

FY 15 QTR 4 CONSTRUCTION

**PENNSYLVANIA APPRENTICESHIP AND TRAINING COUNCIL
NEW PROGRAM INFORMATION**

Program #: PA006-15-8450

SPONSOR INFORMATION

ATR: Steve Myers

Organization: HAROLD R. BOONE & SON INC
Address: 143 WEGMAN ROAD
City, State, Zip Code: READING, PA 19606

PROGRAM INFORMATION

Registration Date: October 8, 2015
EIN: [REDACTED]
Program Type: Individual Non-Joint
Bargaining Agency: None
National Affiliation: NONE
Number of Employers: 1
Size of Workforce: 3
Waiver: No
NAICS Code: 238220
NAICS Category: Plumber
Prisoner Indicator: No

PROGRAM SPONSOR CONTACT INFORMATION

Name: DAWN BOONE
Phone: (610) 779-1540 Ext. Cell:
Fax: (610) 779-1540
E-Mail: BOONEINC@VERIZON.NET

NEW PROGRAM --- Legal Working Age --- Regular PATC Ratio

Occupation Information

First Occupation:	Type	Term (Hours)	Journey Wage	Journey Workers	Number of Apprentices Registrations
PLUMBER (0432)	Time	8,000	\$16.00	1	1
Term (hours)	1,000	1,000	1,000	1,000	1,000
Percentage	65.0 %	70.0 %	75.0 %	80.0 %	85.0 %
RTI Provider Name: BERKS CAREER & TECHNOLOGY CENTER			Method: Vocational Education	Length of Instruction: 780	
Contact: Annie Neuin			Phone: (610) 743-7630		

Second Occupation:	Type	Term (Hours)	Journey Wage	Journey Workers	Number of Apprentices Registrations
()	Time				
Term (hours)					
Percentage	%	%	%	%	%
RTI Provider Name:			Method: Vocational Education	Length of Instruction:	
Contact:			Phone:		

STANDARDS OF APPRENTICESHIP

HAROLD R. BOONE & SON INC

(EMPLOYER)

143 WEGMAN ROAD

(ADDRESS)

READING, PA 19606



Registered With

Pennsylvania Apprenticeship and Training Council

Bureau of Apprenticeship and Training

United States Department of Labor Cooperating

1. DEFINITIONS

"Employer means" HAROLD R. BOONE & SON INC
who is subscribing to and has signed these Standards of Apprenticeship.

"Council" means the Pennsylvania Apprenticeship and Training Council of the Department of Labor and Industry, Harrisburg, Pennsylvania.

"Apprenticeship Agreement" means an Agreement signed by the Employer and the Apprentice. The signature of a parent or guardian is required if the Apprentice is a minor.

"Apprentice" means an employee of the establishment who is engaged in learning a recognized apprenticeable trade; as defined in Title 34, Labor and Industry, Chapter 83, Welfare of Apprentices, Par. 83.2.

"Bureau" means the Bureau of Apprenticeship and Training of the United States Department of Labor.

2. POLICY

On and after the date these Standards of Apprenticeship are duly executed, it shall be the policy of the Employer that all Apprentices employed in the trades covered herein shall be governed by the terms of these Standards of Apprenticeship.

3. TERM OF APPRENTICESHIP

Apprentices will be given practical training, under supervision for the period set forth under "Work Training Schedule" of the designated apprenticeable trade. The first 1000 hours of apprenticeship will be a period of probation, during which time either party to the Apprenticeship Agreement may terminate the Agreement by notifying the other. However, notification of such cancellations, separations, or releases will be forwarded to the Council.

4. APPRENTICESHIP AGREEMENT

The Apprentices will be placed under a written Apprenticeship Agreement, executed in triplicate, and registered with the Council. After registration of this Agreement, the Employer and the Apprentice will each receive one copy and one copy will be retained by the Council.

5. QUALIFICATIONS FOR APPRENTICESHIP

Apprentices shall be of legal working age.

6. EQUAL OPPORTUNITY PLEDGE

"The recruitment, selection, employment and training of Apprentices during their apprenticeship, shall be without discrimination because of race, color, religion, national origin, or sex. The sponsor will take affirmative action to provide equal opportunity in apprenticeship and operate the apprenticeship program as required under Title 29 of the Code of Federal Regulations, Part 30," and Title 34, Labor and Industry, Chapter 81, Equal Opportunity in Apprenticeship Programs.

If and when more than four apprentices are to be employed at one time, affirmative action plans which include selection procedures will be developed in accordance with regulations.

7. CREDIT FOR PREVIOUS EXPERIENCE

An applicant for apprenticeship may be allowed credit on the term of apprenticeship for that portion of his/her experience, whether with the Employer or elsewhere, which is equivalent to any he/she would receive under these Standards of Apprenticeship. Previous experience, with commensurate wages, will be granted only after the record of the applicant has been checked and approved by the Committee. The Council shall be advised of the source and content of such experience.

8. RESPONSIBILITIES OF THE APPRENTICE

Each Apprentice employed under this Program is expected to apply himself/herself with diligence and care to the various tasks assigned to him/her; to protect the property and interests of the Employer in a proper manner; to respect and to obey the rules of the Employer, realizing that much time, money and effort is expended in affording him/her the opportunity to become a skilled craftsman.

9. SUPERVISION OF APPRENTICES

The Employer will designate a qualified person with the authority to supervise the training of apprentices. The supervisor will arrange the training under this Program, and keep a simplified but practical report on the shop progress and classroom activities. He/she will be further authorized to adjust any differences with the Apprentices which may arise from time to time, subject however to the Employer's approval.

