

# State of Florida



**Preapprenticeship  
Standards  
for**

**Academy of Construction Technologies, Inc.**  
(Program Name)

**in the Trade(s) of:**

<u>Occupation/Trade</u>	<u>SIC Code</u>	<u>DOT Code</u>	<u>RAIS Code</u>
Bricklayer	1741	861.381-018	0052
Electrician	1731	824.261-010	0159
Heating & Air Conditioning Installer/Service	1711	637.261-014	0637
Pipefitter—Sprinkler Fitter	1711	862.281-022	0414A
Plumber	1711	862.381-030	0432

**Apprenticeship Program Sponsor Registered Name**

**Registration Number**

ABCI Heating & A/C Installer Service GNJ

FL013020001

ABCI Plumbing GNJ

FL009050002

Acousti Engineering Company of Florida INJ

FL001960006

Air Conditioning Contractors Association of Central  
Florida Apprenticeship Program GNJ

FL008910004

Central Florida Electrical JATC

FL008660001

Florida Automatic Sprinkler Training, Inc. GNJ

FL005050002

Florida Electrical Apprenticeship and Training, Inc. GNJ

FL008870020

Masonry Association of Florida, Inc. GNJ

FL007930012

Department of Education Linkage? -Yes or -No

Florida Department of Education, Office of Workforce Education-Apprenticeship

**SIGNATURE PAGE**

**PROGRAM NAME:** Academy of Construction Technologies, Inc.

**ADDRESS:** 2900 West Oak Ridge Road, Orlando, FL 32809

**Mailing Address:** P.O. Box 592744, Orlando, FL 32859

**PHONE:** 407- 682-3368

**FAX:** 407-682-3568

Approved and adopted by the Preapprenticeship Committee, at Orlando, Florida this  
(City)

\_\_\_\_\_ of \_\_\_\_\_, 2006,  
(Day) (Month) (Year)

**Committee Members**

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\_\_\_\_\_  
**Secretary—Lori Blake**  
**Associated Builders & Contractors, Inc.**

\*  
\_\_\_\_\_  
**Chairman—Mike Cornelius**  
**Tri City Electrical Contractors, Inc.**

\_\_\_\_\_  
**Member, Past Chair—Keith Sommer**  
**Pyramid Masonry Contractors, Inc.**

\_\_\_\_\_  
**Member, Treasurer—David Beasley**  
**Palmer Electric Company**

\_\_\_\_\_  
**Member, Second Vice Chair—George Kania**  
**Tri City Electrical Contractors, Inc.**

\_\_\_\_\_  
**Member, First Vice Chair—Patricia Walker**  
**WELBRO Building Corporation**

