							0.0		
RESIDENTIAL		HOURS	2650						
8	Brazing copper pipe						0.0		
9	Familiar w/ ductwork, venting materials and applications						0.0		
10	Installation of residential ductwork, pipe and flex						0.0		
11	Installation of vent systems for furnaces, water heaters, bath vents, kitchen hoods, and downdraft appliances						0.0		
12	Install drain lines, thermostats, refrigerant piping, gas piping, wardflex, vent systems, and TXV's						0.0		
13	Set, install all types of residential equipment						0.0		
14	Basic understanding of the different types of equipment, basic						0.0		

- operation & start-up
- 15 Control wiring, zone controls
- 16 Knowledge of residential code requirements
- 17 Advanced installation & start up procedures of multi-stage equipment, filter systems, UV lights, programmable, wireless, and Wi-Fi thermostats

0.0
0.0
0.0
0.0
0.0
0.0

0.0

COMMERCIAL HOURS 2650

- 18 Powder gun certification
- 19 Forklift, scissors lift certification
- 20 Read/interpret drawings
- 21 Knowledge of commercial code requirements
- 22 Installaton of commercial duct systems, duct fitting, VAV
- 23 Installation of commercial hvac systems: RTU, split systems, mini-splits, unit heaters, zone dampers

0.0
0.0
0.0
0.0
0.0
0.0

0.0

TRAINING CHECKLIST

SERVICE HOURS 2650

- 24 Customer service
- 25 Maintenance procedures, filter changes, coil cleaning, electrical component inspection
- 26 Refrigerant recovery & evacuation procedures
- 27 Refrigerant leak check
- 28 Refrigerant leak repair
- 29 Electrical component diagnosis
- 30 Replace electrical components: thermostats, relays, contactors, control boards, zone boards, capacitors, fan motors, inducer motors, transformers, fuses, solenoids, circuit breakers, etc

EMP MENTOR DIRECTOR

0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0

Replace cooling system components: compressors, evaporator & condensor coils, reversing valves, driers, accumulators, metering devices, pressure switches, service valves

31 Replace heating system components: gas valves, inducer motors, heat exchangers

0.0

0.0

0.0

0.0

0.0

0.0

TOTAL WORK PROCESS HOURS - 8050

0.0

Provider: Sponsor

Training provided in-house by sponsor, on-line, and vendors

SCHEDULE OF WORK PROCESS



PROGRAM: PHCC of North Carolina

APPRENTICE NAME: _____

OCCUPATION: PLBG TECHNICIAN

HIRE DATE: _____

TRAINING CHECKLIST

I. INSTALLATION *HOURS 2760*

- | | |
|--|------|
| 1 Installation of piping for waste. | 500 |
| 2 Installation of piping for soil. | 500 |
| 3 Installation of piping for vents. | 300 |
| 4 Installation of piping for leader lines. | 100 |
| 5 Installation of piping for sewerage. | 100 |
| 6 Installation of lead pipe, tin pipe, lead joints, sheet lead, solder work and lead burning | 10 |
| 7 Installation of piping for hot and cold water for domestic purposes | 1250 |

EMP MENTOR DIRECTOR

II. ASSEMBLY *HOURS 2500*

- | | |
|--|------|
| 1 Assembly in position and connection of fixtures and appliances | 100 |
| 2 Domestic Heating | 200 |
| 3 Gas Fittings | 400 |
| 4 Plumbing and Drainage Systems | 1800 |

TRAINING CHECKLIST

			EMP	MENTOR	DIRECTOR
III. WELDING	HOURS 250				
1	Welding and brazing connected with the trade	250			
IV. MAINTENANCE	HOURS 800				
1	Maintenance and repairing of heating, plumbing, gas fittings, and refrigeration service	800			
V. OPERATIONS	HOURS 1065				
1	Operations, care and use of all tools and equipment connected with the trade	525			
2	Operations and maintenance of complete repair service and drain cleaning.	540			
VI. SAFETY	HOURS 625				
1	Code, Blueprint Reading, Sketching, and Safety	625			
TOTAL WORK PROCESS HOURS - 8000					

Provider: Sponsor

Training provided in-house by sponsor, on-line, and vendors

Appendix D

EMPLOYER ACCEPTANCE AGREEMENT

ADOPTED BY

Ted's HVAC, LLC

**DEVELOPED IN COOPERATION WITH THE
U. S. DEPARTMENT OF LABOR
OFFICE OF APPRENTICESHIP**

Appendix D

EMPLOYER ACCEPTANCE AGREEMENT

The undersigned employer hereby subscribes to the provisions of the Apprenticeship Standards formulated and registered by the PHCC Academy of North Carolina and agrees (s) to carry out the intent and purpose of said Standards for NC Plumbing and HVAC Technicians and accompanying Appendices and to abide by the rules and decisions of the Sponsor established under these Apprenticeship Standards. _____ have been furnished a copy of the Standards and have read and understood them, and request certification to train apprentices under the provisions of these Standards. On-the-job, the apprentice is hereby assured qualified training personnel and adequate supervision during the apprenticeship. The training should follow the approved Work Process Schedule and Related Instruction Outline including the rotation of tasks. The employer further agrees to follow the selection procedures per the approved Standards or develop alternative selection procedures in the Employer Acceptance Agreement that are consistent with the requirements set forth in 29 CFR § 30.10(b). This employer acceptance agreement will remain in effect until canceled voluntarily or revoked by the Sponsor, Employer or ApprenticeshipNC.

_____	_____
<i>(Print Name of Employer Representative)</i>	<i>(Print Name of Sponsor Representative)</i>
Signed: _____	Signed: _____
<i>(On Behalf of Employer)</i>	<i>(On Behalf of Sponsor)</i>
Date: _____	Date: _____
Employer Title: _____	
Name of Company: _____	
Address: _____	
City/State/Zip Code: _____	
Phone Number: _____	
Fax: _____	
Email: _____	
cc: Registration Agency	

Employer Acceptance Agreement Data:

Insert Occupation (s): _____ (use one per occupation)

APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly Journeyworker wage rate, which is

\$18.00. Starting wage is **\$15.00.**

PROBATIONARY PERIOD

A 500 hour (90 Day) probationary period is recommended before enrollment to assess interest and compatibility with the program.

TOTAL WORKFORCE

Total Workers Employed: _____ Journeyworkers: _____ Female: _____

Minority: _____ Youth: _____

TOTAL APPRENTICES TO BE EMPLOYED: _____

RATIO:

_____Apprentice(s) to _____Journeyworker(s)

MINIMUM QUALIFICATIONS

An apprentice must be at least # years (Enter an age of at least 16 years) of age, except where a higher age is required by law, and must be employed to learn an apprenticeable occupation.

Please include any additional qualification requirements as appropriate (optional):

- There is an educational requirement of
- There is a physical requirement of
- The following aptitude test(s) will be administered
- A valid driver's license is required.

Other: i.e. Applicants will pass a [physical agility test, fitness test, or screen for the current illegal use of drugs (select all, some, or none, if applicable)] on acceptance into the program and prior to being employed.



RELATED TECHNICAL INSTRUCTION PROVIDED BY: PHCC Academy of North Carolina