10. WORK TRAINING SCHEDULE

Each Apprentice will be given work experience in the major basic trade elements as set forth in the schedule for the designate trade which is attached to these Standards of Apprenticeship, and made a part hereof. The Apprentice shall be trained in safety practices related to operations performed.

11. SAFETY AND HEALTH TRAINING

The Employer shall instruct the Apprentice in safe and healthful work practices and shall insure that the Apprentice 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 as the Federal Standards.

12. RELATED INSTRUCTION

The Apprentice shall attend classes of theoretical instruction related to his/her trade for a minimum of 144 hours per year for each year of his/her apprenticeship. Where classes are not available through the local school, other trade, industrial or correspondence courses of equal value may be substituted. Time spent at related trade studies is not to be considered hours of work, nor is the Employer required to pay wages for time spent at related studies, except if required during regular working hours.

Related instructions are to be conducted at

BERKS CAREER & TECHNOLOGY CENTER
3307 FRIEDENSBURG ROAD
OLEY, PA

13. PERIODIC REVIEW OF PROGRESS

The progress of the Apprentice shall be subject to review by the Employer. Failure to make satisfactory progress by the Apprentice may result in suspension or cancellation of the Apprenticeship Agreement.

14. HOURS OF WORK

Hours of work for Apprentices shall be the same as for Journeyperson's designated trade; except that no apprentice shall be required to work such hours as would interfere with his or her required related studies.

15. NUMBER OF APPRENTICES

The following ratio will be adhered to:

1 - 4 Journeypersons	:	1 Apprentice
5 - 9 Journeypersons	:	2 Apprentices
10-14 Journeypersons	:	3 Apprentices

For each additional unit of five journeymen regularly employed, one additional apprentice may be employed

16. CERTIFICATE OF COMPLETION OF APPRENTICESHIP

Upon satisfactory completion of training in both practical and related phases, the Employer shall request from the Council a Certificate of Completion. The letter from the Employer will certify where and when related training was obtained and that the Apprentice(s) has demonstrated competency in all phases of the trade.

17. INTERPRETATION

If a difference of opinion should arise in the interpretation of these Standards of Apprenticeship which cannot be adjusted satisfactorily by the Committee, either party to the Apprenticeship Agreement may consult with the Council for clarification.

18. MODIFICATION

These Standards of Apprenticeship may be modified jointly by the Employer upon approval by the Council. Modification shall not alter effective Apprenticeship Agreements without the consent of all parties concerned. The Council shall be notified of all such modifications.

19. COMPLIANCE

The sponsors of these Standards of Apprenticeship certify that they are in full compliance with all applicable Federal, State, and Local laws and regulations.

20. PROCESSING OF ALL PAPERS PERTINENT TO STANDARDS

All materials pertinent to these Standards of Apprenticeship shall be forwarded to the Council through the local office of the Bureau of Apprenticeship and Training, United States Department of Labor.

21. DISTRIBUTION OF OFFICIALLY SIGNED STANDARDS OF APPRENTICESHIP

The following parties shall receive a copy of the officially signed and properly executed Standards of Apprenticeship:

- 1 - The Employer 2 - The Council 3 - The Bureau of Apprenticeship and Training

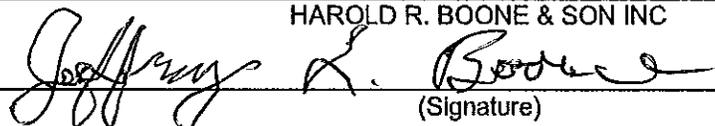
22. APPRENTICE WAGE SCALE - PLUMBER

This employer is covered by the Fair Labor Standards Act; therefore, overtime will be paid at the required rates. The minimum wages to be paid apprentices will be the following rates:

Step	Hours	Rate	%	of	Journeyman's	Rate
1st	1000 Hours	10.40	65	%	"	"
2nd	1000 Hours	11.20	70	%	"	"
3rd	1000 Hours	12.00	75	%	"	"
4th	1000 Hours	12.80	80	%	"	"
5th	1000 Hours	13.60	85	%	"	"
6th	1000 Hours	14.40	90	%	"	"
7th	1000 Hours	15.20	95	%	"	"
8th	1000 Hours	16.00	99	%	"	"
9th				%	"	"
10th				%	"	"

Journeyman's Rate as of (Date) 8-30 is \$16.00 per hour

APPROVED:

 HAROLD R. BOONE & SON INC


 (Signature)

Date _____

REGISTERED WITH PENNSYLVANIA APPRENTICESHIP AND TRAINING COUNCIL

 Chairman

 Secretary

Date _____

**HAROLD R. BOONE & SON INC
PLUMBER WORK PROCESS SCHEDULE**

Description:

Assembles, installs, and repairs pipes, fittings, and fixtures of heating, water, and drainage systems, according to specifications and plumbing codes: Studies building plans and working drawings to determine work aids required and sequence of installations. Inspects structure to ascertain obstructions to be avoided to prevent weakening of structure resulting from installation of pipe. Locates and marks position of pipe and pipe connections and passage holes for pipes in walls and floors, using ruler, spirit level, and plumb bob. Cuts openings in walls and floors to accommodate pipe and pipe fittings, using handtools and power tools. Cuts and threads pipe, using pipe cutters, cutting torch, and pipe-threading machine. Bends pipe to required angle by use of pipe-bending machine or by placing pipe over block and bending it by hand. Assembles and installs valves, pipe fittings, and pipes composed of metals, such as iron, steel, brass, and lead, and nonmetals, such as glass, vitrified clay, and plastic, using handtools and power tools. Joins pipes by use of screws, bolts, fittings, solder, plastic solvent, and caulks joints. Fills pipe system with water or air and reads pressure gauges to determine whether system is leaking. Installs and repairs plumbing fixtures, such as sinks, commodes, bathtubs, water heaters, hot water tanks, garbage disposal units, dishwashers, and water softeners. Repairs and maintains plumbing by replacing washers in leaky faucets, mending burst pipes, and opening clogged drains. May weld holding fixtures to steel structural members.