**Signature Authority**  
**for the Committee:** \_\_\_\_\_ **Executive Director**  
(Signature) (Title)

**Assisted and Reviewed By:** \_\_\_\_\_  
Robert Grisar, Apprenticeship Representative, Department of Education


\_\_\_\_\_  
[TBA] Superintendent  
Seminole County Public Schools

\_\_\_\_\_  
Ronald Blocker, Superintendent  
Orange County Public Schools

\_\_\_\_\_  
Blaine Muse, Superintendent  
Osceola District Schools

**Registration Agency, State of Florida**

**REVIEWED, APPROVED AND REGISTERED BY THE DEPARTMENT OF EDUCATION, OFFICE OF  
WORKFORCE EDUCATION - APPRENTICESHIP:**



\_\_\_\_\_  
Authorized Official - Registration Agency

\_\_\_\_\_  
Date

**PREAPPRENTICES ARE NOT CERTIFIABLE FOR WORK ON DAVIS-BACON PROJECTS**

## DEFINITIONS

1. **Term of Preapprenticeship** - shall mean the course period determined by the committee and shall be realistic in terms of attainment relative to national standards; not to exceed two consecutive years. **38H-16.010(2)(m)**
2. **Completion Certificate** - shall mean the official document issued by the registration agency to an individual completing preapprenticeship training as verified by the program sponsor. **38H-16.010(2)(a)**
3. **Preapprenticeship Committee** - shall mean the same as the registered apprenticeship program sponsor's committee, or a group appointed by registered apprenticeship program sponsor committees, or their designees. **38H-16.010(2)(f)**
4. **Preapprentice** - shall mean any person 16 years of age or over engaged in any course of instruction in the public school system or elsewhere, which course is registered as a preapprenticeship program with the "Registration Agency". **38H-16.010(2)(d)**
5. **On-the-Job Training** - shall mean supervised trade specific employment, but is not a primary training objective. However, when OJT is incorporated into program standards by the committee, OJT becomes a monitoring responsibility of the committee. On-the-job training providers must be participating employers. **38H-16.010(2)(b)**
6. **Participating Employers** - shall mean those employers eligible to provide supervised OJT experience to preapprentices by virtue of their "participating employer" agreement. **38H-16.010(2)(c)**
7. **Preapprenticeship Program** - shall mean an organized course of instruction, in the public school system or elsewhere, which course is designed to prepare a person 16 years of age or older to become an apprentice; and which course is approved and registered with the "Registration Agency" and sponsored by a registered apprenticeship program. Registered preapprenticeship programs shall be part of regular or adult high school programs when occurring in a public school system. **38H-16.010(2)(g)**
8. **Preapprenticeship Agreement** - shall mean the written agreement between the preapprentice and the preapprenticeship program sponsor, containing the terms and conditions of training and incorporating the registered program standards as part of the agreement. **38H-16.010(2)(e)**
9. **Related Instructions** - shall mean an organized and systematic form of instructions designed to prepare and provide the preapprentice with appropriate training to qualify for entry into the sponsor's registered apprenticeship program. **38H-16.010(2)(k)**
10. **Sponsor** - shall mean any entity that has an active certification of a registered apprenticeship program and has also received certification from the registration agency for a preapprenticeship program. **38H-16.010(2)(l)**
11. **Ratio** - shall mean the number of preapprentices allowed per journey person in programs incorporating OJT. **38H-16.010(2)(h)**
12. **Registration Agency** - shall mean the Florida Department of Education, Office of Workforce Education - Apprenticeship, properly established and constituted under applicable state and federal law as the designated body for approval and registration of preapprenticeship programs and individual preapprenticeship agreements for state purposes. **38H-16.010(2)(i)**
13. **Uniform Minimum Preapprenticeship Standards** - shall mean the minimum requirements established uniformly for each craft under which a preapprenticeship program is administered and includes standards of admission, training goals, training objectives, curriculum outlines, objective standards to measure successful completion of the preapprenticeship program, and the percentage of credit that may be given to preapprenticeship completors upon acceptance into the apprenticeship program. **38H-16.010(2)(n)**
14. **Work Processes** - shall mean an outline of supervised work experience and on-the-job training with the allocation of maximum hours to be spent in each activity. **38H-16.010(2)(o)**
15. **L.E.A.** - shall mean the Local Education Agency.
16. **S.T.W.** - shall mean School-to-Work.

## **CONFORMANCE WITH STATE AND FEDERAL LAWS**

No section of these standards shall be construed to permit violation of any law or regulation of the State of Florida or the United States. This program shall adhere to all local, state and federal laws pertaining to preapprenticeship.

### **SECTION I - COMPOSITION OF THE COMMITTEE**

The preapprenticeship committee shall be composed of six members. The committee shall include a Chairman and a Secretary and shall meet at least quarterly. **38H-16.010(4)(c)1**

