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Received: L&I Tukwila, 2A September 2, 2022 SKH L&I Apprenticeship Consultant	Teri Gardner 9-6-22 L&I Admin

Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Request for Approval of Proposed Standards

TO: Washington State Apprenticeship & Training Council

FROM: AJAC - Maintenance Apprenticeship Committee

Check the appropriate box:
☒ Committee ☐ Plant ☐ OJT

Occupation(s)	SOC Code	Hours
Aircraft Mechanic Airframe	49-3011.00	6000
Industrial Maintenance/Automation Technician	49-9041.00	8000
Industrial Manufacturing Technician	49-9043.00	3000
Maintenance/Automation Technician	49-9071.00	2000

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☐ Chair ☒ Authorized Signer	Date 09/02/2022	☐ Secretary	Date
Print Name: Demetria L. Strickland		Print Name:	
Signature: Demetria L. Strickland		Signature:	

Approved By: **Washington State Apprenticeship & Training Council**
Signature of the WSATC:
Date:

Teri Gardner 9-16-22
Teri Gardner 9-6-22
Rec'd 9-2-22 SH
Rec'd 9-16-22 SH

APPRENTICESHIP PROGRAM STANDARDS
adopted by

AJAC – MAINTENANCE APPRENTICESHIP COMMITTEE
(sponsor name)

Occupational Objective(s):	SOC#	Term [WAC 296-05-015]
AIRCRAFT MECHANIC AIRFRAME	**49-3011.00**	**6,000 HOURS**
INDUSTRIAL MAINTENANCE/AUTOMATION TECHNICIAN	**49-9041.00**	**8,000 HOURS**
INDUSTRIAL MANUFACTURING TECHNICIAN	**49-9043.00**	**3,000 HOURS**
MAINTENANCE/AUTOMATION TECHNICIAN	**49-9071.00**	**2,000 HOURS**

APPROVED BY
Washington State Apprenticeship and Training Council
REGISTERED WITH
Apprenticeship Section of Fraud Prevention and Labor Standards
Washington State Department Labor and Industries
Post Office Box 44530
Olympia, Washington 98504-4530

APPROVAL:

Provisional Registration

Standards Last Amended

Permanent Registration

By: Chair of Council

By: Secretary of Council

INTRODUCTION

This document is an apprenticeship program standard. Apprenticeship program standards govern how an apprenticeship works and have specific requirements. This document will explain the requirements.

The director of the Department of Labor and Industries (L&I) appoints the Washington State Apprenticeship and Training Council (WSATC) to regulate apprenticeship program standards. The director appoints and deputizes an assistant director to be known as the supervisor of apprenticeship who oversees administrative functions through the apprenticeship section at the department.

The WSATC is the sole regulatory body for apprenticeship standards in Washington. It approves, administers, and enforces apprenticeship standards, and recognizes apprentices when either registered with L&I's apprenticeship section, or under the terms and conditions of a reciprocal agreement. WSATC also must approve any changes to apprenticeship program standards.

Apprenticeship programs have sponsors. A sponsor operates an apprenticeship program and declares their purpose and policy herein to establish an organized system of registered apprenticeship education and training. The sponsor recognizes WSATC authority to regulate and will submit a revision request to the WSATC when making changes to an apprenticeship program standard.

Apprenticeships are governed by federal law (29 U.S.C 50), federal regulations (29 CFR Part 29 & 30), state law (49.04 RCW) and administrative rules (WAC 296-05). These standards conform to all of the above and are read together with federal and state laws and rules

Standards are changed with WSATC approval. Changes are binding on apprentices, sponsors, training agents, and anyone else working under an agreement governed by the standards. Sponsors may have to maintain additional information as supplemental to these standards. When a standard is changed, sponsors are required to notify apprentices and training agents. If changes in federal or state law make any part of these standards illegal, the remaining parts are still valid and remain in force. Only the part made illegal by changes in law is invalid. L&I and the WSATC may cooperate to make corrections to the standards if necessary to administer the standards.