On-The-Job Training:

	<u>APPROXIMATE HOURS</u>
<u>GENERAL TRADE ORIENTATION</u>	250
Care and use of tools	
Tests and measuring	
Types and uses of pipe, fittings, fixtures	
Equipment Repair records	
<u>GENERAL PIPE FITTING PRACTICE</u>	2000
Bend iron, brass, copper pipe	
Cut, ream, thread, burr, drill, and assemble pipe	
Measure, cut, caulk cast iron pipe	
Cut soil pipe, seal and caulk joints	
Break and make joints for flanged piping, renew gaskets	
Wipe lead joints	
Care and use of oxygen/acetylene torch	
Care and use of welding equipment	
<u>SERVICE INSTALLATION</u>	2000
Sketch and read blueprints-layout work	
Measure, plumb, square, level layout	
Make bills of material	
Cut openings	
Hang and brace pipe	
Make riggings and supports	
Install hot and cold water supply lines, valves, strainers, faucets, etc.	
Rough in drain in ground, suction and discharge lines	
Lay and connect drainage, soil pipe	
Install vent systems soil stacks	
Connect to main supply	
Connect to sewer	
Install radiators, heating, and ventilating units and heating system controls	

<u>FIXTURE INSTALLATION</u>	1250
Sinks and tubs	
Water closets and urinals	
Showers and shower controls	
Drinking fountains	
Sprinkler systems; hangers, wet and dry pipe, sprinkler heads	
<u>MAINTENANCE AND REPAIR</u>	2000
Remove stoppages	
Stop leaks	
Repair/renew valves, faucets, connections, sprinkler heads	
Repair and reseal fixtures	
Repair and calibrate mechanical meters	
<u>MISCELLANEOUS</u>	500
Orientation	
Housekeeping	
Safety as it relates to each task performed.	
OSHA 10 Hour course	
Activity not otherwise listed	
Total	8000

Plumbing Apprenticeship Year One

Hours: 195

Term: Year 1

Instructor: Brian Sands

Contact hours:	Monday - Friday 8:00AM - 4:00PM
Contact phone:	Continuing Education Office (610)743-7630 (West Campus) or (610) 987-2706 (East Campus)
E-mail:	Continuing.Education@berkscareer.com
Class meetings:	Tues. & Thurs. 6:30PM-9:30PM
Prerequisites:	Employed in the Plumbing field under the supervision of a Master Plumber.
Location:	Rm. A-8, East Campus, Oley, PA.

COURSE DESCRIPTION

The year one Plumbing Apprenticeship program provides students with the foundation to the plumbing trade; including instruction in OSHA safety, tools, math, blueprint reading and introduction to plumbing systems and design.

COURSE OBJECTIVES

1. Discuss the safety concerns established by OSHA.
2. Identify and demonstrate the correct use of tools and equipment in the plumbing trade.
3. Explain the fundamentals of math used in plumbing applications.
4. Explain basic blueprint reading and plumbing installation techniques.
5. Describe the basics of plumbing systems, design and repair.
6. Identify the career opportunities in the plumbing field.

COURSE FORMAT

This is a theory based course in which topics are presented by the instructor utilizing books, handouts, overheads and demonstrations. Guest speakers from the plumbing profession and field trips to reputable companies will enhance the students' experience. Students are expected to read chapter assignments, complete assigned work problems, and be ready to discuss them in class.

TEXT(S) AND REQUIRED SUPPLIES

Required text (to be purchased through the Cont. Ed. Office):

- *International Plumbing Code & Commentary 2009*. ICC.
- *International Plumbing Code Turbo Tabs*
- *NCCER Plumbing Level One with Contren Connect*
- *NCCER Plumbing Level Two with Contren Connect*
- **Total Book Cost: \$335.00**

EVALUATION AND GRADING

Coursework will be weighted as follows:

1. Classroom assignments/quizzes	60%
2. Attendance	10%
3. Participation	10%
4. Final exam	20%
Total	100%

Classroom assignments/quizzes: Textbook readings, workbook assignments and routine quizzes on assigned readings and shop procedures will be given and graded.

Participation: Students will receive a participation grade which reflects their attitude, work ethic and contribution to class discussions and projects (refer to participation rubric).

Attendance: The development of appropriate work habits and attitudes, including regular attendance, is critical for success both on the job and at BCTC.

Attendance will be graded as follows:

No absences	100%
One absence	90%
Two absences	80%
Three absences	70%
Four absences	60%
Five – six absences	50%

Final Exam: A comprehensive final exam will be given.

Industry Certifications: Students have the opportunity to complete the OSHA 10 hour Safety Certification.

Certificate of Completion: Grades and daily attendance records will be kept and each student who participates in at least 90% of the classes and receives a grade of 70% or higher will receive a certificate of completion.

CLASSROOM RULES OF CONDUCT

1. Refer to the Continuing Education Adult Evening Students Policies and Procedures (CE-021) for school wide policies.
2. Safety glasses must be worn at all times in the shop.