### **SECTION II - DUTIES OF THE COMMITTEE**

- 1) Screen and select applicants for preapprenticeship.
- 2) Maintain all records for a period of at least two years following an individual's completion.
- 3) Enter into preapprenticeship agreements between the preapprentice and the committee as program sponsor and to submit these agreements to the registration agency for registration.
- 4) Maintain records of each preapprentice's training progress in related classroom instruction/OJT.
- 5) Review regular progress reports for preapprentices and recommend such actions as appropriate.
- 6) Provide continual support to preapprentices to complete the preapprenticeship program in an apprenticeable occupation and prepare preapprentices for entry into the sponsor's registered apprenticeship training programs.
- 7) Arrange tests for determining the preapprentice's progress in manipulative skills and technical knowledge.
- 8) Notify the registration agency of all other preapprentice actions.
- 9) Notify the registration agency when preapprentices have satisfactorily completed their preapprenticeship and request issuance of a certificate of completion.
- 10) Hear and adjust complaints of violations and make rulings as deemed necessary.
- 11) Recommend changes in the program to improve effectiveness and efficiency.
- 12) Notify the registration agency's servicing representative of all preapprenticeship committee meetings and make available upon request, the official minutes of such meetings.
- 13) Provide preapprenticeship records for review, upon official request of the registration agency.
- 14) Determine minimum qualifications for entry into preapprenticeship.
- 15) Meet regularly with the L.E.A. if applicable, and consider/make program recommendations on all issues of preapprenticeship training. The time/place of regular/special meetings shall be determined by the committee.
- 16) Maintain overall authority and be responsible in general for the successful operation of these standards by performing the duties listed above, by cooperating with public and private agencies which can be of assistance, by obtaining publicity in order to develop the support and interest of the public in the preapprenticeship, and by maintaining lines of communication between preapprentices, employers, L.E.A., Registration Agency and journeyworkers.

**38H-16.010(4)(c)1**

### **SECTION III - RESPONSIBILITIES OF THE PREAPPRENTICE**

- 1) Work faithfully and diligently at the occupation.
- 2) Complete promptly and carefully, lessons, assignments, and school tests required by the committee.
- 3) Protect the property of the employer/school/program sponsor.
- 4) Respect and comply with all rules, regulations and policies of the employer affecting OJT.
- 5) Attend related instruction classes regularly.

### **SECTION IV - WORK PROCESSES/ON-THE-JOB TRAINING**

In all instances, if on-the-job training (OJT) is incorporated into the preapprenticeship program, the sponsor will provide the preapprentice adequately supervised instruction and work experience of which a record will be kept and periodically evaluated, per the work processes/on-the-job training outline included at the end of these standards. Such training shall be in a trade specifically registered for in these standards. Work experience will be provided in approximately the number of hours shown, but not necessarily in the order shown. **38H-16.010(4)(c)5**

**SECTION V - TERM OF PREAPPRENTICESHIP**

The term of preapprenticeship shall be two school years [junior and senior years of high school], approximately 22 months. **38H-16.010(4)(c)3**

**SECTION VI - RELATED CLASSROOM INSTRUCTION**

Preapprentices registered under these standards shall be required to complete 360 hours during their preapprenticeship in subjects related to the trade of the sponsor. Classes will be conducted at participating school district facilities. If required by the program sponsor and L.E.A., preapprentices shall be enrolled in a program that includes vocational instruction and general education courses required to obtain a high school diploma or equivalency certificate. **38H-16.010(4)(c)4**

**SECTION VII - PREAPPRENTICE WAGE RATE - (Only if OJT is incorporated into program).**

The employer agrees to pay not less than the minimum wage prescribed for the Fair Labor Standards Act. The wage rate is: \$8.00 per hour. **38H-16.010(4)(c)6**

**SECTION VIII - PREAPPRENTICE RECORDS**

Records of the preapprentice's related instruction progress and hours spent in on-the-job training if any, shall either be maintained by the Local Educational Agency or by the program sponsor and shall be retained for at least two years following completion of the preapprenticeship. All records regarding preapprentices shall be available for review when requested by the Registration Agency. **38H-16.010(4)(c)9**

**SECTION IX - RATIO OF PREAPPRENTICE'S - (WHEN OJT INVOLVED)**

To ensure adequate supervision and training on the job site if OJT is incorporated into the program, the program sponsor shall ensure that no more preapprentices are employed on the job site where preapprentices undergoing OJT would not be under the ***direct supervision of a journeyperson***. ***For construction related programs, the ratio of preapprentices to journeypersons in programs incorporating on-the-job training shall not exceed one preapprentice to three journeypersons.*** It shall be the responsibility of the committee/sponsor to ensure the allowable ratio is maintained. **38H-16.010(4)(c)7, 8**

**SECTION X - SAFETY**

The employer shall instruct the preapprentice in safe and healthful work practices and shall ensure that the preapprentice is trained in facilities and other environments that are in compliance with either the occupational safety and health standards promulgated by the Secretary of Labor under Public Law 91-596, dated December 29, 1970, or state standards that have been found to be at least as effective. **38H-16.010(4)(c)10**

**SECTION XI - QUALIFICATION OF A PREAPPRENTICE**

Applicants for preapprenticeship shall possess the following minimum qualifications:

- 1) At least 16 years of age; (Note: a minor must have written parental or guardian consent to participate in the program)
- 2) Physically capable of performing the work of the trade.

