

**STANDARDS  
OF  
APPRENTICESHIP**



**ASSOCIATED BUILDERS AND CONTRACTORS, INC.**

**BALTIMORE METROPOLITAN CHAPTER**

**2101 E. Biddle Street, Suite 5000**

**Baltimore, Maryland, 21213**

**(410) 821-0351**

## **PREFACE**

To increase the number of skilled craftspeople needed by our construction industry, and to offer the existing and future labor force of our community an opportunity for training and advancement, the Baltimore Metropolitan Chapter of Associated Builders & Contractors, Inc. will implement and administer an Apprenticeship and Training Program to be governed by the Apprenticeship Standards hereby set forth with the approval and cooperation of the Maryland Apprenticeship and Training Council.

Incorporated in these Standards is an Affirmative Action Plan and Selection Procedure in conformance with the Maryland State Plan for Equal Employment Opportunity in Apprenticeship.

Listed below are the occupations covered in these Standards. Future circumstances may require the addition of other occupations, which may be added through revision and with the approval of the registration agency.

### *Occupations include:*

1. *Carpentry (860.381-022)*
2. *Cement Mason (844.364-014)*
3. *Concrete Form Builder/Setter (47-2031.02)*
4. *Construction Craft Laborer (869.687-026)*
5. *Drywall (842.684-014)*
6. *Electrical (824.261-010)*
7. *Glazier (865.381-014)*
8. *HVAC (637.261-014)*
9. *Insulation Worker (863.364-010)*
10. *Masonry (Brick) (861.381-018)*
11. *Operating Engineer (Heavy Equipment) (859.683-014)*
12. *Painting (840.381-010)*
13. *Pipefitter (CONST.) (862.281-026)*
14. *Plumbing (862.381-030)*
15. *Reinforced Ironwork (801.684-026)*
16. *Roofer (866.381-014)*
17. *Sheet Metal (804.281-010)*
18. *Sprinkler Fitting (862.281-022)*
19. *Steamfitter (98315)*
20. *Structural Ironwork (801.361-014)*
21. *Welder (Combination) (819.384-014)*

## **GLOSSARY**

**APPRENTICE** – an individual at least 17 years of age who has signed an Apprenticeship Agreement with the Employer to learn a skilled occupation as outlined in these Standards, and who is registered with the Registration Agency.

**APPRENTICESHIP AGREEMENT** - a written agreement between the Chapter Apprenticeship Committee, and the person employed as an Apprentice, and (if a minor), his/her parent or guardian, and approved by the Registration Agency.

**AFFIRMATIVE ACTION PROGRAM** - a part of a Chapter's Apprenticeship Standards.

A program designed for selection of apprentices without regard to race, sex, or national origin. This section of the Chapter Standards is in compliance with Federal Code (Title

29 CFR 30) and the Maryland State Plan **UNDER MARYLAND RULES AND REGULATIONS – TITLE 09.12.42 EQUAL EMPLOYMENT OPPORTUNITY IN APPRENTICESHIP AND TRAINING**

**APPRENTICESHIP COMMITTEE** - a duly authorized chapter committee whose composition and responsibilities are set forth in the Chapter's Standards of Apprenticeship.

**APPRENTICESHIP TUITION (fee)** - a dollar amount established by the Chapter's Board of Directors utilized to cover the cost of operating an apprenticeship program. The tuition is normally set based on cost per apprentice and is payable to the Chapter by the company that is training the apprentice.

**Office of Apprenticeship (OA)** a legally constituted agency under the U.S. Department of Labor which has the responsibility to assist in developing and registering standards of apprenticeship. Where the state is a State Apprenticeship Agency (SAA), the OA representative acts as a consultant to the state council. This is true in Maryland, and therefore, the Registration Agency for the Apprenticeship Program of this Chapter is the Maryland Apprenticeship and Training Council.

## **GLOSSARY**

**CHAPTER** - a duly constituted body incorporated within a specific state and operating within the framework of the by-laws established by the Board of Directors of the Associated Builders & Contractors, Inc.

**EMPLOYER'S ACCEPTANCE AGREEMENT** - a signed statement by the Employer indicating compliance with ABC Standards of Apprenticeship.

**ON-THE-JOB TRAINING (OJT)** - the training an apprentice receives while working "in the field" for his employer. The work processes established in the Standards of Apprenticeship specify the job tasks he is to learn and the amount of time that should be devoted to the training.

**REGISTRATION AGENCY** - the Maryland Apprenticeship and Training Council, as recognized by the U.S. Department of Labor, Office of Apprenticeship.

**STANDARDS OF APPRENTICESHIP** - the standards of training adopted by a chapter of Associated Builders and Contractors, Inc., and registered with the appropriate registration Agency.

**SUPERVISOR OF APPRENTICES** - an individual designated by the Employer to perform the duties outlined in the Standards of Apprenticeship. He/she shall work in cooperation with the Apprenticeship Coordinator and the Apprenticeship Committee.

## **SECTION 1 -- THE APPRENTICESHIP COMMITTEE**

### **A. OBLIGATIONS OF THE APPRENTICESHIP COMMITTEE**

The Apprenticeship Committee will be responsible for the administration and supervision of these Apprenticeship Standards.

During the entire term of apprenticeship, the Apprentice shall be under the jurisdiction and control of the Apprenticeship Committee, and the Committee shall have the authority to protect the Apprentice's welfare; also, to instruct, direct, and discipline at all times.

### **B. DUTIES OF THE APPRENTICESHIP COMMITTEE**

1. To establish Apprenticeship Programs for the occupations indicated in these Standards.
2. To include in such Programs minimum standards for on-the-job training and for related instruction.
3. To recruit, interview, evaluate, and select as qualified applicants for Apprenticeship.
4. To pledge equal opportunity through the following statement: "The recruitment, selection, employment, and training of Apprentices during their Apprenticeship shall be without discrimination based upon political or religious opinion or affiliation, marital status, race, color, creed, national origin, sex or age, unless sex or age constitutes a bona fide occupational qualification, or the physical or mental disability of a qualified individual with a disability. The sponsor will take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required under Maryland Regulation 09.12.42 and 29 CFR 30.
5. To maintain for five years records adequate to demonstrate compliance with the above pledge.

6. To screen and select qualified applicants for apprenticeship and to refer qualified applicants to potential Employers.

7. To place Apprentices under Apprenticeship Agreements, and to approve, sign, and submit such agreements for registration to the Registration Agency.
8. To hear and adjust any complaints of violations of Agreements. NOTE: Employers or Apprentices may freely consult with the Committee for interpretation of disputed provisions of these Standards.
9. To notify the Registration Agency of all suspensions, reinstatements, or cancellations of Agreements, as well as accelerated advancement of the exceptional apprentice or failure of the Apprentice to meet advancement requirements (i.e. prolonged lay-off or absenteeism).
10. To survey, test, and record the progress of each Apprentice in all aspects of the Program.
11. To monitor the adherence of all participants to establish minimum standards.
12. To arrange continuous employment for each Apprentice insofar as possible.
13. To notify the Registration Agency of each successful completion of Apprenticeship, requesting a "Certificate of Completion" from the Agency.
14. To make a periodic report to the Chapter.
15. To assume responsibility for successful operation of Apprenticeship Programs under these Standards.
16. To recruit instructors for related classes and develop guidelines for their use. To visit classrooms once a month, not only to indicate continuing interest, but to evaluate the instructors.

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## **SECTION II -- THE APPRENTICE**

### **A. OBLIGATIONS OF THE APPRENTICE**

It is the responsibility of the apprentice applicant to become fully acquainted with these Standards which will govern his/her entire program. Once accepted, he/she will agree to apply himself/herself diligently and to abide by these Standards and the regulations set forth by the Apprenticeship Committee. He/she will contact the Education Director if he/she needs assistance in any phase of the program. When signing the Apprenticeship Agreement, he/she will affirm these obligations.

### **B. APPLICATION PROCEDURE**

1. Applicants may apply at the Chapter Office, Monday through Friday from 9:00 a.m. to 4:00 p.m. between the months of January through September.
2. Supply the following information to the Chapter Office. All information must be submitted before your application can be processed.
  - a. Doctor's certificate - stating you are physically able to do construction work and signed by attending physician.
  - b. Proof of age - i.e. birth certificate, selective service card, school record, this is on your transcripts.
  - c. Supply a high school diploma or equivalent. Anyone who does not have a high school diploma or equivalent may be considered for apprenticeship with the understanding that they must obtain these mandatory credentials within their first year of apprenticeship to continue in the program.
  - d. Proof of work experience - i.e. letter from a previous employer or a current employer stating length of employment and duties performed.



e. Applicant, if veteran, must provide DD-214 discharge papers, and if claiming credit for training.

3. After the applicant has submitted the requirements, he/she will be required to meet with the Education Director for an interview. You will be notified by mail, when and where the interview will be held.

NOTE: The Apprentice is required to furnish his/her own transportation to and from all job sites of employer and related instruction classes.

### **C. SELECTION PROCEDURE**

1. To pledge equal opportunity through the following statement: "The recruitment, selection, employment, and training of Apprentices during their Apprenticeship shall be without discrimination based upon political or religious opinion or affiliation, marital status, race, color, creed, national origin, sex or age, unless sex or age constitutes a bona fide occupational qualification, or the physical or mental disability of a qualified individual with a disability. The sponsor will take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required under Maryland Regulation 09.12.42 and 29 CFR 30.

### **D. ADVANCED STANDING**

Advanced standing in the Program. Applicant will be advised at the interview that advancement is possible provided ability is demonstrated both by examination and on-the-job performance. If advanced standing is awarded, the pay rate will be adjusted to the proper level in accordance with the Standards and the Employer so informed.

Unless the Committee finds an applicant qualified to advance a full year, his/her advancement will not be awarded until the end of his/her probationary period.