COURSE OUTLINE

NCCER Level One

1. Introduction to the Plumbing Profession
2. Plumbing Safety
3. Plumbing Tools
4. Introduction to Plumbing Math
5. Introduction to Plumbing Drawings
6. Plastic Pipe and Fittings
7. Copper Pipe and Fittings

8. Cast-iron Pipe and Fittings
9. Carbon Steel Pipe and Fittings
10. Corrugated Stainless Steel Tubing
11. Fixtures and Faucets
12. Introduction to Drain, Waste, and Vent Systems
13. Introduction to Water Distribution Systems

NCCER Level Two

1. Plumbing Math Two
2. Reading Commercial Drawings
3. Hangers, supports, Structural Penetrations and Fire Stopping
4. Installing and Testing DWV Piping
5. Installing Roof Floor and Area Drains
6. Types of Valves

Plumbing Code and Commentary

1. Administration
2. Definitions
3. General Regulations
4. Fixtures, Faucets, and Fixture Fittings
5. Water Heaters
6. Water Supply and Distribution
7. Sanitary Drainage
8. Indirect/Special Waste
9. Vents
10. Traps, Interceptors, and Separators
11. Sizing of Water Piping System
12. Structural Safety

Plumbing Apprenticeship Year Two

Hours: 195

Term: Year 2

Instructor: Steve Symons

Contact hours:	Monday - Friday 8:00AM - 4:00PM
Contact phone:	Continuing Education Office (610)743-7630 (West Campus) or (610) 987-2706 (East Campus)
E-mail:	Continuing.Education@berkscareer.com
Class meetings:	Tues. & Thurs. 6:30PM-9:30PM
Prerequisites:	Employed in the Plumbing field under the supervision of a Master Plumber. Completion of year one Plumbing Apprenticeship.
Location:	Rm. B-13, East Campus, Oley, PA.

COURSE DESCRIPTION

The year two Plumbing Apprenticeship program provides students with instruction in math, First Aid/CPR, and plumbing systems, design and repair. Students will also learn applicable plumbing codes found in the International Plumbing Code, International Fuel and Gas Code and International Energy Conservation Code.

COURSE OBJECTIVES

1. Discuss the safety concerns established by OSHA.
2. Obtain American Red Cross First Aid and CPR certification.
3. Explain the fundamentals of math used in plumbing applications.
4. Discuss installation procedures and repair for water supply, fixtures and faucets.
5. Develop technical plumbing skills associated with the International Plumbing Code, International Energy Conservation Code and International Fuel Gas Code.

COURSE FORMAT

This is a theory based course in which topics are presented by the instructor utilizing books, handouts, overheads and demonstrations. Guest speakers from the plumbing profession and field trips to reputable companies will enhance the students' experience. Students are expected to read chapter assignments, complete assigned work problems, and be ready to discuss them in class.

TEXT(S) AND REQUIRED SUPPLIES

Required text (*to be purchased through the Cont. Ed. Office):

- *Modern Plumbing Text and Job Practice Manual.* Goodheart-Wilcox.
- *Mathematics for Plumbers and Pipefitters.* Delmar, 2007.
- *International Plumbing Code and Commentary*
- **International Energy Conservation Code and Commentary.* ICC
- **International Fuel Gas Code, Commentary and Turbo Tabs.* ICC
- **Total Book Cost: \$140.00**

EVALUATION AND GRADING

Coursework will be weighted as follows:

1. Classroom assignments/quizzes	60%
2. Attendance	10%
3. Participation	10%
4. <u>Final exam</u>	<u>20%</u>
Total	100%

Classroom assignments/quizzes: Textbook readings, workbook assignments and routine quizzes on assigned readings and shop procedures will be given and graded.

Participation: Students will receive a participation grade which reflects their attitude, work ethic and contribution to class discussions and projects (refer to participation rubric).

Attendance: The development of appropriate work habits and attitudes, including regular attendance, is critical for success both on the job and at BCTC.

Attendance will be graded as follows:

No absences	100%
One absence	90%
Two absences	80%
Three absences	70%
Four absences	60%
Five – six absences	50%

Final Exam: A comprehensive final exam will be given.

Industry Certifications: Students have the opportunity to earn the American Red Cross First Aid and CPR Certification.

Certificate of Completion: Grades and daily attendance records will be kept and each student who participates in at least 90% of the classes and receives a grade of 70% or higher will receive a certificate of completion.

CLASSROOM RULES OF CONDUCT

1. Refer to the Continuing Education Adult Evening Students Policies and Procedures (CE-021) for school wide policies.
2. Safety glasses must be worn at all times in the shop.

COURSE OUTLINE

Safety Certifications

1. First Aid Certification
2. CPR Certification

Modern Plumbing

1. Installing Water Supply Piping
2. Supporting and Testing Pipes
3. Installing Fixtures, Faucets, and Appliances

4. Septic Systems
5. Storm Water and Sumps
6. Installing HVAC Systems
7. Swimming Pools, Hot Tubs, and Spas
8. Irrigation Systems
9. Remodeling
10. Job Organization
11. Plumbing Career Opportunities

Math for Plumbers and Pipefitters

1. Bend Offsets
2. Grade, Percent Grade, Drop, and Run
3. Water Measure
4. Rectangular Solids
5. Cylinders
6. Spheres
7. Water Pressure, Head, and Force
8. Mechanical Advantage

NCCER Level 2

1. Fuel Gas Systems
2. Compressed Air

International Fuel and Gas Code

1. Introduction to codes applicable to units studied in text

International Energy Conservation Code

1. Administration
2. Definitions
3. Climate Zones
4. Residential Energy Efficiency
5. Commercial Energy Efficiency
6. Referenced Standards

Seminars

1. Water Treatment Training
2. Pump Training (by Jim Richards)
3. Gas Piping and Certification

Plumbing Apprenticeship Year Three

Hours: 195

Term: Year 3

Instructor: Dorn Reppert and Anthony Spadafora

Contact hours:	Monday - Friday 8:00AM - 4:00PM
Contact phone:	Continuing Education Office (610)743-7630 (West Campus) or (610) 987-2706 (East Campus)
E-mail:	Continuing.Education@berkscareer.com
Class meetings:	Tues. & Thurs. 7:00PM-10:00PM
Prerequisites:	Employed in the Plumbing field under the supervision of a Master Plumber. Completion of year one and two Plumbing Apprenticeship.
Location:	Rm. C-9T, East Campus, Oley, PA.