If required by the program sponsor and L.E.A., be enrolled in a program that includes vocational instruction and general education courses required to obtain a high school diploma or equivalency certificate. **38H-16.010(4)(c)11**

## **SECTION XII - PREAPPRENTICESHIP AGREEMENT**

The placement of a preapprentice under a preapprenticeship agreement (DWD Form APPR – 401) signed by the program sponsor and the preapprentice (if a minor, their parent or guardian), which incorporates the terms and conditions of training and these registered program standards as part of the agreement and shall be registered with the Registration Agency. **38H-16.010(4)(c)12**

## **SECTION XIII - PARTICIPATING EMPLOYERS**

Each employer will sign a participating employer's agreement with the program sponsor accepting the requirements of the program standards. **38H-16.010(4)(c)17**

## **SECTION XIV - SUPERVISION OF PREAPPRENTICES AND HOURS OF WORK**

Preapprentices engaged in on-the-job training shall be under the direct supervision of a journeyman. The hours of work for preapprentices shall be the same as those for journeyworkers in the occupation covered by these standards and in conformity with State and Federal Laws. In assigning work to preapprentices however, due consideration shall be given to the variety of operations necessary to develop their occupational skills. ***Overtime/OJT will not interfere with attendance at related instruction and/or secondary level high school classes and/or classes leading to the awarding of a high school diploma and/or equivalency certificate.*** **38H-16.010(4)(c)13**

## **SECTION XV - CERTIFICATE OF COMPLETION OF PREAPPRENTICESHIP**

Upon satisfactory completion of the term of preapprenticeship, the committee will recommend to the Registration Agency, through the Servicing Representative, that a Certificate of Completion of Training be awarded. A preapprentice shall be deemed to have completed the program successfully upon completion of both school years of related instruction and required on the job training. **38H-16.010(3)(i), (4)(c)21**

## **SECTION XVI - MODIFICATION OF STANDARDS**

Standards may be modified at any time by action of the preapprenticeship committee upon approval of the Registration Agency. Amendments shall not alter preapprenticeship agreements in effect at the time of such change without the express consent of all parties to the agreement. **38H-16.010(3)(h), (4)(c)19**

## **SECTION XVII - DEREGISTRATION**

Deregistration of this program may be effected either upon the voluntary action of the sponsor by a request for cancellation of the registration, or upon notice by the Registration Agency to the sponsor stating cause and instituting formal deregistration proceedings per Florida Administrative Code. If deregistered, the Sponsor will notify preapprentices and the participating L.E.A. if applicable, within fifteen days of this event. **38H-16.010(4)(c)19**

## **SECTION XVIII - NOTIFICATION**

The registration agency shall be notified of all actions affecting preapprentices, such as new preapprentices, suspensions, cancellations, and completion's via the Action Reporting Form (DWD Form APPR – 205). **38H-16.010(4)(c)20**

## **SECTION XIX - ADJUSTING DIFFERENCES**

In case of dissatisfaction between an employer and preapprentice, either party has the right and privilege of appeal to the committee for such action and adjustment of such matters as come within these standards. The preapprentice shall be notified by the sponsor within five days of any proposed adverse action, with stated opportunity during such period for corrective action. Preapprentices may obtain information on how to properly address their concerns/grievances from the Program Sponsor. Differences arising between the L.E.A if applicable, and the program sponsor involving program administration and/or execution, should be addressed to the Registration Agency in writing for resolution, adjustment, and/or decision. **38H-16.010(4)(c)15, 16**