### **E. PROBATIONARY PERIOD**

All Apprentices employed in conformity with these Standards will be subject to a probationary period not to exceed 25% of the length of the program or one year, whichever is shorter. During the probationary period, the Apprenticeship Agreement may be canceled by the Apprenticeship Committee at the request of either party to the Agreement without the formality of a hearing.

**F. CREDIT DURING TRAINING**

Apprentices who demonstrate exceptional ability may be advanced ahead of their scheduled period of advancement into the next period of their Apprenticeship and shall receive that wage rate. This advancement recommended by the Employer must be approved by the Apprenticeship Committee.

**G. RELATED SCHOOL INSTRUCTION**

Each Apprentice registered under these Standards is required to receive an annual minimum of one hundred and forty-four (144) hours of instruction in technical and theoretical subjects, pertinent to the occupations in which he/she is assigned, and shall be required

to pass a satisfactory yearly examination of such subject matter before being granted a Certificate of Completion for that year.

Attendance at related instruction classes shall not be considered as hours worked when given outside of regular working hours; the Apprentice shall not be paid for attendance at related classes. (See Appendix, "Student Regulations".)

Where classes are not available through the local school, other organized occupations, industrial or correspondence courses of equivalent value may be approved by the Apprentice- ship Committee.

#### **H. WAGES AND FRINGE BENEFITS FOR APPRENTICES**

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefit payments consistent with skill performance and knowledge levels achieved and demonstrated in OJT and related instruction. Before an apprentice is advanced to the next segment of training or to journey-worker status, the Sponsor will evaluate all progress to determine whether advancement has been earned by satisfactory performance in their OJT and in related instruction courses. In determining whether satisfactory progress has been made, the Sponsor will be guided by the work experience and related instruction records and reports. Apprentice wages and fringe benefit payments shall be based on a percentage of wages paid journey-workers. The entry wage and fringe benefit payments shall not be less than the minimum wage and fringe benefit payments prescribed by the Fair Labor Standards Act, where applicable, unless a higher wage and fringe benefit payment is required by other applicable Federal law, State law, Local law, or respective regulations. The Registration Agency shall be notified of any change in the wage and fringe benefit payment rate for a journey-worker or apprentice.

#### **I. STUDENT REGULATIONS**

Students will abide by the regulations as outlined in the Appendix.

## **I. SCHOOL TO APPRENTICESHIP**

Apprentices may be registered at age 16 with parent or guardian signed consent and an approved work permit for entry as a School to Apprenticeship (STA) pathway.

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### **SECTION III -- THE EMPLOYER**

#### **A. OBLIGATIONS OF THE EMPLOYER**

The Employer agrees that the Apprentice will be worked under such conditions as will result in normal advancement, will require the Apprentice to attend related training classes, will require the Apprentice to make satisfactory progress in both on-the-job training and related technical studies. The Employer also agrees that the Apprentice will not be employed in a manner that may conflict with these Standards.

The recruitment, selection, employment, and training of Apprentices during their Apprenticeship shall be without discrimination based upon political or religious opinion or affiliation, marital status, race, color, creed, national origin, sex or age, unless sex or age constitutes a bona fide occupational qualification, or the physical or mental disability of a qualified individual with a disability. The sponsor will take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required under Maryland Regulation 09.12.42 and 29 CFR 30.

#### **B. WORK PROCESSES**

It is the Employer's responsibility to see that the Apprentice receives training in the areas called "Work Processes" which are an integral part of these Standards. (See Appendix for "Work Processes".)

Quarterly progress reports will be completed and returned to the Education Director. (See Appendix for "Quarterly Report".) Each Employer shall designate a member of his staff (Superintendent, Foreman, etc.), who shall be responsible for the supervision of the Apprentice's on-the-job training. As the Supervisor of the Apprentices, he shall be responsible for seeing that the Apprentice is trained in all branches of the occupations, and

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shall sign the Apprentice's daily work record and shall grade his/her progress on the job.

The name of the Supervisor shall be given to the Education Director.

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### **C. APPRENTICESHIP AGREEMENT**

For each Apprentice employed, the Employer will receive a copy of the registered Apprenticeship Agreement. This Agreement will contain a special clause making the terms and conditions of these Standards a part of the Agreement upon entering the Program. The Employer shall maintain a signed copy of this Agreement in his files.

### **D. TUITION FEE**

1. The fee for the Apprentice is set by the Education & Training Committee to cover the cost of administering the Program. This fee is payable in full annually upon receipt of invoice from the Education & Training Committee. ABC members are entitled to a fifty percent (50%) reduction of the non-member fee.

#### **2. REFUND POLICY –**

If an apprentice is terminated by his/her employer or resigns prior to the start of related instruction classes, a full refund (either cash or credit) will be issued. However, a \$100.00 administration fee will be deducted.

After the start of classes and up to the end of the first quarter, a refund of 75% (either cash or credit) will be issued.

**NO REFUNDS WILL BE ISSUED, UNDER ANY CIRCUMSTANCES, AFTER THE SECOND QUARTER OF RELATED INSTRUCTION CLASSES HAS STARTED.**

**REFUND POLICY DOES NOT APPLY TO LAID-OFF APPRENTICES.**

**REQUESTS FOR REFUND MUST BE SUBMITTED IN WRITING.**

#### **E. THE TERM OF APPRENTICESHIP**

The term of apprenticeship for the occupations to which an Apprentice shall be assigned under these Standards shall be the number of HOURS of work experience as indicated in the Appendix for that occupations, plus a minimum of one hundred and forty-four (144) hours of related instruction for each year of the term of apprenticeship.

Each Apprentice employed under these Standards shall be trained in all branches of the occupations necessary to qualify him/her as a journeyperson.

#### **F. RELATED SCHOOL INSTRUCTION**

Each apprentice registered under these Standards is required to receive an annual minimum of one hundred and forty-four (144) hours of instruction in technical and theoretical subjects, pertinent to the occupations in which he/she is assigned and shall be required to pass a satisfactory yearly examination of such subject matter before being granted a Certificate of Completion for that year. Attendance at related instruction classes shall not be considered as hours worked when given outside of regular working hours; the Apprentice shall not be paid for attendance at related classes.

The Employer agrees to visit his Apprentices' classes at least once each month during the school year, not only to support and encourage him/her, but also to evaluate the Instructor. The Evaluation shall be filed with the Education Director. (See Appendix -- "Instructor Evaluation" form.)

#### **G. PROBATIONARY PERIOD**

All Apprentices employed in conformity with these Standards shall be subject to a probationary period not to exceed 25% of the length of the program or one year, whichever is shorter. During the probationary period, the Apprenticeship Agreement may be canceled by any one party to the Agreement without formal hearing, but with notification to the Education Director. If the Agreement shall be terminated after completing the



probationary period, the reason for the termination shall be stated in writing and shall be presented at a formal hearing of the Apprenticeship Committee.

When an Employer discharges an Apprentice, who has completed his/her probationary period, the Employer shall immediately notify the Committee in writing, giving the name of the Apprentice, the reason for discharge, and the date of termination. Disposition of such cases shall be made by the Committee within thirty (30) days of receipt of notice of the discharge and the Registration Agency shall be notified.

#### **H. HOURS OF WORK**

The hours of work for Apprentices and the conditions associated therewith shall be the same as for those for the journey person. The Apprentice shall not be required to work such hours as would interfere with his/her attendance to related training classes, except in cases of emergency. In each case, the Committee shall be notified of the emergency and the nature thereof.

#### **I. WAGES FOR APPRENTICES**

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefit payments consistent with skill performance and knowledge levels achieved and demonstrated in OJT and related instruction. Before an apprentice is advanced to the next segment of training or to journey-worker status, the Sponsor will evaluate all progress to determine whether advancement has been earned by satisfactory performance in their OJT and in related instruction courses. In determining whether satisfactory progress has been made, the Sponsor will be guided by the work experience and related instruction records and reports. Apprentice wages and fringe benefit payments shall be based on a percentage of wages paid journey workers. The entry wage and fringe benefit payments shall not be less than the minimum wage and fringe benefit payments prescribed by the Fair Labor Standards Act, where applicable, unless a higher wage and fringe benefit payment is required by other applicable Federal law, State law, or respective regulations. The Registration Agency shall be notified of any change in the wage and

fringe benefit payment rate for a journey-worker or apprentice.

**J. CREDIT FOR PREVIOUS EXPERIENCE**

Apprentices who receive credit for previous experience shall be paid the rate for the period to which such credit advances them.

Credit for previous experience will be granted after evaluation by the Apprenticeship Committee and a try-out period of 30-60 days with the Agreement of the Employer.

Apprentices will also be granted credit for related technical training received upon submission of satisfactory proof to the Committee.

**K. CREDIT DURING TRAINING**

Apprentices who demonstrate exceptional ability may be advanced ahead of their scheduled period of advancement into the next period of their apprenticeship and shall receive that wage rate. This advancement, recommended by the Employer, must be approved by the Apprenticeship Committee.

**L. RATIO OF APPRENTICES TO JOURNEYPERSONS**

Only that number of apprentices will be employed in each occupation covered in the local Standards who can be given adequate training and supervision. The Committee will determine the number of Apprentices to be accepted. In no case will a participating Employer be assigned more than one (1) apprentice to one (1) full-time journey worker he employs. In the event of a lay-off of journeypersons, apprentices shall be laid off in the same ratio in which they were hired. The furloughed apprentice shall be re-hired before any new apprentices are hired.

**M. SAFETY CLAUSE**

Each Apprentice shall be provided with initial indoctrination and instruction to enable him to perform his work in a safe manner. These instructions shall include information pertinent to company safety regulations, reporting of accidents, and availability of First Aid and

medical facilities.

The Employer shall, always, exercise reasonable precaution for the health and safety of the

Apprentices engaged in the performance of the work hereinafter described as "work processes".