COURSE DESCRIPTION

The year three Plumbing Apprenticeship program provides students with instruction in plumbing applications in heating, air conditioning, water conditioning and welding. Students will also learn applicable plumbing codes found in the International Mechanical Code and International Fuel Gas Code.

COURSE OBJECTIVES

1. Identify and explain components of heating and pumping systems.
2. Explain the concepts of temperature and pressure and how they apply to plumbing installations.
3. Discuss plumbing procedures related to the installation and repair of heating, air conditioning and water conditioning systems.
4. Develop welding skills required in the plumbing profession.
5. Develop technical plumbing skills associated with the International Mechanical Code and International Fuel Gas Code.

COURSE FORMAT

This is a theory based course in which topics are presented by the instructor utilizing books, handouts, overheads and demonstrations. Guest speakers from the plumbing profession and field trips to reputable companies will enhance the students' experience. Students are expected to read chapter assignments, complete assigned work problems, and be ready to discuss them in class.

TEXT(S) AND REQUIRED SUPPLIES

Required text (to be purchased through the Cont. Ed. Office):

- *Modern Hydronic Heating for Residential & Light Commercial Buildings*, 2nd edition, Cengage.
- *Low Pressure Boilers Text and Workbook*, ATP, 2009.
- *The Color of Steam*, Peerless Boilers, 2008.
- *The Color of Water*, Peerless Boilers, 2004.
- *International Fuel Gas Code & Commentary 2009*, ICC.
- *International Mechanical Code & Commentary 2009*, ICC.

- *Hydronic Radiant Heating*, Dan Holohan, Heating Help.
- *Pumping Away*, Dan Holohan, Heating Help.
- *Primary Secondary Plumbing Made Easy*, Dan Holohan, Heating Help.
- Total Book Cost: \$520.00

EVALUATION AND GRADING

Coursework will be weighted as follows:

1. Classroom assignments/quizzes	60%
2. Attendance	10%
3. Participation	10%
4. Final exam	20%
Total	100%

Classroom assignments/quizzes: Textbook readings, workbook assignments and routine quizzes on assigned readings and shop procedures will be given and graded.

Participation: Students will receive a participation grade which reflects their attitude, work ethic and contribution to class discussions and projects (refer to participation rubric).

Attendance: The development of appropriate work habits and attitudes, including regular attendance, is critical for success both on the job and at BCTC.

Attendance will be graded as follows:

No absences	100%
One absence	90%
Two absences	80%
Three absences	70%
Four absences	60%
Five – six absences	50%

Final Exam: A comprehensive final exam will be given..

Certificate of Completion: Grades and daily attendance records will be kept and each student who participates in at least 90% of the classes and receives a grade of 70% or higher will receive a certificate of completion.

CLASSROOM RULES OF CONDUCT

1. Refer to the Continuing Education Adult Evening Students Policies and Procedures (CE-021) for school wide policies.
2. Safety glasses must be worn at all times in the shop.

COURSE OUTLINE

Modern Hydronic Heating

1. Fundamental Concepts
2. Heating Load Estimates
3. Hydronic Heat Sources
4. Properties of Water

5. Piping, Fittings, and Valves
6. Fluid Flow in Piping
7. Circulating Pumps
8. Heat Emitters
9. Control Strategies, Components, and Systems
10. Hydronic Radiant Panel Heating
11. Distribution Piping Systems
12. Expansion Tanks
13. Air Removal, Filling, and Purging
14. Auxiliary Loads and Specialized Applications

Low Pressure Boilers

1. Boiler Operation Principles
2. Boiler Fittings
3. Feedwater System
4. Steam System
5. Fuel System
6. Draft System
7. Boiler Water Treatment
8. Boiler Operation Procedures
9. Hot Water Heating Systems
10. Cooling Systems
11. Boiler Operation Safety
12. Boiler Operator Licensing

The Color of Steam

1. How One-Pipe Systems Work
2. System Checklist
3. The Near-Boiler Piping
4. Sizing the Boiler
5. Counterflow Systems
6. Parallel Flow Systems
7. Troubleshooting

The Color of Water

1. Hydronic Comfort
2. Heat Load Calculations
3. Pumping Pressure Drops
4. Centrifugal Pumps
5. Pump Location
6. Controlling Expansion
7. Piping Residential Systems
8. Commercial System Piping
9. Combustion & Efficiency
10. Glycol Tips

International Fuel Gas Code

1. Administration
2. Definitions
3. General Regulations
4. Gas Piping Installations
5. Chimneys and Vents
6. Specific Appliances
7. Gaseous Hydrogen Systems
8. Referenced Standards

International Mechanical Code

1. Administration
2. Definitions
3. General Regulations
4. Ventilation
5. Exhaust Systems
6. Duct Systems
7. Combustion Air
8. Chimneys and Vents
9. Specific Appliances, Fireplaces, and Solid Fuel-Burning Equipment
10. Boilers, Water Heaters, and Pressure Vessels
11. Refrigeration
12. Hydronic Piping
13. Fuel Oil Piping and Storage
14. Solar Systems
15. Referenced Standards

Dan Holohan Series

1. Hydronic Radiant Heating
2. Pumping Away
3. Primary-Secondary Pumping Made Easy

Plumbing Apprenticeship Year Four

Hours: 195

Term: Year 4

Instructor: Jay Montgomery

Contact hours:	Monday - Friday 8:00AM - 4:00PM
Contact phone:	Continuing Education Office (610)743-7630 (West Campus) or (610) 987-2706 (East Campus)
E-mail:	Continuing.Education@berkscareer.com
Class meetings:	Tues. & Thurs. 6:30PM-9:30PM
Prerequisites:	Employed in the Plumbing field under the supervision of a Master Plumber. Completion of year one - three Plumbing Apprenticeship.
Location:	Room A-6, East Campus, Oley, PA.