Sections of these standards identified as bold "**insert text**" fields are specific to the individual program standards and may be modified by a sponsor submitting a revised standard for approval by the WSATC. All other sections of these standards are boilerplate and may only be modified by the WSATC. See WAC 296-05-003 for the definitions necessary for use with these standards.

Sponsor Introductory Statement (Required):

The advanced manufacturing industry, with over 6,000 companies in several different industries, including the aerospace industry, with approximately 1,300+ aerospace-related companies, is a significant economic driver in Washington State. Apprenticeship training programs are necessary to maintain and improve skill levels of this workforce and are critical to the continued health and growth of this industry. The AJAC – Maintenance Apprenticeship Committee (hereafter referred to as Apprenticeship Committee throughout these standards) will help guarantee high skill levels in this rapidly expanding area of aerospace and advanced manufacturing maintenance. The Maintenance/Automation Technician occupation provides an entry point for youth as young as 16 into apprenticeship with an opportunity to receive career exploration, knowledge and application of skills in a real-world environment which may lead to family-wage careers and additional educational opportunities. Other apprenticeship programs will be developed as industry needs are identified.

I. GEOGRAPHIC AREA COVERED:

The sponsor must train inside the area covered by these standards. If the sponsor wants to train outside the area covered by these standards, the sponsor must enter a portability agreement with a sponsor outside the area, and provide evidence of such an agreement for compliance purposes. Portability agreements permit training agents to use apprentices outside the area covered by the standards. Portability agreements are governed by WAC 296-05-009.

The area covered by these Standards shall be the state of Washington, Oregon and Idaho.

Applicants and apprentices please note that, while the State of Washington has no responsibility or authority in the States of Oregon and Idaho, the Apprenticeship Committee will apply the same standards and guidelines to apprentices registered in the program while working outside of the State of Washington.

II. MINIMUM QUALIFICATIONS:

Minimum qualifications must be clearly stated and applied in a nondiscriminatory manner [WAC 296-05-015(17)].

Age: **At least 16 years old for the occupation of Maintenance/Automation Technician.**

At least 17 years old for all other occupations covered in these standards.

Education: **All occupations unless otherwise noted:**

Evidence of English and Math proficiency equivalent to College Math and English 90. Evidence may include:

a. High School graduate or equivalent or working toward high school graduation or equivalent; or
b. Completion of the World of Work Inventory (WOWI) assessment with a minimum score of 27.78 in numerical and 34.95 in verbal (or equivalent assessment that has cut scores normed to Math 90 and English 90 in the state of WA); or
c. Transcript from an accredited college showing passing scores in Math and English 90 or above.
d. Maintenance/Automation Technician: must be enrolled in high school or equivalent credit recovery program at a minimum.

Physical: **Able to perform the physical requirements of the occupation, with or without reasonable accommodation.**

Testing: **None**

Other: **N/A**

III. CONDUCT OF PROGRAM UNDER WASHINGTON EQUAL EMPLOYMENT OPPORTUNITY PLAN:

Sponsors with five (5) or more apprentices must adopt an Equal Employment Opportunity (EEO) Plan and Selection Procedure (chapter 296-05 WAC and 29 CFR Part 30).

The recruitment, selection, employment and training of apprentices during their apprenticeship shall be without discrimination because of race, sex (including pregnancy and gender identity), sexual orientation, color, religion, national origin, age, genetic information, disability or as otherwise specified by law. The sponsor shall take positive action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required by the rules of the Washington State Apprenticeship and Training Council and Title 29, Part 30 of the Code of Federal Regulations.