**SECTION XX - EQUAL OPPORTUNITY PLEDGE**

The recruitment, selection, employment, and training of preapprentices during their preapprenticeship shall be without indicating any preference, limitation, specification, or discrimination because of race, color, religion, sex, national origin, age, handicap, absence of handicap, or marital status. The sponsor will take affirmative action to provide equal opportunity in preapprenticeship and will operate the preapprenticeship program as required under applicable rules and regulations (Florida Statutes 760.10(4) and 760.10(6)). **38H-16.010(4)(c)18**

**SECTION XXI - AFFIRMATIVE ACTION PLAN**

The committee shall provide equal opportunity in preapprenticeship for those participating or seeking entrance into, this preapprenticeship program for the purpose of obtaining entrance into a registered apprenticeship program. To provide equal opportunities in the recruitment, selection, employment, training and advancement of minority and female preapprentices, the committee agrees to make the following affirmative action commitments: (1). Disseminate in cooperation with the L.E.A if applicable, information to all applicants/students concerning the nature of preapprenticeship, availability of preapprenticeship opportunities, sources of preapprenticeship applications, and the equal opportunity policy of the committee. Information will be disseminated to government employment service offices, local schools, school and local career/job fairs/events, women's centers, outreach programs, principal minority groups, women's organizations and community organizations which can effectively reach minorities and women. This information is encouraged to also be published in L.E.A./school newspapers/periodicals which are available to students/parents, and newspapers which are circulated in minority communities and among women as well as the general areas in which the program sponsor operates. (2). Cooperate with local school boards and vocational education systems to develop programs for preparing students to meet the standards and criteria required to qualify for entry into preapprenticeship programs and ultimately to qualify for entry into the program sponsor's registered apprenticeship program. **38H-16.010(4)(c)18**

**SECTION XXII - SELECTION PROCEDURE**

Selection of preapprentices into this program shall be without indicating any preference, limitation, specification or discrimination, based on race, color, religion, sex, national origin, age, handicap, absence of handicap, or marital status. The applicable selection procedure for this program shall be a coordinated effort between the L.E.A. if applicable, the program sponsor, and will be attached as an addendum to these standards. [Attachment A] **38H-16.010(4)(c)18b**

**SECTION XXIII - PROGRAM DEMOGRAPHICS**

- a) Jurisdictional Area Covered by Program (Counties): Orange, Osceola, Seminole
- b) Total journeyworkers employed by the sponsor in the craft: 5,115
- c) Total preapprentices: 76
- d) Total minority preapprentices: 38
- e) Total female preapprentices: 0

**SECTION XXIV - MAINTENANCE OF RECORDS**

All records pertaining to the administration, selection, employment and training of preapprentices shall be kept for not less than two years following completion of the program by the preapprentice.

Preapprenticeship program records shall be maintained at the following address if different from the registered program address specified on page 1 of this document: **38H-16.010(4)(c)9**

**SECTION XXV - REGISTRATION OF PREAPPRENTICESHIP PROGRAM**

Copies of these standards and each preapprenticeship agreement under it shall be submitted to the apprenticeship representative in the area to review and forward to the registration agency for approval and registration. Prospective preapprentices will also be given an opportunity to read these standards before they sign the preapprenticeship

agreement. The program sponsor shall, within ninety days of registration, be actively training preapprentices on the job in each occupation for which registration is granted. Each occupation for which a program sponsor holds registration shall be subject to cancellation if no active training of preapprentices has occurred for more than one year. **38H-16.010(3)(g)(k)**

# **ATTACHMENTS:**

**A) SELECTION PROCEDURE**

**B) ON THE JOB TRAINING**

**C) RELATED TECHNICAL  
INSTRUCTION**

**SELECTION PROCEDURE**

High school students will apply to the program through their high school, indicating their trade preference. Following approval of eligibility of the student, as defined within the Academy of Construction Technologies (ACT) Program Requirements for the program, by their respective school district authorities, applications will be forwarded to the Committee for approval. Those applicants who meet the minimum program requirements will be indentured as preapprentices.

**PREAPPRENTICE ON-THE-JOB WORK PROCESSES**

The participating employer agrees to provide the preapprentice with adequate supervised instruction and work experience, a record of which will be maintained with copies provided to the home high school of the preapprentice and the Academy of Construction Technologies, Inc. Work experience will be provided in all of the work processes, but not necessarily in the order shown.