COURSE DESCRIPTION

The year four Plumbing Apprenticeship program provides instruction on all Plumbing Codes and related materials in preparation for successful completion of the City of Reading License Exam which will be taken at the conclusion of the year.

COURSE OBJECTIVES

1. Develop mastery of plumbing code knowledge through trial exams.
2. Identify sections and efficiently locate information in the International Plumbing Code.
3. Prepare to sit for the City of Reading Journeyman's Plumbing Exam.

COURSE FORMAT

This is a theory based course in which topics are presented by the instructor utilizing books, handouts, overheads and demonstrations. Students will spend the majority of class time studying the code book and taking trial exams in preparation for the City of Reading Plumbing Exam. Students are expected to read assignments, complete assigned work problems, and be ready to discuss them in class.

TEXT(S) AND REQUIRED SUPPLIES

Required text (to be purchased through the Cont. Ed. Office):

- *International Plumbing Code & Commentary 2009, ICC.*
- **Total Book Cost: \$90.00**

EVALUATION AND GRADING

Coursework will be weighted as follows:

1. Classroom assignments/quizzes	60%
2. Attendance	10%
3. Participation	10%
4. <u>Final exam</u>	<u>20%</u>
Total	100%

Classroom assignments/quizzes: Textbook readings, workbook assignments and routine quizzes on assigned readings and shop procedures will be given and graded.

Participation: Students will receive a participation grade which reflects their attitude, work ethic and contribution to class discussions and projects (refer to participation rubric).

Attendance: The development of appropriate work habits and attitudes, including regular attendance, is critical for success both on the job and at BCTC.

Attendance will be graded as follows:

No absences	100%
One absence	90%
Two absences	80%
Three absences	70%
Four absences	60%
Five – six absences	50%

Final Exam: A comprehensive final exam will be given.

Certificate of Completion: Grades and daily attendance records will be kept and each student who participates in at least 90% of the classes and receives a grade of 70% or higher will receive a certificate of completion.

CLASSROOM RULES OF CONDUCT

1. Refer to the Continuing Education Adult Evening Students Policies and Procedures (CE-021) for school wide policies.

COURSE OUTLINE

International Plumbing Code & Commentary

1. Administration
2. Definitions
3. General Regulations
4. Fixtures, Faucets, and Fixture Fittings
5. Water Heaters
6. Water Supply and Distribution
7. Sanitary Drainage
8. Indirect/Special Waste
9. Vents
10. Traps, Interceptors, and Separators
11. Storm Drainage
12. Special Piping and Storage Systems
13. Referenced Standards

**REGISTRATION AGENCY
PENNSYLVANIA APPRENTICESHIP AND TRAINING COUNCIL
APPRENTICESHIP AGREEMENT
BETWEEN APPRENTICE AND SPONSOR**

<p><i>This AGREEMENT may be terminated by either of the parties, citing cause(s) with notification to the registration agency, in compliance with Title 34, Part IV, Chapter 83.</i></p>	<p><small>PRIVACY ACT STATEMENT</small> <i>The information requested herein is used for apprenticeship program statistical purposes and may not be otherwise disclosed without the express permission of the undersigned apprentice.</i> <small>Privacy Act of 1974 - P.L. 93-579</small></p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

1. AGREEMENT BETWEEN APPRENTICE AND:- ("X" one) a. <input checked="" type="checkbox"/> Employer b. <input type="checkbox"/> Joint Committee c. <input type="checkbox"/> Non-Joint Committee	2. PROGRAM NUMBER <p align="center" style="font-size: 1.2em;">PA 006158450</p>	3. NAME OF APPRENTICESHIP STANDARDS (Name & Address of Sponsor) HAROLD R. BOONE & SON INC 143 WEGMAN ROAD READING, PA 19606
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

The program sponsor and apprentice agree to the terms of the apprenticeship standards as incorporated as part of this agreement. The sponsor will not discriminate in the selection and training of the apprentice in accordance with the Equal Opportunity Standards in Section 30.3, Title 29, Code of Federal Regulation, Part 30.

4. NAME OF APPRENTICE (Last, First, Middle) <div style="background-color: black; height: 20px; width: 100%;"></div>	5. DATE OF BIRTH (Mo., Day, Year) <div style="background-color: black; height: 20px; width: 100%;"></div>	6. SEX ("X" one) a. <input checked="" type="checkbox"/> Male b. <input type="checkbox"/> Female
-------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------

7. SOCIAL SECURITY NO. <div style="background-color: black; height: 20px; width: 100%;"></div>	8. APPRENTICE'S ADDRESS (No., Street, City, County, State, ZIP Code) <div style="background-color: black; height: 20px; width: 100%;"></div>
----------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------