He/she shall comply with all applicable provisions of Federal, State, and Municipal safety, health, and sanitation statutes and codes

## AFFIRMATIVE ACTION PLAN

IN ACCORDANCE WITH TITLE 29 CFR 30 AND UNDER MARYLAND RULES AND REGULATIONS-TITLE 09.12.21 EQUAL EMPLOYMENT OPPORTUNITY IN APPRENTICESHIP AND TRAINING BY AUTHORITY OF ARTICLE 89, SECTION 55 OF THE ANNOTATED CODE OF MARYLAND

Associated Builders and Contractors, Greater Baltimore Chapter have an Affirmative Action Plan that adequately provides for outreach and positive recruitment of minorities and females in the participation of our apprenticeship program.

The policies and programs of Associated Builders and Contractors, Greater Baltimore Chapter will continue to comply fully with all applicable laws relating to EEO, Affirmative Action and non-discrimination when applicable. When the number of apprentices employed reaches five (5) Associated Builders and Contractors, Greater Baltimore Chapter will develop and submit the required Affirmative Action Plan for MATC approval

### EQUAL EMPLOYMENT OPPORTUNITY PLEDGE

“The recruitment, selection, employment, and training of Apprentices during their Apprenticeship shall be without discrimination based upon political or religious opinion or affiliation, marital status, race, color, creed, national origin, sex or age, unless sex or age constitutes a bona fide occupational qualification, or the physical or mental disability of a qualified individual with a disability. The sponsor will take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required under Maryland Regulation 09.12.42 and 29 CFR 30.”

### AFFIRMATIVE ACTIONS

1. Sponsor will receive applications January through September and announcement shall be given twice each year to: local schools, employment services, offices, trade, government, community, outreach, ethnic minority and female organizations and shall be published in newspapers that are circulated in the minority community and among females, as well as in general areas in which the sponsor operates. Such information shall include qualification requirements; opening and closing dates during which applications will be received and the website that applications are obtained. Such announcements and informational notices will contain a statement that the sponsor is an equal opportunity employer.
2. Sponsor will cooperate with local school boards and vocational education systems to develop programs for preparing students for entry into apprenticeship programs.

3. Sponsor will participate in workshops conducted by area employment service agencies for familiarizing school, employment service and other appropriate personnel with the apprenticeship program.
4. All employees are encouraged to take necessary action to aid the sponsor in meeting its obligations under our Equal Employment Opportunity Policy.
5. Sponsor will engage in such programs as available for positive recruitment and preparation of potential applicants for apprenticeship.
6. The Associated Builders and Contractors, Greater Baltimore Chapter Education and Training Committee will, where practical, encourage the establishment and utilization of programs of pre-apprenticeship, preparatory trade training or others designed to afford related work experience or to prepare candidates for apprenticeship. The sponsor will assure that those who complete such program are afforded full and equal opportunity for admission into the apprenticeship program.
7. Sponsor will utilize registered apprentices and journeypersons to assist in implementation of this affirmative action program.
8. Sponsor will grant advance standing or credit based on previously acquired experience, training skills or aptitude for all applicants equally.
9. Other appropriate action to ensure that the recruitment, selection, employment, and training of Apprentices during their Apprenticeship shall be without discrimination based upon political or religious opinion or affiliation, marital status, race, color, creed, national origin, sex or age, unless sex or age constitutes a bona fide occupational qualification, or the physical or mental disability of a qualified individual with a disability. The sponsor will take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required under Maryland Regulation 09.12.42 and 29 CFR 30.

## SPONSOR RESPONSIBILITY

The apprenticeship staff, under the direction of the vice president of education and training will be responsible for the implementation of this affirmative action program. The president will actively support the program and aid whenever it is needed.

The vice president of education and training, together with the staff will:

1. Develop policy statements, affirmative action program methods and external communication techniques.
2. Assist in the identification of problem areas.
3. Assist participating employers in arriving at solutions to equal employment problems.

4. Design and implement audit and reporting systems that will:
  - a. Measure the effectiveness of the sponsor's program.
  - b. Indicate the need for remedial action
  - c. Determine the degree to which the sponsor's goals and objectives have been attained.
5. Serve as liaison between the sponsor and the MATC.
6. Serve as liaison between the sponsor and minority organizations, female organizations and community action groups concerned with employment opportunities of minorities and females. Contact predominantly female and minority-attended high schools, colleges and technical schools in the area.
7. Keep the president and participating employers informed of the latest developments in the equal employment opportunity area.
8. Conduct a periodic audit of apprentice selection, training programs and hiring and promotions patterns to remove impediments to the attainment of goals and objectives.
9. Engage in regular discussions with participating employers and apprentices to ascertain whether the company's policies are being followed.
10. Review the qualifications of all applicants to ensure that minorities and females are given full opportunities for apprenticeship selection and employment.
11. Provide counseling for apprentices.

## SELECTION OF APPRENTICES

All information regarding apprenticeship openings will be furnished to the Maryland Department of Labor, Licensing and Regulation's Apprenticeship and Training office, local schools, employment services centers and community-based minority and female organizations.

09.12.42.05 (4) Alternative Selection Method: All applicants will be interviewed by the sponsor and/or participating employer. The interview shall cover such factors as motivation, ambition and a willingness to accept direction. Adequate records will be kept including a summary of each interview using an interview questionnaire.

Qualified applicants must meet the above minimum qualifications as well as:

1. Completing a basic math assessment
2. Supplying high school diploma or equivalent. Anyone without a high school diploma or equivalent may be considered for apprenticeship with the understanding that they must obtain these mandatory credentials within their first year of apprenticeship to continue in the program.
2. Meeting the occupationally essential health requirements
3. Supply a record of previous work experience
4. Supply proof of age

Apprentices shall be selected based on the interview process and the specific minimum qualifications referenced above.

## GOALS AND TIMETABLES

A good faith effort must be made to bring the total percentage for the utilization of minority and female apprentices into equivalence with the applicable statistical analysis.

## MAINTENANCE OF RECORDS

Associated Builders and Contractors, Greater Baltimore Chapter will keep all adequate records of their apprenticeship program. These records will include, but are not limited to the following: original application of the applicants applying for our apprenticeship program; summary of interviews, selection and rejection of applicants, promotion, termination, layoffs, rates of pay and other forms of compensation to apprentices; evaluation of on-the-job and related classroom instruction of apprentices; and any other records pertinent to a determination of compliance with these standards, as may be required by the registration agency. These records will be maintained for a period of five (5) years as required at 1220B East Joppa Road, Suite 322, Towson, Maryland 21286

THIS AFFIRMATIVE ACTION PLAN HAS BEEN DEVELOPED  
AND APPROVED BY ASSOCIATED BUILDERS AND  
CONTRACTORS, BALTIMORE METROPOLITAN  
CHAPTER AND ITS EDUCATION AND TRAINING  
COMMITTEE.

SIGNED \_\_\_\_\_ DATE:  
\_\_\_\_\_ Michael Henderson, president  
Associated Builders and Contractors, Greater Baltimore Chapter

SIGNED \_\_\_\_\_ DATE:  
\_\_\_\_\_ Chris Hadfield, director of education  
Associated Builders and Contractors, Greater Baltimore Chapter

SIGNED \_\_\_\_\_ DATE:  
\_\_\_\_\_ Adam Hirsch, chair of education and training committee  
Associated Builders and Contractors, Greater Baltimore Chapter

**ASSOCIATED BUILDERS AND CONTRACTORS**  
**BALTIMORE METROPOLITAN CHAPTER**  
**RELATED CLASSROOM INSTRUCTION**  
*Update: April 2019*

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*Related classroom instruction may take place weekly and will be conducted at approved ABC training locations. Classes will be held for a minimum of 144 hours each school year.*

*The Sponsor will use a recognized national craft training curriculum and supported supplemental material. The purpose of a national craft training curriculum is to provide training that will ensure the continued flow of skilled craft workers into the workforce. The intent is to develop a training process that includes the efficient and consistent development, updating, and delivery of construction craft curricula.*

*All registered apprentices will receive OSHA-10 hour as well as First aid & CPR certifications.*



# **CARPENTRY CURRICULA OUTLINE**

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## **CARPENTRY LEVEL ONE**

*Basic Safety*

*Basic Math*

*Introduction to Hand Tools*

*Introduction to Power Tools*

*Introduction to Blueprints*

*Basic Rigging (Elective)*

*Basic Communication Skills*

*Basic Employability Skills*

*Material Handling*

*Orientation to the Occupation*

*Building Materials, Fasteners and Adhesives*

*Hand and Power Tools*

*Blueprints, Specifications and Layout*

*Floor Systems*

*Wall Systems*

*Ceiling Joist and Roof Framing*

*Building Envelope Systems*

*Stair Layout*

## **CARPENTRY LEVEL TWO**

*Commercial Drawings*

*Cold Formed Steel Framing*

*Exterior Finishing*

*Thermal and Moisture Protection*

*Roofing Applications*

*Doors and Door Hardware*

*Drywall Installation*

*Drywall Finishing*

*Suspended Ceilings*

*Window, Door, Floor and Ceiling Trim*

*Cabinet Installation*

## **CARPENTRY LEVEL THREE**

*Properties of Concrete*

*Rigging Equipment*  
*Rigging Practices*  
*Trenching and Excavation*  
*Reinforcing Concrete*  
*Foundations and Slabs-On Grade*  
*Vertical Framework*  
*Horizontal Formwork*  
*Handling and Placing Concrete*  
*Tilt-Up Wall Systems*

#### **CARPENTRY LEVEL FOUR**

*Site Layout Two: Angular and Distance Measurement*  
*Advanced Roof Systems*  
*Advanced Wall Systems*  
*Advanced Stair Systems*  
*Introduction to Construction Equipment*  
*Introduction to Oxyfuel Cutting and Arc Welding*  
*Site Preparation*  
*Fundamentals of Crew Leadership*

## **CEMENT MASON/CONCRETE FINISHER CURRICULA OUTLINE**

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#### **CEMENT MASON LEVEL ONE**

*Basic Safety*  
*Introduction to Construction Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Construction Drawings*

