

**STANDARDS
OF
APPRENTICESHIP**



ASSOCIATED BUILDERS AND CONTRACTORS, INC.

GREATER BALTIMORE N CHAPTER

1220B E. Joppa Road, Suite 322

TOWSON, MARYLAND 21286

(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 Associated Builders & Contractors, Inc. of Greater Baltimore 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. *Glazer (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

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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

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.

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 journeyman.

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 journeyperson. 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
GREATER BALTIMORE CHAPTER
RELATED CLASSROOM INSTRUCTION
Update: April 2019

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

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 Formwork
Horizontal Formwork
Handling and Placing Concrete
Tilt-Up Wall Systems

CARPENTRY LEVEL FOUR

Site Layout One: Differential Leveling

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

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

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

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

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

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 Operation and Maintenance
Medium-Voltage Terminations/Splice
Special Locations
Fundamentals of Crew Leadership

GLAZER CURRICULA OUTLINE

GLAZER 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

GLAZER 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

GLAZER 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

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

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

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

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

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

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

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

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

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

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

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

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

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

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
GREATER BALTIMORE CHAPTER**

WORK PROCESSES

Update: July 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

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

CEMENT MASON/CONCRETE FINISHER APPRENTICESHIP

1.	<i>Site/Project Preparation and Maintenance</i>	800
2.	<i>Tools, Equipment and Materials</i>	800
3.	<i>Safety</i>	600
4.	<i>Building Construction</i>	<u>1,800</u>
	<i>Mason/Plaster Tending, Pipe Laying</i>	
	<i>Concrete – Tending, Placement and Removal</i>	
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>
TOTAL	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. Building Construction	<u>1400</u>
TOTAL	4,000

DRYWALL APPRENTICESHIP

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

ELECTRICAL APPRENTICESHIP

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

GLAZER APPRENTICESHIP

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

HVAC APPRENTICESHIP

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

INSULATION WORKER APPRENTICESHIP

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

MASONRY (BRICK) APPRENTICESHIP

<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
<i>Laying of Bricks & Use of Mortar</i>	3,000
<i>Pointing and Cleaning Brick and Block</i>	500
<i>Laying of Building Units</i>	2,000
<i>Fireproofing</i>	100
<i>Care, Use of Tool, Equipment and Job Safety</i>	<u>400</u>
TOTAL	6,000

HEAVY EQUIPMENT OPERATOR APPRENTICESHIP

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

PAINTING APPRENTICESHIP

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

PIPEFITTER APPRENTICESHIP

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

PLUMBING APPRENTICESHIP

<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
<i>Safety</i>	890
<i>Caulking Cast Iron Pipe</i>	500
<i>Drainage Piping and Fittings</i>	800
<i>Venting</i>	400
<i>Pipe Cutting, Reaming, Threading and Flanging</i>	320
<i>Hot and Cold-Water Systems for Domestic Purposes</i>	700
<i>Gas System Appliances</i>	600
<i>Single Fixture Installation</i>	500
<i>Water Heater Installation</i>	640
<i>Installation and Maintenance of Steam and Hot Water Heating Systems</i>	1,000
<i>Power and Industrial Process Piping</i>	700
<i>High- and Low-Pressure Boilers</i>	700
<i>Backflow and Cross Connection Prevention</i>	<u>250</u>
TOTAL	8,000

REINFORCED IRONWORK APPRENTICESHIP

<u>WORK PROCESS</u>	<u>HOURS REQUIRED</u>
<i>Orientation and Safety</i>	900
<i>Use of Equipment, Signaling, Rigging Flagging, Choker Sling Setting</i>	225
<i>Reinforcing/Placing</i>	2,680
<i>Reinforcing/Fabrication</i>	225
<i>Reinforcing/Laying Out</i>	75
<i>Reinforcing/Yard work</i>	150
<i>Post Tensioning/Placing</i>	900
<i>Post Tensioning/Stressing</i>	325
<i>Post Tensioning/Blueprint Reading</i>	225
<i>Welding/Mechanical Connections</i>	25
<i>Welding/Cutting and Burning</i>	50

<i>Welding/Mechanical Splices</i>	40
<i>Reinforcing/Blueprint Reading</i>	<u>180</u>
TOTAL	6,000

ROOFING APPRENTICESHIP

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

SHEET METAL APPRENTICESHIP

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

SPRINKLER FITTING APPRENTICESHIP

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

STEAMFITTER APPRENTICESHIP

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

STRUCTURAL IRONWORK APPRENTICESHIP

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

WELDER (COMBINATION) APPRENTICESHIP

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

**ASSOCIATED BUILDERS AND CONTRACTORS
GREATER BALTIMORE CHAPTER**

APPRENTICE WAGE FRINGE BENEFIT RATE SCHEDULES

Update: July 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:	75%
2nd	1,000 hours:	55%	6th	1,000 hours:	80%
3rd	1,000 hours:	60%	7th	1,000 hours:	90%
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:	75%
2nd	1,000 hours:	55%	6th	1,000 hours:	80%
3rd	1,000 hours:	60%	7th	1,000 hours:	90%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

GLAZER 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%			

HEAVY 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:	75%
2nd	1,000 hours:	55%	6th	1,000 hours:	80%
3rd	1,000 hours:	60%	7th	1,000 hours:	90%
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:	75%
2nd	1,000 hours:	55%	6th	1,000 hours:	80%
3rd	1,000 hours:	60%	7th	1,000 hours:	90%
4th	1,000 hours:	65%	8th	1,000 hours:	95%

PLUMBING APPRENTICE

1st	1,000 hours:	50%	5th	1,000 hours:	75%
2nd	1,000 hours:	55%	6th	1,000 hours:	80%
3rd	1,000 hours:	60%	7th	1,000 hours:	90%
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:	75%
2nd	1,000 hours:	55%	6th	1,000 hours:	80%
3rd	1,000 hours:	60%	7th	1,000 hours:	90%
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:	85%

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%			