9a. RACE ("X" one or more) a. <input type="checkbox"/> Am. Indian or Alaskan Nat. b. <input type="checkbox"/> Asian c. <input type="checkbox"/> Black or African American d. <input type="checkbox"/> Native Hawaiian or other Pacific Islander e. <input checked="" type="checkbox"/> White	9b. ETHNIC GROUP ("X" one) a. <input type="checkbox"/> Hispanic or Latino b. <input checked="" type="checkbox"/> Not Hispanic or Latino	10. VETERAN STATUS ("X" one) a. <input checked="" type="checkbox"/> Non-Veteran b. <input type="checkbox"/> Veteran	11. HIGHEST EDUCATION LEVEL ("X" one) a. <input type="checkbox"/> 8th grade or less b. <input type="checkbox"/> 9th to 12th grade c. <input type="checkbox"/> GED d. <input checked="" type="checkbox"/> High School or greater
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

12. CAREER LINKAGE OR DIRECT ENTRY ("X" one) <input checked="" type="checkbox"/> None <input type="checkbox"/> Adult <input type="checkbox"/> Youth <input type="checkbox"/> HUD/STEP-UP <input type="checkbox"/> School-to-Registered-Apprenticeship <input type="checkbox"/> Incumbent Worker <input type="checkbox"/> Job Corps <input type="checkbox"/> Dislocated Worker <input type="checkbox"/> Direct Entry: _____

13. SIGNATURE OF APPRENTICE 	DATE	14. SIGNATURE OF PARENT/GUARDIAN (if minor)	DATE
----------------------------------------	-------------	----------------------------------------------------	-------------

15a. TRADE <p align="center" style="font-size: 1.2em;">PLUMBER</p>	15b. RAIS Code <p align="center" style="font-size: 1.2em;">0432</p>	16. TERM (Hours, Months, Years) <p align="center" style="font-size: 1.2em;">8,000 Hours</p>	17. PROBATIONARY PERIOD (Hours, Months, Years) <p align="center" style="font-size: 1.2em;">1,000 Hours</p>
----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------

18. CREDIT FOR PREVIOUS EXPERIENCE (Hrs., Mos., Yrs.) <p align="center" style="font-size: 1.2em;">4 1/2 hrs</p>	19. TERM REMAINING (Hrs., Mos., Yrs.) <p align="center" style="font-size: 1.2em;">7584 1/2 hrs</p>	20. DATE APPRENTICESHIP BEGINS (Indenture Date) <p align="center" style="font-size: 1.2em;">6-9-15</p>	21. RELATED INSTRUCTION TRAINING (No. Hrs. per Yr.) <p align="center" style="font-size: 1.2em;">180 hours per year</p>
---------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------

22. RELATED INSTRUCTION SOURCE BERKS CAREER & TECHNOLOGY CENTER 3307 FRIEDENSBURG ROAD OLEY, PA	23. APPRENTICE WAGES FOR RELATED INSTRUCTION TRAINING ("X" one) a. <input type="checkbox"/> will be paid b. <input checked="" type="checkbox"/> will not be paid	24. PRESENT JOURNEYMAN'S HOURLY WAGE RATE <p align="center" style="font-size: 1.2em;">\$ 16.00</p>
-----------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------

25. APPRENTICE WAGES: The apprentice schedule of pay shall be listed for each advancement period. The work processes listed in the standards (item 3 above) are a part of this agreement.

PERIOD	TERM (Mo./Yr.)	%	DOLLAR AMOUNT (in dollars & cents)	PERIOD	TERM (Mo./Yr.)	%	DOLLAR AMOUNT (in dollars & cents)
a.	b.	c.	d.	a.	b.	c.	d.
1	1000 Hours	65 %	\$0.00	6	1000 Hours	90 %	\$0.00
2	1000 Hours	70 %	\$0.00	7	1000 Hours	95 %	\$0.00
3	1000 Hours	75 %	\$0.00	8	1000 Hours	99 %	\$0.00
4	1000 Hours	80 %	\$0.00	9		%	\$0.00
5	1000 Hours	85 %	\$0.00	10		%	\$0.00

26. SIGNATURE OF SPONSOR REPRESENTATIVE a.	DATE SIGNED <p align="center" style="font-size: 1.2em;">8-31-15</p>	27.
SIGNATURE OF SPONSOR REPRESENTATIVE b.	DATE SIGNED	28. SIGNATURE (Director, Pennsylvania Apprenticeship & Training Council)
		DATE REGISTERED <p align="center" style="font-size: 1.2em;">10-8-15</p>

**REGISTRATION AGENCY
PENNSYLVANIA APPRENTICESHIP AND TRAINING COUNCIL
APPRENTICESHIP AGREEMENT
BETWEEN APPRENTICE AND SPONSOR**

This AGREEMENT may be terminated by either of the parties, citing cause(s) with notification to the registration agency, in compliance with Title 34, Part IV, Chapter 83.

PRIVACY ACT STATEMENT
The information requested herein is used for apprenticeship program statistical purposes and may not be otherwise disclosed without the express permission of the undersigned apprentice.
Privacy Act of 1974 - P.L. 93-579

1. AGREEMENT BETWEEN APPRENTICE AND: (* one) a. <input checked="" type="checkbox"/> Employer b. <input type="checkbox"/> Joint Committee c. <input type="checkbox"/> Non-Joint Committee	2. PROGRAM NUMBER PA006158450	3. NAME OF APPRENTICESHIP STANDARDS (Name & Address of Sponsor) HAROLD R. BOONE & SON INC 143 WEGMAN ROAD READING, PA 19606
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------

The program sponsor and apprentice agree to the terms of the apprenticeship standards as incorporated as part of this agreement. The sponsor will not discriminate in the selection and training of the apprentice in accordance with the Equal Opportunity Standards in Section 30.3, Title 29, Code of Federal Regulation, Part 30.