A. Selection Procedures:

The procedures for application to a registered Apprenticeship Committee apprenticeship program that have been adopted by and are in compliance with

the Washington State Apprenticeship and Training Council (WSATC) rules and regulations are as follows:

1. **Persons desiring to become a registered apprentice under the Apprenticeship Committee must first be employed by an employer that is an Approved Training Agent for the Apprenticeship Committee. The applicants are to be selected by the individual employers in accordance with customary and established policies. The Apprenticeship Committee does not serve as a referral agency, or training agent, for apprenticeship applicants, but may assist employers in finding potential apprentices for their pool of candidates. The Apprenticeship Committee strives to increase the numbers of women and minorities in the aerospace and advanced manufacturing trades and encourages employers and Approved Training Agents to hire women and minorities with the goal of developing their skills through apprenticeship.**
2. **Persons selected by an Approved Training Agent, and who provide verification of the minimum qualifications, can apply to the Apprenticeship Committee to participate in the apprenticeship program. Applicants will be informed of their rights and responsibilities, under the standards of apprenticeship established for the occupation, and then required to sign and apprenticeship agreement and associated documents.**

3. **Prior to becoming an Approved Training Agent for the Apprenticeship Committee, employers shall sign an agreement that they will comply with the State of Washington Equal Employment Opportunity Plan. When the agreement, which is furnished by the WSATC, has been executed by the individual employers, the Apprenticeship Committee will forward a copy to the Department of Labor and Industries, Apprenticeship Section.**

B. Equal Employment Opportunity Plan:

It is the mission of the Apprenticeship Committee that the training of apprentices shall be without discrimination. The Apprenticeship Committee is committed to Equal Employment Opportunity (EEO) to all people regardless of race, color, national origin, sex, religion, sexual orientation, disability, veteran status, or as otherwise specified by law.

The Apprenticeship Committee will take the following affirmative actions:

1. **Cooperate and counsel with K-12, secondary, vocational, community and technical schools concerning the needs of the industry and how students transition from school to an apprenticeship program.**

2. **Deliver presentations designed to familiarize youth and other interested persons with apprenticeship opportunities.**

3. **Encourage women, minorities, veterans, and person with disabilities to meet apprenticeship minimum qualifications by connecting them with training opportunities, classes, employers and agencies that provide support services.**

4. **Promote the Apprenticeship Committee through distribution of program literature and on apprenticeship websites.**

C. Discrimination Complaints:

Any apprentice or applicant for apprenticeship who believes they have been discriminated against may file a complaint with the supervisor of apprenticeship (WAC 296-05-443).

IV. TERM OF APPRENTICESHIP:

The term of apprenticeship for an individual apprentice may be measured through the completion of the industry standard for on-the-job learning (at least two thousand hours) (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach) [WAC 296-05-015].

A. **The term of apprenticeship of the Aircraft Mechanic Airframe apprenticeship program will be 6,000 hours of reasonably continuous employment.**

B. **The term of the Industrial Maintenance/Automation Technician, apprenticeship program will be 8,000 hours of reasonably continuous employment.**

C. **The term of the Industrial Manufacturing Technician will be 3,000 hours of reasonably continuous employment.**

D. **The term of the Maintenance/Automation Technician will be 2,000 hours of reasonably continuous employment.**

The Committee realizes Maintenance/Automation Technician apprentices may not be able to complete the 2,000 hours of on-the-job (OJT) specified in every work process as set forth in this Standard during their high school term and will need to continue employment with an Approved Training Agent after high school to complete the OJT portion of training.

V. INITIAL PROBATIONARY PERIOD:

An initial probationary period applies to all apprentices, unless the apprentice has transferred from another program. During an initial probationary period, an apprentice can be discharged without appeal rights. An initial probationary period is stated in hours or competency steps of employment. The initial probationary period is not reduced by advanced credit or standing. During an initial probationary period, apprentices receive full credit for hours and competency steps toward completion of their apprenticeship. Transferred apprentices are not subject to additional initial probationary periods [WAC 296-05-003].