*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Introduction to Materials Handling*  
*Introduction to Concrete Construction and Finishing*  
*Safety Requirements*  
*Properties of Concrete*  
*Tools and Equipment*  
*Preparing for Placement*  
*Placing Concrete*  
*Finishing, Part One*  
*Curing and Protecting Concrete*  
*Introduction of Troubleshooting*

## **CEMENT MASON LEVEL TWO**

*Properties of Concrete, Part Two*  
*Estimating Concrete Quantities*  
*Forming*  
*Site Concrete*  
*Architectural Finishes*  
*Industrial Floors*  
*Super flat Floors*  
*Surface Treatments*  
*Quality Control*  
*Making Repairs*

## **CONCRETE FORM BUILDER/SETTER CURRICULA OUTLINE**

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### **CONCRETE FORM BUILDER/SETTER LEVEL ONE**

*Basic Safety*

*Basic Math*

*Introduction to Hand Tools*

*Introduction to Power Tools*

*Introduction to Blueprints*

*Basic Rigging (Elective)*

*Basic Communication Skills*

*Basic Employability Skills*

*Material Handling*

*Orientation to the Occupation*

*Wood Building Materials, Fasteners and Adhesives*

*Introduction to Concrete*

*Properties of Concrete*

*Introduction to Reinforcing Material and Forms*

*Reading Plans and Elevations*

*Basic Stair Layout*

*Framing Floor, Wall and Ceiling Systems*

## **CONCRETE FORM BUILDER/SETTER LEVEL TWO**

*Reading Plans and Elevation*

*Site Layout One – Distance Measurement and Leveling*

*Foundations and Flatwork*

*Concrete Forms*

*Reinforcing Concrete*

*Understanding Handling and Placing Concrete*

*Rigging Equipment*

*Rigging Practices*

*Trenching and Excavation*

*Understanding Foundation Slab-On Grade*

## **CONCRETE FORM BUILDER/SETTER LEVEL THREE**

*Site Concrete*

*Intermediate Rigging*

*Lift Planning*

*Manufactured Vertical Forms*

*Manufactured Horizontal Forms*  
*Tilt-Up Wall Panels*  
*Introductory Skills for the Crew Leader*  
*Introduction to Project Management and Supervision*  
*Introduction of Troubleshooting*

## **CONSTRUCTION CRAFT LABORER CURRICULA OUTLINE**

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### **CONSTRUCTION CRAFT LABORER LEVEL ONE**

*Basic Safety*  
*Introduction to Construction Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Construction Drawings*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Introduction to Materials Handling*  
*Orientation to the Occupation*  
*Building Materials, Fasteners, and Adhesives*  
*Properties of Concrete*  
*Site Layout One - Differential Leveling*  
*Handling and Placing Concrete*  
*Foundations and Slabs-On-Grade*

### **CONSTRUCTION CRAFT LABORER LEVEL TWO**

*Reinforcing Concrete*  
*Vertical Formwork*  
*Horizontal Formwork*  
*Heavy Equipment, Forklift, and Crane Safety*  
*Steel Erection*  
*Electrical Safety*  
*Introduction to Construction Equipment*  
*Rough Terrain Forklifts*  
*Oxyfuel Cutting*

*Elevated masonry  
Working from Elevations  
Your Role in the Green Environment*

## **DRYWALL CURRICULA OUTLINE**

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### **DRYWALL LEVEL ONE**

*Basic Safety  
Basic Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Blueprints  
Basic Rigging (Elective)  
Basic Communication Skills  
Basic Employability Skills  
Material Handling  
Orientation to the Occupation  
Materials of the Occupation  
Introduction to the Occupation  
Construction Materials and Methods  
Thermal and Moisture Protection  
Drywall Installation  
Drywall Finishing*

### **DRYWALL LEVEL TWO**

*Commercial Drawings  
Steel Framing  
Acoustical Ceilings  
Interior Specialties  
Exterior Cladding  
Specialty Finishes*

# ***ELECTRICAL CURRICULA OUTLINE***

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## ***ELECTRICAL LEVEL ONE***

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Orientation to the Occupation*  
*Electrical Safety*  
*Introduction to Electrical Circuits*  
*Electrical Theory*  
*Introduction to National Electrical Code*  
*Device Boxes*  
*Hand Bending*  
*Raceways, Boxes, and Fittings*  
*Conductors and Cables*  
*Basic Electrical Blueprints*  
*Residential Electrical Services*  
*Electrical Test Equipment*

## ***ELECTRICAL LEVEL TWO***

*Alternating Current*  
*Motors: Theory and Application*  
*Electric Lighting*  
*Conduit Bending*  
*Pull and Junction Boxes*  
*Conductor Installation*  
*Cable Tray*  
*Conductor Terminations and Splices*  
*Grounding and Bonding*  
*Circuit Breakers and Fuses*  
*Control Systems and Fundamental Concepts*

### **ELECTRICAL LEVEL THREE**

*Load Calculations – Branch Circuits*  
*Conductor Selection and Calculations*  
*Applications of Lighting*  
*Hazardous Locations*  
*Over-Current Protection*  
*Distribution Equipment*  
*Transformers*  
*Commercial Electrical Services*  
*Motor Calculations*  
*Voice, Data, and Video*  
*Motor Controls*

### **ELECTRICAL LEVEL FOUR**

*Load Calculations – Branch and Feeder Circuits*  
*Health Care Facilities*  
*Standby and Emergency Systems*  
*Basic Electronic Theory*  
*Fire Alarm Systems*  
*Specialty Transformers*  
*Advanced Control*  
*HVAC Controls*  
*Heat Tracing and Freeze Protection*  
*Motor Maintenance and Maintenance*  
*Medium-Voltage Terminations/Splice*  
*Special Locations*  
*Fundamentals of Crew Leadership*



# **GLAZIER CURRICULA OUTLINE**

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## **GLAZIER LEVEL ONE**

*Basic Safety*

*Basic Math*

*Introduction to Hand Tools*

*Introduction to Power Tools*

*Introduction to Blueprints*

*Basic Rigging (Elective)*

*Basic Communication Skills*

*Basic Employability Skills*

*Material Handling*

*Introduction to the Occupation*

*Basic Construction Skills*

*Types of Glass*

*Handling Glass Manually*

*Handling Glass Mechanically Intro to Blueprint Reading Sealants*

*Basic Glass Cutting*

*Mirror and Glass Fabrication*

*Plastics and Panels*

*Aluminum Fabrication*

*Storefront Installation*

## **GLAZIER LEVEL TWO**

*Contract Documents*

*Safety Glazing Code*

*Intermediate Trade Math*

*Sealants II*

*Custom Mirror Installation*

*Re-glazing*

*Introduction of Insulating Glass*  
*Types of Window*  
*Glass Fabrication II*  
*Aluminum Fabrication II*  
*Entrance to Hardware*  
*Shower and Tub Enclosures*

### **GLAZIER LEVEL THREE**

*Mechanical Fasteners*  
*Rigging and Hoisting*  
*Work Platforms*  
*Job Measurement*  
*Sketching and Takeoffs*  
*Sloped Glazing/Skylights*  
*Curtain Wall*  
*Finishes and Coatings for Aluminum and Glass*  
*Entrances and Hardware, Part II*

## **HEAVY EQUIPMENT OPERATOR CURRICULA OUTLINE**

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### **HEAVY EQUIPMENT OPERATIONS LEVEL ONE**

*Basic Safety*  
*Introduction to Construction Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Construction Drawings*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Introduction to Materials Handling*  
*Orientation to the Occupation*  
*Heavy Equipment Safety*  
*Identification of Heavy Equipment*

*Basic Operational Techniques*  
*Utility Tractors*  
*Introduction to Earth Moving*  
*Grades*

## **HEAVY EQUIPMENT OPERATIONS LEVEL TWO**

*Rough Terrain Forklifts*  
*On Road Dump Trucks*  
*Excavation Math*  
*Interpreting Civil Drawings*  
*Site Work*  
*Soils*  
*Skid Steers*  
*Loaders*  
*Scrapers*  
*Loaders*

## **HEAVY EQUIPMENT OPERATIONS LEVEL THREE**

*Compaction Equipment*  
*Off Road Dump Trucks*  
*Backhoes*  
*Dozers*  
*Excavators*  
*Motor Graders*  
*Finishing and Grading*  
*Soils*

# **HVAC CURRICULA OUTLINE**

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## **HVAC LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Trade mathematics*  
*Basic Electricity*  
*Introduction to Heating*  
*Introduction to Cooling*  
*Introduction to Air Distribution Systems*  
*Copper and Plastic Piping Practices*  
*Soldering and Brazing*  
*Basic Carbon Steel Piping Practices*

## **HVAC LEVEL TWO**

*Alternating Current*  
*Compressors*  
*Refrigerants and Oils*  
*Leak Detection, Evacuation, recovery and Charging*  
*Metering Devices*  
*Heat Pumps*  
*Basic Maintenance*  
*Chimneys, Vents and Flues*  
*Sheet Metal Duct Systems*  
*Fiberglass and Flexible Duct Systems*  
*Commercial Airside Systems*  
*Air Quality Equipment*  
*Introduction to Hydronic Systems*

## **HVAC LEVEL THREE**

*Fasteners, Hardware and Wiring Terminations*  
*Control Circuit and Motor Troubleshooting*  
*Troubleshooting Cooling*  
*Troubleshooting Heat Pumps*  
*Troubleshooting Gas Heating*  
*Troubleshooting Oil Heating*  
*Troubleshooting Accessories*  
*Zoning, Ductless and Variable Refrigerant Flow Systems*

*Commercial Hydronic Systems  
Steam Systems  
Retail Refrigeration Systems  
Customer Relations*

**HVAC LEVEL FOUR**

*Water Treatment  
Indoor Air Quality  
Energy Conservation Equipment  
Energy Management Systems  
Steam Air Balancing  
System Startup and Shutdown  
Construction Drawings and Specifications  
Heating and Cooling System Design  
Commercial and Industrial Refrigeration  
Alternative and Specialized Heating and Cooling Systems  
Fundamentals of Crew Leadership*