**Electrician      824.261-010      0159**

1. Proper and safe procedures while working with tools, apparatus, equipment, systems and materials.
2. Select, inspect, operate and maintain common hand tools used in the construction trades.
3. Select, inspect, operate and maintain common power tools used in the construction trades.
4. Wiring skills – rough
5. Wiring skills – trim
6. Loading and unloading material/equipment on the job.

Total hours: 160

**Bricklayer      861.381-018      0052**

1. Proper and safe procedures while working with tools, apparatus, equipment, systems and materials.
2. Select, inspect, operate and maintain common hand tools used in the construction trades.
3. Select, inspect, operate and maintain common power tools used in the construction trades.
4. Stock masonry units at the mason's work area.
5. Maintain the mortar at mason's work area.
6. Loading and unloading material/equipment on the job.

Total hours: 160

**Plumber      862.381-030      0432**

1. Safe handling of equipment and materials on the job site
2. Proper and safe procedures while working with tools, apparatus and equipment.
3. Interior and exterior underground sanitary and storm sewer systems.
4. Water supply systems: sizing of lines, selecting materials to use and cross-laying out the systems
5. Setting and connecting plumbing fixtures and appliances.

**TOTAL HOURS      160**

**Pipefitter—Sprinkler Fitter 862.281-022 0414A**

1. Proper and safe procedures while working with tools, apparatus, equipment, systems and materials.
2. Select, inspect, operate and maintain common hand tools used in the construction trades.
3. Select, inspect, operate and maintain common power tools used in the construction trades.
4. Select and install the basic components of a fire sprinkler system
5. Learn fire protection codes and apply them on the jobsite.
6. Loading and unloading material/equipment on the job.

Total hours: 160

**Heating and Air Conditioning Installer-Servicer 637.261-014 0637**

1. Safe handling of equipment and materials on the job site
2. Proper and safe procedures while working with tools, apparatus and equipment.
3. Fabrication of system components including cutting, threading, flaring, bending and the layout of pipe systems.
4. System installation and connection: electrical lines and cables, water supply lines, air supply lines, suction and discharge lines.
5. Setting and connecting HVAC equipment and accessories.

TOTAL HOURS 160

**PREAPPRENTICE RELATED TECHNICAL INSTRUCTION****TRADE TRAINING AVAILABILITY BY SCHOOL DISTRICT**

<b>TRADE</b>	<b>ORANGE</b>	<b>OSCEOLA</b>	<b>SEMINOLE</b>
Bricklayer			X
Electrician	X	X	X
Heating & Air Conditioning Installer-Servicer	X	X	X
Pipefitter-Sprinkler Fitter			X
Plumber		X	X

**ELECTRICAL  
PREAPPRENTICESHIP PROGRAM**

Electric Wiring

Program # 8727100

**MAJOR CONTENT:** The purpose of this program is to prepare students for employment as electricians. The content will include the following: installation, maintenance, and repair of electrical systems. The content should also include training in safe, efficient work practices, communication, leadership, human relations and employability skills.

**CURRICULUM FOR  
ELECTRICAL  
PREAPPRENTICESHIP PROGRAM**

Curriculum For Students Entering In The 11th Grade

**11th**

1 to 3 credits in class/lab

**12th**

1 to 3 credits in class/lab

OJT in Summer

(160 Hours) 1+ credits

**Year 1****180 Hours**

01. Demonstrates proper and safe procedures while working with tools, apparatus, equipment, systems, and materials.
02. Demonstrates appropriate math skills for the construction trades.
03. Select, inspect, operate, and maintain common hand tools used in the construction trades.
04. Select, inspect, operate, and maintain common power tools used in the construction trades.
05. Identify basic procedures for rigging and moving materials and equipment.
06. Identify materials used in the electrical construction trade.
07. Demonstrates an understanding of workplace readiness and workplace ethics.

**Attachment C**

08. Performs basic electrical laboratory safety and calculation skills.
09. Demonstrates residential wiring skills.
10. Demonstrates appropriate communication and customer-relation skills.
11. Demonstrates employability skills.