The initial probationary period is [WAC 296-05-015(22)]:

A. the period following the apprentice's registration into the program. An initial probationary period must not be longer than twenty percent of the term of the entire apprenticeship, or longer than a year from the date the apprenticeship is registered. The WSATC can grant exemptions for longer initial probationary periods if required by law.

B. the period in which the WSATC or the supervisor of apprenticeship may terminate an apprenticeship agreement at the written request by any affected party. The sponsor or the apprentice may terminate the agreement without a hearing or stated cause. An appeal process is not available to apprentices in their initial probationary period.

1. **The Initial Probationary Period for the Aircraft Mechanic Airframe and Industrial Maintenance/Automation Technician is the first 1000 hours of employment as an apprentice.**

2 **The Initial Probationary Period for Industrial Manufacturing Technician is the first 600 hours of employment as an apprentice.**

4. **The Initial Probationary Period for the Maintenance/Automation Technician is the first 400 hours of employment as an apprentice.**

VI. RATIO OF APPRENTICES TO JOURNEY LEVEL WORKERS

Supervision is the necessary education, assistance, and control provided by a journey-level employee on the same job site at least seventy-five percent of each working day, unless otherwise approved by the WSATC. Sponsors ensure apprentices are supervised by competent, qualified journey-level employees. Journey level-employees are responsible for the work apprentices perform, in order to promote the safety, health, and education of the apprentice.

A. The journey-level employee must be of the same apprenticeable occupation as the apprentice they are supervising unless otherwise allowed by the Revised Code of ashington (RCW) or the Washington Administrative Code (WAC) and approved by the WSATC.

B. The numeric ratio of apprentices to journey-level employees may not exceed one apprentice per journey-level worker [WAC 296-05-015(5)].

C. Apprentices will work the same hours as journey-level workers, except when such hours may interfere with related/supplemental instruction.

D. Any variance to the rules and/or policies stated in this section must be approved by the WSATC.

E. The ratio must be described in a specific and clear manner, as to the application in terms of job site, work group, department or plant:

The ratio of journey-level worker(s) to apprentice(s) for all occupations covered under these standards will be at least one (1) journey-level worker for every one (1) apprentice at each employer location/plant where an apprentice is working in on-the-job training.

VII. APPRENTICE WAGES AND WAGE PROGRESSION:

A. Apprentices must be paid at least Washington's minimum wage, unless a local ordinance or a collective bargaining agreement require a higher wage. Apprentices must be paid according to a progressively increasing wage scale. The wage scale for apprentices is based on the specified journey-level wage for their occupation. Wage increases are based on hours worked or competencies attained. The sponsor determines wage increases. Sponsors must submit the journey-level wage at least annually or whenever changed to the department as an addendum to these standards. Journey-level wage reports may be submitted on a form provided by the department. Apprentices and others should contact the sponsor or the Department for the most recent Journey-level wage rate.

B. Sponsors can grant advanced standing, and grant a wage increase, when apprentices demonstrate abilities and mastery of their occupation. When advanced standing is granted, the sponsor notifies the employer/training agent of the wage increase the apprenticeship program standard requires.

C. Wage Progression Schedules

Aircraft Mechanic Airframe

Step	Hour Range or competency step	Percentage of journey-level wage rate*
1	**0000 – 1000 hours**	**60%**
2	**1001 – 2000 hours**	**65%**

3	**2001 – 3000 hours**	**70%**
4	**3001 – 4000 hours**	**75%**
5	**4001 – 5000 hours**	**80%**
6	**5001 – 6000 hours**	**90%**

Plus applicable fringe benefits.