## **INSULATOR WORKER CURRICULA OUTLINE**

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**INSULATOR WORKER LEVEL ONE**

*Basic Safety  
Basic Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Blueprints  
Basic Rigging (Elective)  
Basic Communication Skills  
Basic Employability Skills  
Material Handling  
Orientation to the Occupation  
Material Handling, Storage and Distribution  
Characteristics of Pipe  
Plumbing Systems  
Chilled and Hot Water Heating Systems  
Installing Fiberglass Pipe Insulation  
Installing Pipe Fittings, Valves, and Flanges*

**INSULATOR WORKER LEVEL TWO**

*Installing Flexible Foam Insulation*  
*Installing Blanket Insulation for Ducts*  
*Installing Board Insulation for Ducts*  
*Installing Calcium Silicate/expanded Perlite Pipe Insulation*  
*Installing Mineral Wool Insulation*  
*Installing Rigid Foam Insulation*  
*Installing Board and Block Insulation*  
*Cement and Fabric Finishes & Mastics*  
*Plumbing Systems*  
*Chilled and Hot Water Heating Systems*

### **INSULATOR WORKER LEVEL THREE**

*Trade Math*  
*Air Duct Systems*  
*Theory of Heat Transfer and Moisture Effects*  
*Adhesives and Their Uses*  
*Steam, Condensate, and Process Water Systems*  
*Large Boilers, Breechings, Precipitators, and Apparatus*  
*Refrigeration and Cryogenic Systems*  
*Specialized Insulation Systems*  
*Blueprints and Specifications*  
*Jacketing Fabrication — Piping and Fittings*  
*Jacketing Fabrication — Vessels and Equipment*  
*Sheet Metal Lagging*

## **MASONRY (BRICK) CURRICULA OUTLINE**

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### **MASONRY LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Introduction to the Occupation*  
*Trade History*  
*Equipment*

*Wall Types*  
*Drawings/Specifications*  
*Mortar - Materials*  
*Mortar – Types*  
*Mortar - Mixing*  
*Mortar - Additives*  
*CMU - Materials*  
*CMU - Basic Laying Technique*  
*CMU - Moisture Control*  
*CMU - Reinforcing*  
*CMU - Wall Support*  
*Brick – Materials*  
*Brick - Basic Laying Techniques*  
*Brick - Moisture Control*  
*Brick - Reinforcing*  
*Brick - Wall Supports*  
*Brick - Wall Types*  
*Evaluation I*

## **MASONRY LEVEL TWO**

*Orientation II*  
*Equipment II*  
*Residential Drawings*  
*Commercial Drawings*  
*Human Relations*  
*Elevated Work I*  
*Quantity Take-Off*  
*Weather Considerations*  
*Mortar - Tests*  
*CMU - Advanced Laying Techniques*  
*CMU - Wall Type*  
*CMU – Joints*  
*CMU - Insulation*  
*CMU - Sample Panels and Prisms*  
*Brick - Advanced Laying Techniques*  
*Brick - Joints*  
*Brick Pavers*  
*Brick - Sample Panels and Prisms*  
*Brick - Arches*

*Fireplace Construction*  
*Surface Bonding*  
*Surface Coatings*  
*Stucco*  
*Evaluation II*

### **MASONRY LEVEL THREE**

*Orientation III*  
*Elevated Work II*  
*Specialized Quantity Take-Off*  
*Construction Planning/Coordination*  
*Stone - Materials*  
*Stone - Laying Techniques*  
*Stone - Moisture Control*  
*Stone - Wall Supports*  
*Stone - Joints*  
*Stone – Coping*  
*Stone - Sample Panels*  
*Panel Construction*  
*Repair and Restoration*  
*Acid Brick*  
*Refractoriness*  
*Structural Glazed Tile*  
*Glass Block*  
*Passive Solar Design*  
*Cultured Stone*  
*Barrier Walls*  
*Hollow Metal Frames*  
*Welding*  
*Evaluation III*

## **PAINTING CURRICULA OUTLINE**

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### **PAINTING LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*



*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Careers in the Painting Trade*  
*Safety*  
*Ladders, Scaffolds, Lifts, and Fall Protection*  
*Identifying Surface/Substrate Materials and Conditions*  
*Protecting Adjacent Surfaces*  
*Basic Surface Preparation*  
*Sealants and Repair/Fillers*  
*Introduction to Paints and Coatings*  
*Brushing and Rolling Paints and Coatings*

### **PAINTING LEVEL TWO**

*Painting Failures and Remedies*  
*Job Planning and Completion*  
*Chemical Cleaning and Stripping*  
*Low-Pressure Water Cleaning*  
*Abrasive Blasting*  
*Drywall Finishing and Patching*  
*Stains*  
*Clear Finishes*  
*Wood Finishing*  
*Coatings II*  
*Spray Painting (Conventional, Airless and HVLP)*

### **PAINTING LEVEL THREE**

*Painting Failures and Remedies Two*  
*Job Supervision, Planning, and Control*  
*Coatings Three*  
*Color and Tinting*  
*Decorative (Faux) Finishes*  
*Wall Covering*  
*Graphics*  
*Texturing*  
*Spraying with Special Device*

# **PIPEFITTER CURRICULA OUTLINE**

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## **PIPEFITTER LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Orientation to the Occupation*  
*Pipefitting Hand Tools*  
*Pipefitting Power Tools*  
*Oxyfuel Cutting*  
*Ladders and Scaffolds*  
*Motorized Equipment*

## **PIPEFITTER LEVEL TWO**

*Piping Systems*  
*Drawings and Detail Sheets*  
*Identifying and Installing Valves*  
*Pipefitting Trade Math*  
*Threaded Pipe Fabrication*  
*Socket Weld Pipe Fabrication*  
*Butt Weld Pipe Fabrication*  
*Excavations*  
*Underground Pipe Installation*

## **PIPEFITTER LEVEL THREE**

*Rigging Equipment*  
*Rigging Practices*

*Standards and Specifications*  
*Advanced Trade Math*  
*Motorized Equipment II*  
*Introduction to Aboveground Pipe Installation*  
*Field Routing and Vessel Trim*  
*Pipe Hangers and Supports*  
*Testing Piping Systems and Equipment*

#### **PIPEFITTER LEVEL FOUR**

*Advanced Blueprint Reading*  
*Advanced Pipe Fabrication*  
*Stress Relieving and Aligning*  
*Steam Traps*  
*In-Line Specialties*  
*Special Piping*  
*Hot Taps*  
*Maintaining Valves*  
*Introduction to Supervisory Roles*

## ***PLUMBING CURRICULA OUTLINE***

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#### **PLUMBING LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Introduction to the Occupation*  
*Plumbing Safety*  
*Plumbing Math*  
*Plumbing Drawings*  
*Plastic Pipe and Fittings*  
*Copper Pipe and Fittings*  
*Cast-Iron Pipe and Fittings*  
*Carbon Steel Pipe and Fittings*

*Fixtures and Faucets*  
*Introduction to Drain, Waste and Vent*  
*Introduction to Water Distribution System*

## **PLUMBING LEVEL TWO**

*Plumbing Math II*  
*Reading Commercial Plumbing Drawings*  
*Structural Penetrations, Insulation and Fire Stopping*  
*Installing and Testing DWV Piping*  
*Installing Roof, Floor, and Area Drains*  
*Types of Valves*  
*Installing and Testing Water Supply Piping*  
*Installing Fixtures, Valves, and Faucets*  
*Installing Water Heaters*  
*Basic Electricity*  
*Fuel Gas and Fuel Oil System*

## **PLUMBING LEVEL THREE**

*Applied Math*  
*Sizing and Protecting Water Supply Systems*  
*Potable Water Supply Treatment*  
*Types of Venting*  
*Sizing DWV and Storm Systems*  
*Sewage Pumps and Sump Pumps*  
*Corrosive-Resistant Waste Piping*  
*Compressed Air*  
*Service Plumbing*

## **PLUMBING LEVEL FOUR**

*Business Principles for Plumbers*  
*Crew Leadership*  
*Water Pressure Booster and Recirculation Systems*  
*Indirect and Special Waste*  
*Hydronic and Solar Heating Systems*  
*Codes*  
*Private Water Supply Well Systems*  
*Private Waste-Disposal Systems*  
*Plumbing for Mobile Homes and Travel Trailer Parks*  
*Medical Gas and Vacuum Systems*  
*Installing Private Waste Disposal Systems*  
*Installing Private Water Supply Systems*

# **REINFORCED IRONWORK CURRICULA OUTLINE**

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## **REINFORCED IRONWORK LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Introduction to the Occupation*  
*Trade Safety*  
*Safety Requirements of Concrete Finishing*  
*Tools and Equipment of the Trade*  
*Construction Cranes I*  
*Preparing for Placement of Concrete Finishing*  
*Post Tensioning Safe Practices*  
*Rigging Equipment and Hardware*  
*Rigging for Ironworking I*  
*Materials Handling and Storage*  
*Oxy-Fuel Cutting*

## **REINFORCED IRONWORK LEVEL TWO**

*Introduction to Slabs*  
*Introduction to Reinforcing Steel and Steel Fabrication*  
*Miscellaneous Ironworking*  
*Trade Math II*  
*Blueprint Reading II*  
*Rigging II*  
*Structural Ironworking II*  
*Construction Cranes II*

*Forming*  
*Placing and Tying Reinforcing II*  
*Barrier Cables I*

### **REINFORCED IRONWORK LEVEL THREE**

*Post Tensioning*  
*Post Tensioning Applications*  
*Placing and Tying Reinforcing Steel*  
*Placing and Tying Reinforcing III*  
*Placing and Tying Reinforcing Steel Application*  
*Construction Cranes III*  
*Structural Blueprint and Shop Drawings*