**Year 2**

**180 Hours**

01. Demonstrates the ability to read and interpret blueprints and construction trade documents.
02. Demonstrates an understanding of the make-up of the construction industry.
03. Demonstrates basic electrical circuit skills.
04. Demonstrates direct current (DC) circuit skills.
05. Read and interpret basic electric codes.
06. Demonstrates an understanding of entrepreneurship.

**PLUMBING  
PREAPPRENTICESHIP PROGRAM**

Plumbing

Program # 8721700

MAJOR CONTENT: The purpose of this program is to prepare students for employment as plumbers. The content will include the following: use of tools and equipment, blueprint reading, installation and repair of pipes, fittings and fixtures of heating, water and drainage systems according to specifications and plumbing codes. The course content should also include skills training in communication, leadership, human relations and employability skills; safe, efficient work practices will be stressed during all phases of instruction.

**CURRICULUM FOR  
PLUMBING  
PREAPPRENTICESHIP PROGRAM**

Curriculum For Students Entering In The 11th Grade

**11th**

1 to 3 credits in class/lab

**12th**

1 to 3 credits in class/lab

OJT in Summer  
(160 hours) 1+ credits

**Year 1**

**180 Hours**

01. Describe career and training opportunities in the plumbing industry.
02. Demonstrate a basic knowledge of the plumbing industry.
03. Select, inspect, operate, and maintain common hand and power tools used in the plumbing industry
04. Identify safe working conditions and observe safety precautions.
05. Demonstrate appropriate math skills for the plumbing industry.
06. Identify basic procedures for rigging and moving materials and equipment.
07. Demonstrate an understanding of basic science.
08. Read and interpret blueprints and specifications.
09. Demonstrate appropriate communication and customer-relation skills.
10. Demonstrate employability skills.
11. Demonstrate an understanding of workplace readiness and workplace ethics.

**Year 2**

**180 Hours**

01. Demonstrate the ability to read and interpret plumbing drawings and trade documents.
02. Demonstrate installation and support methods for pipe types and fittings.
03. Describe inside drain, water and vent systems.
04. Describe fixture types installed in plumbing jobs.
05. Select and install faucet connections.
06. Read and interpret basic plumbing codes.

## **Attachment C**

07. Identify the parts of water distribution from source to the building.
08. Demonstrate an understanding of entrepreneurship.

**PIPEFITTER—SPRINKLER FITTER  
PREAPPRENTICESHIP PROGRAM**

Basic Fire Sprinkler Installation

Program # 8721900

MAJOR CONTENT: The purpose of this program is to prepare students for employment as fire sprinkler systems installers. The content will include the following: basic trade skills used in the fire sprinkler systems installed in residential and commercial structures. The content should also include training in safe, efficient work practices, communication, leadership, human relations and employability skills.

**CURRICULUM FOR  
PIPEFITTER—SPRINKLER FITTER  
PREAPPRENTICESHIP PROGRAM**

Curriculum For Students Entering In The 11th Grade

**11th**

1 to 3 credits in class/lab

**12th**

1 to 3 credits in class/lab

OJT in Summer

(160 hours) 1+ credits

**Year 1****180 Hours**

01. Demonstrates proper and safe procedures while working with tools, apparatus, equipment, systems, and materials.
02. Demonstrate a basic knowledge of the pipe-trade industry and describe career and training opportunities
03. Demonstrates appropriate math skills for the construction trades.
04. Select, inspect, operate, and maintain common hand and power tools used in the construction trades.
05. Identify basic procedures for rigging and moving materials and equipment.
06. Describe types of construction and plans used for the installation of sprinkler systems.
07. Identify various types of sprinklers
08. Demonstrates an understanding of workplace readiness and workplace ethics.
09. Demonstrates appropriate communication and customer-relation skills.
10. Demonstrates employability skills.

**Year 2****180 Hours**

01. Demonstrates the ability to read and interpret blueprints and construction trade documents.
02. Read and interpret basic sprinkler fitter codes.
03. Understand types of drawings, sprinkler system symbols and layout.
04. Describe fitting, joining methods and storage requirements of underground and plastic pipe.
05. Demonstrate the steps for threading steel pipe and determining length.
06. Explain the difference of flanged, grooved and plain-end fittings.
07. Demonstrates an understanding of entrepreneurship.