Industrial Maintenance/Automation Technician

Step	Hour Range or competency step	Percentage of journey-level wage rate*
1	**0000 – 1000 hours**	**60%**
2	**1001 – 2000 hours**	**65%**
3	**2001 – 3000 hours**	**70%**
4	**3001 – 4000 hours**	**75%**
5	**4001 – 5000 hours**	**80%**
6	**5001 – 6000 hours**	**85%**
7	**6001 – 7000 hours**	**90%**
8	**7001 – 8000 hours**	**95%**

Plus, applicable fringe benefits

Industrial Manufacturing Technician

Step	**Hour Range or competency step**	**Percentage of journey-level wage rate***
1	**0000 – 1000 hours**	**85%**
2	**1001 – 2000 hours**	**90%**
3	**2001 - 3000 hours**	**95%**

Plus, application fringe benefits.

Maintenance/Automation Technician

Step	Hour Range or competency step	Percentage of journey-level wage rate*
1	**0000 - 1000 hours**	**90%**
2	**1001 - 2000 hours**	**95%**

Plus applicable fringe benefits.

VIII. WORK PROCESSES:

The apprentice shall receive on the job instruction and work experience as is necessary to become a qualified journey-level worker versed in the theory and practice of the occupation

covered by these standards. The following is a condensed schedule of work experience, which every apprentice shall follow as closely as conditions will permit. The following work process descriptions pertain to the occupation being defined.

1. **All minors are prohibited from performing any and all work in active construction zones and construction sites as defined in WAC 296-155-012.**
2. **Minors apprentices can qualify for an exemption to work in occupations prohibited by WAC 296-125-030. However, employers need to apply for the exemption as laid out in the Student Learner Exemption for Worksite Learning and Apprenticeships in Certain Hazardous Work (ES.C.11) Limited variances may be allowed for hazardous activities including but not limited to:**

    - **Power-driven woodworking machines/tools**
    - **Power-driven metal-forming, punching and shearing machines**
    - **Slaughtering, meat packing, processing, or rendering**
    - **Power-driven paper-product machines**
    - **Power-driven circular saws, band saws, and guillotine shears**
    - **All roofing work**
    - **Excavations**
    - **Occupations involving firefighting and fire suppression duties**

    ***See* WAC 296-125-030 for complete rules.**

    There are additional work activities restricted under separate Washington State law that also need to be included on the variance form, if applicable:

    - **Work that may require use of hearing protection under the DOSH Hearing Conservation Standard (i.e. at or above 85 dBA), WAC 296-125-030(22)**
    - **Work that may involve exposure to bloodborne pathogens under the DOSH Bloodborne Pathogens standard, WAC 296-125-030(24)**
    - **Work that may involve exposure to hazardous chemicals or substances under the DOSH Hazard Communication Standard, WAC 296-125-030(25)**

    When minors are employed as apprentices, the following rules will apply:

1. **The requirement of direct and close supervision for hazardous and otherwise prohibited work is met when there is one journey-level worker working with the first apprentice/student learner on-site and at least three journeymen or experienced adults working alongside each additional apprentice/student learner.**
2. **The sponsor and training agent will obtain and maintain all necessary documents, permits, variances and licenses required when employing minors.**

3. **The sponsor and training agent will coordinate with L&I's Teen Safety Department to develop an Employer Facility Safety Checklist prior to apprentice placement.**
4. **Safety Training applicable to the industry/occupation will be provided to minors prior to employment placement. It shall include industry/employer approved or required safety training, and shall meet or exceed WISHA standards.**
5. **Personal Protective Equipment (PPE) required within the industry/occupation for tasks being performed shall be provided by the employer.**

A. Aircraft Mechanic Airframe **Approximate Hours**

1.	Fluid Lines and Fittings	300
2.	Ground Operations and Servicing	350
3.	Cleaning and Corrosion Control	250
4.	Maintenance Forms and Records	150
5.	Aircraft Finishes	300
6.	Sheet Metal and Non-Metallic Structures	1500
7.	Assembly and Rigging	450
8.	Airframe Inspection	200
9.	Aircraft Landing Gear Systems	350
10.	Hydraulic and Pneumatic Systems	450
11.	Cabin Atmosphere Control Systems	100
12.	Aircraft Instrument Systems	200
13.	Communication and Navigation Systems	250
14.	Aircraft Fuel Systems	200
15.	Aircraft Electrical Systems	150
16.	Position and Warning Systems	200
17.	Ice and Rain Control Systems	200
18.	Fire Protection Systems	200
19.	Aviation Safety/Human Factors	200