## **ROOFER CURRICULA OUTLINE**

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### **ROOFER LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Low-Slope Roofing*  
*Overview of Steep-Slope*  
*Introduction to Safety*  
*Roof Calculations and Measurements*  
*Roof Insulations—Flat, Tapered and Crickets*  
*Tear-off, Job Set-up and Equipment for Low-Slope Roofing*  
*Tear-off, Job Set-up and Equipment for Steep Slope Roofing*  
*Introduction to Built-up and Modified Bitumen Roof Membranes*  
*Hot Built-up Membrane—Field and Surfacing*  
*Application of the Modified Bitumen Membrane*  
*Application of the Hot Built-up and Modified Bitumen Membranes—Flashing*

*Application of the Cold-Applied Built-up Membrane*  
*Introduction to Single-ply Roof Membranes*  
*Application of Single-Ply Membranes*  
*Application of Single-ply Membranes—Flashings*  
*Setting Up a Job Site Safely*  
*Steep-slope Roofing Safety*  
*Fall Protection*  
*Personal Protective Equipment*  
*Safety Awareness*  
*Cranes, Conveyors and Hoists*

## **ROOFER LEVEL TWO**

*Application of Spray-Applied Polyurethane Foam-Based Systems.*  
*Application of Roofing Related Sheet*  
*Application of Metal Roof Systems—Architectural*  
*Application of Metal Roof Systems—Structural*  
*Leak Investigation, Analysis, and Repair Techniques for Low-Slope Roofing*  
*application of Asphalt*  
*application of Wood Shakes and Shingles*  
*Application of Clay and Concrete Tile*  
*Application of Slate*  
*Leak Investigation, Analysis, and Repair Techniques for Steep-slope Roofing -*  
*Administrators and Trainers Program*  
*Re-roofing*  
*Fire Safety*  
*Scaffold Safety*  
*Aerial Lifts, Forklifts and Fork-mounted Work Platforms*  
*Sheet Metal Safety Tips*  
*Driver Safety*

## ***SHEET METAL CURRICULA OUTLINE***

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### **SHEET METAL LEVEL ONE**

*Basic Safety*

*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Introduction to the Occupation*  
*Tools of the Trade*  
*Introduction to Sheetmetal Layout and Processes*  
*Trade Math I*  
*Fabrication I – Parallel Line Development*  
*Installation of Ductwork*  
*Installation of Air Distribution Accessories*  
*Insulation*  
*Architectural Sheet Metal*

## **SHEET METAL LEVEL TWO**

*Trade Math II*  
*Plans and Specifications*  
*Fabrication II - Radial Line Development*  
*Sheet Metal Duct Fabrication Standards*  
*Air Properties and Distribution*  
*Bend Allowances*  
*Soldering*  
*Basic Piping Practices*  
*Fiberglass Duct*

## **SHEET METAL LEVEL THREE**

*Trace Math III*  
*Air Systems*  
*Principles of Air Flow*  
*Louvers, Dampers and Access Doors*  
*Comprehensive Plan and Specification Reading*  
*Fabrication III – Triangulation*  
*Advanced Architectural Sheet Metal*

## **SHEET METAL LEVEL FOUR**

*Shop Production and Organization*



*Air Testing and Balancing*  
*Introduction to Welding, Brazing and Cutting*  
*Fume and Exhaust System Design*  
*Fabrication IV - Comprehensive Review*  
*Introductory Supervisory Skills*

## **SPRINKLER FITTING CURRICULA OUTLINE**

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### **SPRINKLER FITTING LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Introduction to the Occupation*  
*Introduction to Components and Systems*  
*Steel Pipe*  
*CPVC Pipe and Fittings*  
*Copper Tube Systems*  
*Underground Pipe*

### **SPRINKLER FITTING LEVEL TWO**

*Hangers, Supports, Restraints and Guides*  
*General Purpose Valves*  
*General Trade Math*  
*Shop Drawings*  
*Standard Spray Fire Sprinklers*  
*Wet Fire Sprinkler Systems*  
*Dry Pipe Systems*

### **SPRINKLER FITTING LEVEL THREE**

*Deluge/Reaction systems*  
*Standpipes*  
*Water Supplies*  
*Fire Pumps*  
*Application Specific Sprinkler and Nozzles*

**SPRINKLER FITTING LEVEL FOUR**

*System Layout*  
*Inspection, Testing and Maintenance*  
*Special Extinguishing Systems*  
*Introductory Skills for the Foreman*  
*Procedures and Documentation*

## **STEAMFITTER CURRICULA OUTLINE**

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**STEAMFITTER LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Introduction to the Occupation*  
*Piping & Connections*

*Soldering & Brazing*  
*Basic Electricity*  
*Related Science*

## **STEAMFITTER LEVEL TWO**

*Hydronic Theory*  
*Pipe Fabrication II*  
*Steam fitting Systems II*  
*Hot Water System Controls*  
*Low Pressure Steam Systems*  
*Heat Transfer Units*  
*High Pressure Steam Systems*  
*Steam Boilers and Accessories*  
*Electrical*  
*Applied Trade Calculations II*  
*Trade Documentation II*  
*Beginning Arc Welding*  
*Welding II*  
*Rigging II*

## **STEAMFITTER LEVEL THREE**

*Intro to Arc Welding*  
*Advanced Drafting*  
*Steam Theory*  
*Pneumatics*  
*Job Planning*  
*Pattern & Layout*  
*Tube Bending*

## **STEAMFITTER LEVEL FOUR**

*Boilers & Controls*

*Industrial Rigging*  
*Advanced Brazing*  
*Rigging III*  
*Gas Piping*  
*Orbital Welding*  
*Advanced Arc Welding*

## **STRUCTURAL IRONWORK CURRICULA OUTLINE**

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### **STRUCTURAL IRONWORK LEVEL ONE**

*Basic Safety*  
*Basic Math*  
*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging (Elective)*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Introduction to the Occupation*  
*Trade Safety*  
*Means and Methods of Access*  
*Tools and Equipment of the Trade*  
*Construction Cranes I*  
*Rigging for Ironworking I*  
*Rigging Equipment and Hardware*  
*Trade Blueprints and Processes*  
*Materials Handling and Storage*  
*Structural Ironworking I*  
*Plumbing, Aligning, and Guying*  
*Fastening (Cont...)*  
*Oxy-Fuel Cutting*  
*Introduction to Arc Welding*  
*Steel Joists and Joist Girders I*  
*Metal Decking*  
*Field Fabrication I*

## **STRUCTURAL IRONWORK LEVEL TWO**

*Position Arc Welding*  
*Introduction to Reinforcing Steel and Steel Fabrication*  
*Miscellaneous Ironworking*  
*Trade Math*  
*Blueprint Reading II*  
*Rigging II*  
*Structural Ironworking II*  
*Steel Joists and Joist Girders II*  
*Construction Cranes II*  
*Levels, Transits, and Electronic Survey Devices*

## **STRUCTURAL IRONWORK LEVEL THREE**

*Weld Testing*  
*Pre-Engineered Systems*  
*Ornamental Ironworking*  
*Stud Welding*  
*Post-Tensioning*  
*Placing and Tying Reinforcing Steel*  
*Construction Cranes III*  
*Special Rigging*  
*Field Fabrication II*  
*Demolition*  
*Precast/Tilt-Up Erection*  
*Structural Ironworking III*

# **WELDER (COMBINATION) CURRICULA OUTLINE**

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## **WELDING LEVEL ONE**

*Basic Safety*  
*Basic Math*

*Introduction to Hand Tools*  
*Introduction to Power Tools*  
*Introduction to Blueprints*  
*Basic Rigging*  
*Basic Communication Skills*  
*Basic Employability Skills*  
*Material Handling*  
*Welding Safety*  
*Plasma Arc Cutting*  
*Air Carbon Arc Cutting and Gouging*  
*Base Metal Preparation*  
*Weld Quality*  
*SMAW – Equipment and Setup*  
*SMAW – Electrodes*  
*SMAW – Beads and Fillet Welds*  
*Joint Fit-Up and Alignment*  
*SMAW – Groove Welds with Backing*  
*SMAW – Open Root Groove Welds - Plate*

## **WELDING LEVEL TWO**

*Welding Symbols*  
*Reading Welding Detail Drawings*  
*Physical Characteristics and Mechanical Properties of Metals*  
*Preheating and Post welding of Metals*  
*GTAW and FCAW - Equipment and Filler Metals*  
*GMAW - Plate*  
*FCAW - Plate*  
*GTAW – Equipment and Fillers*  
*GTAW - Plate*

## **WELDING LEVEL THREE**

*SMAW – Open Root Pipe Welds*  
*GMAW – Pipe*  
*FCAW – Pipe*  
*GTAW – Carbon Steel Pipe*  
*GTAW – Low Alloy and Stainless-Steel Pipe*  
*GMAW – Stainless Steel Plate and Pipe Groove Welds*  
*FMAW – Aluminum Plate*

*GTAW – Aluminum Plate*

*GTAW – Aluminum Pipe*

*GMAW – Aluminum*

**ASSOCIATED BUILDERS AND CONTRACTORS**  
**BALTIMORE METROPOLITAN CHAPTER**

**WORK PROCESSES**

*Update: April 2019*

*The Participating Employer agrees to provide the Apprentice adequately supervised instruction and work experience, in accordance with the following schedule of work processes. The order in which the work training experience is obtained need not necessarily follow the sequence of the work processes, but during the term of apprenticeship, the Apprentice will be given at least the minimum number of hours of experience scheduled for each process.*

**CARPENTRY APPRENTICESHIP**

<b><u>WORK PROCESS</u></b>	<b><u>HOURS REQUIRED</u></b>
<i>Bills of Materials</i>	<b>250</b>
<i>Form Building</i>	<b>1,200</b>
<i>Rough Frames</i>	<b>1,400</b>
<i>Exterior Finishing</i>	<b>800</b>
<i>Interior Flashing</i>	<b>1,800</b>
<i>Hardware and Special Trims</i>	<b>1,400</b>
<i>Blueprints and Layouts</i>	<b>900</b>
<i>Safety: Care and Maintenance of Tools and Equipment</i>	<b><u>250</u></b>
<b>TOTAL</b>	<b>8,000</b>