**HEATING AND AIR CONDITIONING INSTALLER-SERVICER  
PREAPPRENTICESHIP PROGRAM**

Air Conditioning, Refrigeration & Heating

Program #8703000

MAJOR CONTENT: The purpose of this program is to prepare students for employment as heating, air conditioning and refrigeration mechanics. The course content will include: planning, installation, testing and servicing of air conditioning, refrigeration and heating systems and components. The content should also include training in safe, efficient work practices, communication, leadership, human relations and employability skills.

**CURRICULUM FOR  
HEATING AND AIR CONDITIONING INSTALLER-SERVICER  
PREAPPRENTICESHIP PROGRAM**

Curriculum For Students Entering In The 11th Grade

**11th**

1 to 3 credits in class/lab

**12th**

1 to 3 credits in class/lab

OJT in Summer  
(160 hours) 1+ credits

**Year 1**

**180 Hours**

01. Describe career and training opportunities in the HVAC industry.
02. Describe the history and concepts of the heating, air-conditioning and refrigeration industry.
03. Select, inspect, operate, and maintain common hand and power tools and accessories used in the HVAC industry.
04. Identify safe working conditions and observe safety precautions.
05. Demonstrate appropriate math skills for the HVAC industry.
06. Identify basic procedures for rigging and moving materials and equipment.
07. Demonstrate an understanding of matter, heat behavior and the basic principles of heating and cooling.
08. Read and interpret blueprints and specifications.
09. Demonstrate appropriate communication, computer and customer-relation skills.
10. Demonstrate employability skills.
11. Demonstrate an understanding of workplace readiness and workplace ethics.

**Year 2**

**180 Hours**

01. Demonstrate the ability to read and interpret HVAC drawings and trade documents.
02. Identify tools, material and safety precautions for soldering and brazing pipe.
03. Demonstrate a working knowledge of fluids, pressures and refrigerants.

## **Attachment C**

04. Fabricate and service the piping, tubing, and fittings used in the heating, air-conditioning, and refrigeration industry.
05. Demonstrate a practical knowledge of basic electricity and of the electrical components of heating, air-conditioning, and refrigeration equipment.
06. Read and interpret basic HVAC codes.
07. Describe the components and accessories used in air-conditioning and heating systems.
08. Demonstrate an understanding of entrepreneurship.

**BRICKLAYER  
PREAPPRENTICESHIP PROGRAM**

Bricklayer 1

Program: #8722610

MAJOR CONTENT: This course provides students with the competencies essential to the masonry industry. These competencies include knowledge and skills related to safety practices, the masonry industry in America, the use of hand tools, the selection and mixing of mortars and concrete, and brick and block laying.

**CURRICULUM  
FOR  
BRICKLAYER  
PREAPPRENTICESHIP PROGRAM**

Curriculum For Students Entering In The 11th Grade

**11th**  
1 to 3 credits in class/lab

**12th**  
1 to 3 credits in class/lab

OJT in Summer  
(160 hours) 1+ credits

**Year 1**

**180 Hours**

01. Demonstrates proper and safe procedures while working with tools, apparatus, equipment, systems, and materials.
02. Characterize the masonry industry.
03. Demonstrates appropriate math skills for the construction trades.
04. Select, inspect, operate, and maintain common hand tools used in the construction trades.
05. Select, inspect, operate, and maintain common power tools used in the construction trades.
06. Identify basic procedures for rigging and moving materials and equipment.
07. Erect and disassemble basic scaffolds.
08. Select and mix mortars and concrete.
09. Demonstrates an understanding of workplace readiness and workplace ethics.
10. Identify the various methods of masonry practices.
11. Demonstrates appropriate communication and customer-relation skills.
12. Demonstrates employability skills.

**Year 2**

**180 Hours**

01. Demonstrates the ability to read and interpret blueprints and construction trade documents.
02. Describe the properties, characteristics, and uses of brick.
03. Describe the properties, characteristics, and uses of concrete
04. Lay brick and/or block to the line.
05. Clean masonry.
06. Demonstrates an understanding of entrepreneurship.