Total Hours: 6000

The above schedule of practical work experience is designed as a guide. The Apprentice shall be instructed and trained in all operations and methods customarily used in their trade. Each shop will adhere to as closely as facilities will permit and as approved by the Apprenticeship Committee. Retention of the apprentice on a particular operation beyond the established time should not occur unless there is a definite need for further training in the process. Refer to the apprentice work progress record for additional information related to specific work processes.

B. Industrial Maintenance/Automation Technician: Approximate Hours

1. **Machine Operation: i.e. drill presses, radial drills portable drills, engine lathes, milling machines, other machines: ironworker, press, key, seater,**

saws, grinders, welding, brazing and cutting…….…….....1000

2. **Installation of machinery and equipment: i.e. mechanical, pneumatic and hydraulic systems, rigging, mounting, cable routing, mechanical alignments, PLCs, robotic equipment and fluid power systems, etc.....1000**

3. **Maintenance of machinery and equipment: i.e. pneumatics and hydraulics, power transmission, preventative maintenance, component rebuilds, documentation, PLCs, robotic equipment and fluid power systems, etc.....2500**

4. **Repair of machinery and equipment: i.e. diagnostics, troubleshooting, component replacement, documentation, PLCs, robotic equipment and fluid power systems, etc.....2500**

5. **Inspection and bench work 1000**

Total Hours: 8000

The above schedule of practical work experience is designed as a guide. The Apprentice shall be instructed and trained in all operations and methods customarily used in their trade. Each shop will adhere to as closely as facilities will permit and as approved by the Apprenticeship Committee. Retention of the apprentice on a particular operation beyond the established time should not occur unless there is a definite need for further training in the process. Refer to the apprentice work progress record for additional information related to specific work processes. Refer to the apprentice work progress record for additional information related to specific work processes.

C. <u>Industrial Manufacturing Technician</u> <u>Approximate Hours</u>

1. **Set up production equipment.....800**
2. **Operate production equipment 1,000**
3. **Quality Assurance, inspection and measurement.....600**
4. **Interpret technical information.....200**
5. **Routine machine maintenance.....300**
6. **Inventory materials.....100**

Total Hours: 3,000

The above schedule of practical work experience is designed as a guide. The Apprentice shall be instructed and trained in all operations and methods customarily used in their trade. Each shop will adhere to as closely as facilities will permit and as approved by the Apprenticeship Committee. Retention of the apprentice on a particular operation beyond the established time should not occur unless there is a definite need for further training in the process. Refer to the

apprentice work progress record for additional information related to specific work processes.

D. Maintenance/Automation Technician **Approximate Hours**

1. **Basic Machine Operation 700**
2. **Installation of Production Machinery & Equipment 300**
3. **Preventative Maintenance of Machinery & Equipment 200**
4. **Repair of Production Machinery & Equipment 400**
5. **Inspection, Troubleshooting, Customer Service & Bench Work 400**

Total Hours: 2000

The above schedule of practical work experience is designed as a guide. The apprentice shall be instructed and trained in all operations and methods customarily used in their trade as allowable by State Law. Each shop will adhere to as closely as facilities will permit and as approved by the Apprenticeship Committee. Retention of the apprentices that are 16-17 years old on a particular operation beyond the established time should not occur unless there is a definite need for further training in the process. Refer to the apprentice work progress record for additional information related to specific work processes.