**CEMENT MASON/CONCRETE FINISHER APPRENTICESHIP**



<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
1. Site/Project Preparation and Maintenance	800
2. Tools, Equipment and Materials	800
3. Safety	600
4. Building Construction	<u>1,800</u>
Mason/Plaster Tending, Pipe Laying	
Concrete – Tending, Placement and Removal	
Total	4,000

### **CONCRETE FORM BUILDER/SETTER APPRENTICESHIP**

<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
1. Orientation and Safety	500
2. Basic Hand tool Knowledge (Power & Hand)	500
3. Use of Levels and Squares	500
4. Cutting dimensional lumber and plywood	500
5. Framing Concrete Forms Footings, Walls, Columns, Slabs	500
6. Stripping Footings, Walls, Columns, Slabs	500
7. Set Strip Shoring and Re-Shoring and Bracing	250
8. Design and layout of forms and hardware	250
9. Materials handling and rigging	250
10. Blue print reading	250
11. Set forms to given line and elevation	1000
12. Layout patented forms	<u>1000</u>
TOTALS	6,000

### **CONSTRUCTION CRAFT LABORER APPRENTICESHIP**

<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
1. Site/Project Preparation and Maintenance	600
2. Tools, Equipment and Materials	800
3. Safety	1200

4. <i>Building Construction</i>	<u><b>1400</b></u>
<b>TOTAL</b>	<b>4,000</b>

### **DRYWALL APPRENTICESHIP**

<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
<i>Safety and Material Storage</i>	<b>500</b>
<i>Framing</i>	<b>1,500</b>
<i>Hanging</i>	<b>1,500</b>
<i>Finishing</i>	<u><b>500</b></u>
<b>TOTAL</b>	<b>4,000</b>

### **ELECTRICAL APPRENTICESHIP**

<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
<i>Understanding Trade Terms and Safety</i>	<b>600</b>
<i>Residential and Commercial Rough Wiring</i>	<b>2,500</b>
<i>Residential and Commercial Finish Work</i>	<b>1,500</b>
<i>Industrial Lighting and Service Installation</i>	<b>2,000</b>
<i>Troubleshooting</i>	<b>1,000</b>
<i>Motor Installation and Control</i>	<u><b>400</b></u>
<b>TOTAL</b>	<b>8,000</b>

## **GLAZIER APPRENTICESHIP**

<i>WORK PROCESS</i>	<i>HOURS REQUIRED</i>
<i>Safety and Material Storage</i>	<b>500</b>
<i>General Cutting (Glass)</i>	<b>250</b>
<i>General Cutting and Replacements</i>	<b>1,750</b>
<i>Mirrors and Specialties</i>	<b>250</b>
<i>Miscellaneous and General Shop</i>	<b>750</b>
<i>Fabrication of Store Front Metal</i>	<b>1,000</b>
<i>Setting of Store Front, Window Wall and Curtain Wall Systems</i>	<b>1,000</b>
<i>Doors and Door Hardware</i>	<b>250</b>
<i>Caulking, weatherization, Insulation, &amp; Green Practices</i>	<b>500</b>
<i>Layout</i>	<b><u>250</u></b>
<b>TOTAL</b>	<b>6,000</b>

## **HVAC APPRENTICESHIP**

<i>WORK PROCESS</i>	<i>HOURS REQUIRED</i>
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<i>Use and Care of Tools and Job Safety</i>	<b>720</b>
<i>Installation and Service (Reciprocation Systems)</i>	<b>800</b>
<i>Refrigerant Controls</i>	<b>400</b>
<i>Motor Controls (Installation and Service)</i>	<b>200</b>
<i>Electric Motors (Service) – Up to 20 Horse Power</i>	<b>200</b>
<i>Installation/Service (Absorption Systems)</i>	<b>200</b>
<i>Installation/Service (Hermetic, Semi-Hermetic)</i>	<b>200</b>
<i>Commercial Refrigeration</i>	<b>1,480</b>
<i>Installation/Service (Air Conditioning Systems)</i>	<b>800</b>
<i>Installation/Service (Heating Equipment)</i>	<b>800</b>
<i>Installation/Service (Fuel Burning Equipment)</i>	<b>400</b>
<i>Boiler Room Piping (Service/Installation)</i>	<b>900</b>
<i>Installation (Heating Systems)</i>	<b><u>900</u></b>
 <b>TOTAL</b>	 <b>8,000</b>

### **INSULATION WORKER APPRENTICESHIP**

<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
<i>Hand Tools</i>	<b>600</b>
<i>Material Handling</i>	<b>400</b>
<i>Selection &amp; Measuring of Material.</i>	<b>1,000</b>
<i>Application of Insulation Material</i>	<b>1,600</b>
<i>Covering and Sealing</i>	<b><u>1,400</u></b>
 <b>TOTAL</b>	 <b>6,000</b>

### **MASONRY (BRICK) APPRENTICESHIP**

<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
<i>Laying of Bricks &amp; Use of Mortar</i>	<b>3,000</b>
<i>Pointing and Cleaning Brick and Block</i>	<b>500</b>

<i>Laying of Building Units</i>	<b>2,000</b>
<i>Fireproofing</i>	<b>100</b>
<i>Care, Use of Tool, Equipment and Job Safety</i>	<b><u>400</u></b>

<b>TOTAL</b>	<b>6,000</b>
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### **HEAVEY EQUIPENT OPERATOR APPRENTICESHIP**

<b><u>WORK PROCESS</u></b>	<b><u>HOURS REQUIRED</u></b>
<i>Orientation to the occupation and safety</i>	<b>500</b>
<i>Backhoes</i>	<b>800</b>
<i>Loaders (all types)</i>	<b>800</b>
<i>Graders (all types)</i>	<b>800</b>
<i>Scrapers (all types)</i>	<b>800</b>
<i>Bulldozers (all types)</i>	<b>800</b>
<i>Rollers, vibrators and compactors</i>	<b>800</b>
<i>Soil, grade determination and procedures</i>	<b>450</b>
<i>Equipment Maintenance and minor repair</i>	<b><u>250</u></b>
<b>TOTAL</b>	<b>6,000</b>

### **PAINTING APPRENTICESHIP**

<b><u>WORK PROCESS</u></b>	<b><u>HOURS REQUIRED</u></b>
<i>Safety</i>	<b>500</b>
<i>Surface Preparation, Stripping Basic Painting, Flat Surfaces, Masonry, Metal, Rough Surfaces</i>	<b>2,000</b>
<i>Glazing and Caulking</i>	<b>500</b>
<i>Color Matching, Mixing, Coding, Stenciling</i>	<b>500</b>
<i>Use of Spray-Painting Equipment</i>	<b>1,500</b>
<i>Estimating and Finishing</i>	<b><u>1,000</u></b>
<b>TOTAL</b>	<b>6,000</b>

## **PIPEFITTER APPRENTICESHIP**

<b><u>WORK PROCESS</u></b>	<b><u>HOURS REQUIRED</u></b>
<i>Piping, Fitting &amp; Prep of Welded Pipe</i>	<b>1,600</b>
<i>Piping, fitting &amp; Prep of Threaded Pipe.</i>	<b>1,200</b>
<i>Soldering &amp; Brazing.</i>	<b>1,000</b>
<i>Welding.</i>	<b>800</b>
<i>Safety/Scaffolds/Tools Safety</i>	<b>800</b>
<i>Grooved Pipe Systems</i>	<b>600</b>
<i>Supports &amp; Hangers</i>	<b>600</b>
<i>Equipment Setting.</i>	<b>600</b>
<i>Rigging.</i>	<b>400</b>
<i>Controls Prep</i>	<b>200</b>
<i>Pipe Testing</i>	<b><u>200</u></b>
<b>TOTAL</b>	<b>8,000</b>

## **PLUMBING APPRENTICESHIP**

<b><u>WORK PROCESS</u></b>	<b><u>HOURS REQUIRED</u></b>
<i>Safety</i>	<b>890</b>
<i>Caulking Cast Iron Pipe</i>	<b>500</b>
<i>Drainage Piping and Fittings</i>	<b>800</b>
<i>Venting</i>	<b>400</b>
<i>Pipe Cutting, Reaming, Threading and Flanging</i>	<b>320</b>
<i>Hot and Cold-Water Systems for Domestic Purposes</i>	<b>700</b>
<i>Gas System Appliances</i>	<b>600</b>

<i>Single Fixture Installation</i>	<b>500</b>
<i>Water Heater Installation</i>	<b>640</b>
<i>Installation and Maintenance of Steam and Hot Water Heating Systems</i>	<b>1,000</b>
<i>Power and Industrial Process Piping</i>	<b>700</b>
<i>High- and Low-Pressure Boilers</i>	<b>700</b>
<i>Backflow and Cross Connection Prevention</i>	<b><u>250</u></b>
<b>TOTAL</b>	<b>8,000</b>

## **REINFORCED IRONWORK APPRENTICESHIP**

<b><u>WORK PROCESS</u></b>	<b><u>HOURS REQUIRED</u></b>
<i>Orientation and Safety</i>	<b>900</b>
<i>Use of Equipment, Signaling, Rigging Flagging, Choker Sling Setting</i>	<b>225</b>
<i>Reinforcing/Placing</i>	<b>2,680</b>

<i>Reinforcing/Fabrication</i>	<b>225</b>
<i>Reinforcing/Laying Out</i>	<b>75</b>
<i>Reinforcing/Yard work</i>	<b>150</b>
<i>Post Tensioning/Placing</i>	<b>900</b>
<i>Post Tensioning/Stressing</i>	<b>325</b>
<i>Post Tensioning/Blueprint Reading</i>	<b>225</b>
<i>Welding/Mechanical Connections</i>	<b>25</b>
<i>Welding/Cutting and Burning</i>	<b>50</b>
<i>Welding/Mechanical Splices</i>	<b>40</b>
<i>Reinforcing/Blueprint Reading</i>	<b><u>180</u></b>
 TOTAL	 <b>6,000</b>