4. NAME OF APPRENTICE (Last, First, Middle) [REDACTED]	5. DATE OF BIRTH (Mo., Day, Year) [REDACTED]	6. SEX (* one) a. <input checked="" type="checkbox"/> Male b. <input type="checkbox"/> Female
-----------------------------------------------------------	-------------------------------------------------	-----------------------------------------------------------------------------------------------------

7. SOCIAL SECURITY NO. [REDACTED]	8. APPRENTICE'S ADDRESS (No., Street, City, County, State, ZIP Code) [REDACTED]
--------------------------------------	------------------------------------------------------------------------------------

9a. RACE (* one or more) a. <input type="checkbox"/> Am. Indian or Alaskan Nat. b. <input type="checkbox"/> Asian c. <input type="checkbox"/> Black or African American d. <input type="checkbox"/> Native Hawaiian or other Pacific Islander e. <input checked="" type="checkbox"/> White	9b. ETHNIC GROUP (* one) a. <input type="checkbox"/> Hispanic or Latino b. <input checked="" type="checkbox"/> Not Hispanic or Latino	10. VETERAN STATUS (* one) a. <input checked="" type="checkbox"/> Non-Veteran b. <input type="checkbox"/> Veteran	11. HIGHEST EDUCATION LEVEL (* one) a. <input type="checkbox"/> 8th grade or less b. <input type="checkbox"/> 9th to 12th grade c. <input type="checkbox"/> GED d. <input checked="" type="checkbox"/> High School or greater
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

12. CAREER LINKAGE OR DIRECT ENTRY (* one)
 None Adult Youth HUD/STEP-UP School-to-Registered-Apprenticeship
 Incumbent Worker Job Corps Dislocated Worker Direct Entry

13. SIGNATURE OF APPRENTICE <i>[Signature]</i>	DATE	14. SIGNATURE OF PARENT/GUARDIAN (if minor) [REDACTED]	DATE
---------------------------------------------------	------	-----------------------------------------------------------	------

15a. TRADE PLUMBER	15b. RAIS Code 0432	16. TERM (Hours, Months, Years) 8,000 Hours	17. PROBATIONARY PERIOD (Hours, Months, Years) 1,000 Hours
------------------------------	-------------------------------	-------------------------------------------------------	----------------------------------------------------------------------

18. CREDIT FOR PREVIOUS EXPERIENCE (Hrs., Mos., Yrs.) 415 1/2 hrs	19. TERM REMAINING (Hrs., Mos., Yrs.) 7584 1/2 hrs	20. DATE APPRENTICESHIP BEGINS (Indenture Date) 6-9-15	21. RELATED INSTRUCTION TRAINING (No. Hrs. per Yr.) 180 hours per year
-----------------------------------------------------------------------------	--------------------------------------------------------------	------------------------------------------------------------------	----------------------------------------------------------------------------------

22. RELATED INSTRUCTION SOURCE BERKS CAREER & TECHNOLOGY CENTER 3307 FRIEDENSBURG ROAD OLEY, PA	23. APPRENTICE WAGES FOR RELATED INSTRUCTION TRAINING (* one) a. <input type="checkbox"/> will be paid b. <input checked="" type="checkbox"/> will not be paid	24. PRESENT JOURNEYMAN'S HOURLY WAGE RATE \$ 16.00
-----------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------

25. APPRENTICE WAGES: The apprentice schedule of pay shall be listed for each advancement period. The work processes listed in the standards (item 3 above) are a part of this agreement.

PERIOD	TERM (Mo./Yr.)	%	DOLLAR AMOUNT (in dollars & cents)	PERIOD	TERM (Mo./Yr.)	%	DOLLAR AMOUNT (in dollars & cents)
a.	b.	c.	d.	a.	b.	c.	d.
1	1000 Hours	65 %	\$0.00	6	1000 Hours	90 %	\$0.00
2	1000 Hours	70 %	\$0.00	7	1000 Hours	95 %	\$0.00
3	1000 Hours	75 %	\$0.00	8	1000 Hours	99 %	\$0.00
4	1000 Hours	80 %	\$0.00	9		%	\$0.00
5	1000 Hours	85 %	\$0.00	10		%	\$0.00

26. SIGNATURE OF SPONSOR REPRESENTATIVE a. <i>Jaffrey L. Boone</i>	DATE SIGNED 8-31-15	27.
SIGNATURE OF SPONSOR REPRESENTATIVE b.	DATE SIGNED	28. SIGNATURE (Director, Pennsylvania Apprenticeship & Training Council) <i>[Signature]</i>
		DATE REGISTERED 10-8-15

FY 15 QTR 4 CONSTRUCTION

**UNITED STATES DEPARTMENT OF LABOR
OFFICE OF APPRENTICESHIP**

BLLC
SEP 14 2015



PROGRAM / APPRENTICE ACTION TRANSMITTAL

DATE: September 10, 2015

FROM: STEVE MYERS, ATR
U.S. DEPT OF LABOR / OFFICE OF APPRENTICESHIP
201 PENN STREET, BOX 16
READING, PA 19601

PROGRAM MATERIALS FOR COUNCIL ACTION: *NEW PROGRAM*

STANDARDS: Registration Revision Cancellation
 Trade Addition
 Compliance Review Quality Assessment

APPRENTICE MATERIALS FOR COUNCIL ACTION:

Registration Completion Cancellation

PROGRAM NUMBER: PA006158450

PROGRAM NAME: HAROLD R. BOONE & SON INC

COMMENTS / ADDITIONAL INFORMATION:

NEW PROGRAM. PLEASE SIGN STANDARDS AND APPRENTICE AGREEMENT.
REGISTER APPRENTICE IN RAPIDS. ISSUE SPONSOR CERTIFICATE FOR
TRADE OF PLUMBER.