Additionally, the following will be adhered to for Automation Technician:

1. **Safety Training will be provided prior to employment placement which will include OHSA-10 safety training.**
2. **PPE (Personal Protective Equipment) to protect sight and hearing, and work boots will be provided at no cost to the apprentice before entering the work environment. PPE will be paid for either by the employer or AJAC.**
3. **AJAC, in coordination with L&I Teen Safety Department, will develop an Employer Facility Safety Checklist prior to apprentice placement.**

IX. RELATED/SUPPLEMENTAL INSTRUCTION:

The apprentice must attend related/supplemental instruction (RSI). Time spent in RSI shall not be considered as hours of work and the apprentice is not required to be paid.

RSI must be provided in safe and healthy conditions as required by the Washington Industrial Safety and Health Act and applicable federal and state regulations.

Hours spent in RSI are reported to L&I each quarter. Reports must show which hours are unpaid and supervised by a competent instructor versus all other hours (paid and/or unsupervised) for industrial insurance purposes.

For purposes of coverage under the Industrial Insurance Act, the WSATC is an employer and the apprentice is an employee when an unpaid, supervised apprentice is injured while under the direction of a competent instructor and participating in RSI activities.

If apprentices do not attend required RSI, they may be subject to disciplinary action by the sponsor.

A. The methods of related/supplemental training must be indicated below (check those that apply):

(X) Supervised field trips

(X) Sponsor approved training seminars (specify):
Would include but are not limited to:
- **OSHA 10**
- **CPR/First Aid**

(X) Sponsor approved online or distance learning courses (specify)
Would include but are not limited to: Tooling U, Canvas, EnGen, NIMS, etc.

(X) State Community/Technical college

( ) Private Technical/Vocational college

(X) Sponsor Provided (lab/classroom)

(X) Other (specify)**:**
Off-site Contract Training

B. **144** Minimum RSI hours per year defined per the following [see WAC 296-05-015(6)]:

( ) Twelve-month period from date of registration.*
(X) Defined twelve-month school year: **September** through **August**.
(X) Two-thousand hours of on the job training. **Maintenance/Automation Technician only.**

**If no selection is indicated above, the WSATC will define RSI hours per twelve-month period from date of registration.*

C. Additional Information:

1. **Each apprentice must enroll in and attend classes in related instruction as prescribed by the Apprenticeship Committee. The apprentice will be**

responsible for payment for their classes, subject to their employer's tuition reimbursement policy.

2. **Adequate safety instruction will be provided, emphasized, and reinforced in all aspects of Related Supplemental Instruction even if the syllabus does not explicitly list safety as a topic.**

3. **It is recommended that to advance to the journey level of their occupation, the apprentice provide a copy of a valid and current Industrial First Aid and CPR card.**

4. **Apprentices are responsible for acquiring their own textbooks, which are required for the class.**

5. **All apprentices will be provided with a minimum of 144 hours of RSI per year, up to a total of:**

    a. **450 hours of RSI over the course of their apprenticeship for Aircraft Mechanic Airframe apprentices.**

    b. **600 hours of RSI over the course of their apprenticeship for Industrial Maintenance/Automation Technician apprentices.**

    c. **300 hours of RSI over the course of their apprenticeship for Industrial Manufacturing Technician apprentices.**

    d. **150 hours of RSI over the course of their apprenticeship for Maintenance/Automation Technician apprentices.**

        - **Apprentices will take three of the four listed RSI courses. Core courses IMMA 101 and IMMA 203 will be provided to all apprentices. Provision of IMMA 121 or IMMA 221 will be determined by the equipment available at the high school or skill center.**

X. ADMINISTRATIVE/DISCIPLINARY PROCEDURES:

A. Administrative Procedures:

The sponsor may include in this section a summary and explanation of administrative actions performed at the request or on the behalf of the apprentice. Such actions may include but are not limited to:

1. Voluntary Suspension: A temporary interruption in progress of an individual's apprenticeship agreement at the request of the apprentice and granted by the sponsor. The program sponsor shall review apprentices in suspended status at least once each year to determine if the suspension is still appropriate.