### **ROOFING APPRENTICESHIP**

<i>WORK PROCESS</i>	<i>HOURS REQUIRED</i>
<i>Safety and good work practices</i>	<b>200</b>
<i>Use and care of tools</i>	<b>200</b>
<i>Buildup, tar and asphalt</i>	<b>2,300</b>
<i>Slate, tile, asbestos shingles</i>	<b>850</b>
<i>Flashing, guttering, and metal work</i>	<b>225</b>
<i>Other materials, tools and equipment</i>	<b><u>225</u></b>
 TOTAL	 <b>4,000</b>

### **SHEET METAL APPRENTICESHIP**

<i>WORK PROCESS</i>	<i>HOURS REQUIRED</i>
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<i>Basic Orientation/Safety</i>	<b>400</b>
<i>Use of Hand Tools</i>	<b>300</b>
<i>Use of Machine and Processes</i>	<b>300</b>
<i>Installing Registers</i>	<b>600</b>
<i>Care/Delivery of Material and Equipment</i>	<b>200</b>
<i>Shop Work</i>	<b>2,500</b>
<i>Flues/Breeching Chimneys</i>	<b>200</b>
<i>Installing Duct Work</i>	<b>2,500</b>
<i>Principles of Heating and Air Conditioning</i>	<b><u>1,000</u></b>
<b>TOTAL</b>	<b>8,000</b>

### **SPRINKLER FITTING APPRENTICESHIP**

<b><u>WORK PROCESS</u></b>	<b><u>HOURS REQUIRED</u></b>
<i>Plan Reading and Interpretation</i>	<b>1,000</b>
<i>Care of Tools, Materials and Equipment, Safety</i>	<b>1,200</b>
<i>Preparation of Tools, Materials and Equipment</i>	<b>1,000</b>
<i>Pipe Cutting, Threading, Reaming and Welding</i>	<b>2,200</b>
<i>Installation of Underground Piping and Accessories</i>	<b>200</b>
<i>Wet Pipe Systems</i>	<b>1,700</b>
<i>Dry Pipe System</i>	<b>300</b>
<i>Standpipe Systems</i>	<b>100</b>
<i>Installation of Fire Pump and Accessories</i>	<b>200</b>
<i>Maintenance and Repairs</i>	<b><u>100</u></b>
<b>TOTAL</b>	<b>8,000</b>

### **STEAMFITTER APPRENTICESHIP**

<i>WORK PROCESS</i>	<i>HOURS REQUIRED</i>
<i>Steam heating systems and equipment</i>	<b>2,000</b>
<i>Air conditioning &amp; refrigeration systems &amp; equipment</i>	<b>2,000</b>
<i>Welding processes</i>	<b>1,000</b>
<i>Trouble shooting &amp; Maintenance</i>	<b>1,000</b>
<i>Process systems and equipment</i>	<b>1,500</b>
<i>Stock Room &amp; Materials</i>	<b><u>500</u></b>
<b>TOTAL</b>	<b>8,000</b>

### **STRUCTURAL IRONWORK APPRENTICESHIP**

<i>WORK PROCESS</i>	<i>HOURS REQUIRED</i>
<i>Orientation, Safety and Safety training</i>	<b>900</b>
<i>Rigging (Unload, shakeout)</i>	<b>550</b>
<i>Crane Signaling</i>	<b>150</b>
<i>Connecting</i>	<b>250</b>
<i>Cutting Burning</i>	<b>25</b>
<i>Welding (structural)</i>	<b>900</b>
<i>Misc. Welding</i>	<b>900</b>
<i>Blue Print Reading</i>	<b>300</b>
<i>Bolt Up</i>	<b>300</b>
<i>Metal Deck &amp; accessory installation</i>	<b>950</b>
<i>Tilt up pre-cast install</i>	<b>60</b>
<i>Plumbing, aligning, guying</i>	<b>300</b>
<i>Quality control</i>	<b>250</b>
<i>Erect Misc</i>	<b><u>165</u></b>
<b>TOTAL</b>	<b>6,000</b>

## **WELDER (COMBINATION) APPRENTICESHIP**

<i>WORK PROCESS</i>	<i>HOURS REQUIRED</i>
<i>Reinforcing</i>	<i>900</i>
<i>Shop Work</i>	<i>1,000</i>
<i>Structural &amp; Rigging</i>	<i>2,400</i>
<i>Ornamental-Field Work</i>	<i>700</i>
<i>Welding</i>	<i><u>1,000</u></i>
<i>TOTAL</i>	<i>6,000</i>

## **ASSOCIATED BUILDERS AND CONTRACTORS**

### **BALTIMORE METROPOLITAN CHAPTER**

## **APPRENTICE WAGE FRINGE BENEFIT RATE SCHEDULES**

**Update: April 2019**

*Within each registered craft, the established Participating Employer's journeyperson's wage rate per each Employer Acceptance Agreement Supplement Form as accepted by the Craft Training Committee. Each individual employer established journeyperson's wage rate will be identified on all agreements.*

*Number of hours per work or per day to be worked by the Apprentice:*

*a. Hours per week 40*

*b. Hours per day 8*

*Number of hours of related instruction:*

*A minimum of 144 hours per year. Where classes are not available through the local school; other organized trade, industrial, or correspondence course of equivalent value may be substituted.*

*Apprentice will not be compensated for hours spent in related instruction classes after regular working hours.*

*Upon request of the Apprenticeship Committee, a Certificate of Completion will be granted by the Registration Agency upon satisfactory completion of the Apprentice in accordance with the Standards covered herein.*

### **CARPENTRY APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	70%
2nd	1,000 hours:	55%	6th	1,000 hours:	75%
3rd	1,000 hours:	60%	7th	1,000 hours:	85%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

### **CEMENT MASON/CONCRETE FINISHER APPRENTICE**

1st	1,000 hours:	50%
2nd	1,000 hours:	65%
3rd	1,000 hours:	80%
4th	1,000 hours:	90%

### **CONSTRUCTION CRAFT LABORER APPRENTICE**

1st	1,000 hours:	50%
2nd	1,000 hours:	65%
3rd	1,000 hours:	80%
4th	1,000 hours:	90%

### **DRYWALL APPRENTICE**

1st	1,000 hours:	50%
2nd	1,000 hours:	65%
3rd	1,000 hours:	80%
4th	1,000 hours:	90%

### **ELECTRICAL APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	70%
2nd	1,000 hours:	55%	6th	1,000 hours:	75%
3rd	1,000 hours:	60%	7th	1,000 hours:	85%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

### **GLAZIER APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	80%
2nd	1,000 hours:	55%	6th	1,000 hours:	85%
3rd	1,000 hours:	65%			
4th	1,000 hours:	70%			

### **HEAVEY EQUIPMENT OPERATOR APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	80%
2nd	1,000 hours:	55%	6th	1,000 hours:	85%
3rd	1,000 hours:	65%			
4th	1,000 hours:	70%			

### **HVAC APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	70%
2nd	1,000 hours:	55%	6th	1,000 hours:	75%
3rd	1,000 hours:	60%	7th	1,000 hours:	85%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

### **INSULATION WORKER APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	80%
2nd	1,000 hours:	55%	6th	1,000 hours:	85%
3rd	1,000 hours:	65%			
4th	1,000 hours:	70%			

### **MASONRY (BRICK) APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	80%
2nd	1,000 hours:	55%	6th	1,000 hours:	85%
3rd	1,000 hours:	65%			
4th	1,000 hours:	70%			

### **PAINTING APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	80%
2nd	1,000 hours:	55%	6th	1,000 hours:	85%
3rd	1,000 hours:	65%			
4th	1,000 hours:	70%			

### **PIPEFITTER APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	70%
2nd	1,000 hours:	55%	6th	1,000 hours:	75%
3rd	1,000 hours:	60%	7th	1,000 hours:	85%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

### **PLUMBING APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	70%
2nd	1,000 hours:	55%	6th	1,000 hours:	75%
3rd	1,000 hours:	60%	7th	1,000 hours:	85%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

### **REINFORCED IRONWORK APPRENTICE**

1st	1,000 hours:	50%	4th	1,000 hours:	70%
2nd	1,000 hours:	55%	5th	1,000 hours:	80%
3rd	1,000 hours:	65%	6th	1,000 hours:	85%

### **ROOFING APPRENTICE**

1st	1,000 hours:	50%
2nd	1,000 hours:	65%
3rd	1,000 hours:	80%
4th	1,000 hours:	90%

### **SHEET METAL APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	70%
2nd	1,000 hours:	55%	6th	1,000 hours:	75%
3rd	1,000 hours:	60%	7th	1,000 hours:	85%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

### **SPRINKLER FITTING APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	70%
2nd	1,000 hours:	55%	6th	1,000 hours:	75%
3rd	1,000 hours:	60%	7th	1,000 hours:	80%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

### **STEAMFITTER APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	70%
2nd	1,000 hours:	55%	6th	1,000 hours:	75%
3rd	1,000 hours:	60%	7th	1,000 hours:	85%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

### **STRUCTURAL IRONWORK APPRENTICE**



1st	1,000 hours:	50%	5th	1,000 hours:	80%
2nd	1,000 hours:	55%	6th	1,000 hours:	85%
3rd	1,000 hours:	65%			
4th	1,000 hours:	70%			

### **WELDING (COMBINATION) APPRENTICE**

1st	1,000 hours:	50%	5th	1,000 hours:	80%
2nd	1,000 hours:	55%	6th	1,000 hours:	85%
3rd	1,000 hours:	65%			
4th	1,000 hours:	70%			