2. Advanced Standing or Credit: The sponsor may provide for advanced standing or credit for demonstrated competency, acquired experience, training or education in or related to the occupation. All sponsors need to ensure a fair and equitable process is applied to all apprentices seeking advanced standing or credit per WAC 296-05-015(11).

3. Sponsor Procedures:

   The term "Program staff" are AJAC staff who are authorized to perform a variety of administrative and other duties to assist and support the Apprenticeship Committee, and at times work directly with apprentices. The term "Apprenticeship Coordinator" shall mean the Training Director or designee.

   a. During the term of apprenticeship, the apprentice shall be given such instruction during RSI and experience during structured OJT to develop the skills and knowledge necessary for advancement on the job and proficiency in their occupation.

   b. The Apprenticeship Committee may provide certificates for those apprentices who have successfully completed the first 2 years of Aircraft Mechanic Airframe apprenticeship program.

   c. It is the responsibility of the Aircraft Mechanic Airframe apprentice to get their FAA airframe license. This responsibility includes paying any costs associated with acquiring the license.

   d. Apprentices registered while working toward a high school diploma or equivalent must successfully obtain a high school diploma or credential verifying the equivalent within six months of entering the apprenticeship program and provide verification to Program Staff.
   Exception: Maintenance/Automation Technician must maintain enrollment in high school or equivalent credit recovery program.

   e. Credit for Previous Experience or Early Completion:

      1) An apprentice who has previous industry-related work experience may request credit for previous experience. The apprentice must provide documentation to verify their industry-related experience.

2) To be considered, the apprentice must compete and submit to the Program staff the Credit for Previous Experience/Education packet. It is the responsibility of the apprentice to work with Program staff to submit their proper paperwork and any additional requested information prior to consideration by the Apprenticeship Committee.

3) The decision of whether to grant the apprentice credit for previous experience and at what step, or to grant credit for early completion, will be made in a fair and equitable manner by the Apprenticeship Committee.

4) There is a maximum credit of 25% towards the term of apprenticeship except for apprentices transferring into or registered to new occupations where more than 25% equivalency can be demonstrated.

f. Credit for Previous Education/Challenge of Curriculum (RSI Only):

1) An apprentice who has previous industry-related education may request credit for previous education and/or challenge RSI curriculum. An apprentice request for credit for previous education and/or challenge of RSI curriculum cannot exceed 25% of the total RSI program course except for apprentices transferring or starting new occupations where more than 25% equivalency can be demonstrated.

2) Apprentices are responsible for any associated fees for credit granted for previous education to include tuition fees for credit. Apprentices are responsible for any associated fees for challenging RSI curriculum to include but not limited to cost to proctor exam and associated tuition fees.

3) To be considered for credit for previous education, apprentices must have successfully completed post-secondary level class(es) in the related subject within the previous five (5) years, have a passing grade of 75% or higher and submit a completed Credit for Previous Experience/Education packet to Program staff.

4) An apprentice may request to challenge RSI curriculum if they have successfully completed post-secondary level class(es) in a related subject within (5) years prior OR if they have previous work-related industry experience and submit a completed Credit for Previous Experience/Education packet to Program staff.

5) It is the responsibility of the apprentice to provide documentation verifying their education with Program staff and to submit any additional requested information prior to consideration by the Apprenticeship Committee.

6) The decision of whether to grant the apprentice credit for previous education will be made in a fair and equitable manner by the Apprenticeship Committee for challenge to RSI curriculum (only scores of 75% or higher on the challenge RSI exam will be considered for program credit).

g. Related/Supplemental Instruction:

1) All classes start and terminate at a date and time set forth by the Apprenticeship Coordinator or Program staff.

2) Apprentices who violate any safety and health policies set forth by any participating school or toward any Program staff, engage in behavior that disrupts related instruction, or return from break having used alcohol or drugs, may be removed from class, and will be reported as soon as possible to the Apprenticeship Coordinator. The Apprenticeship Coordinator will attempt to either resolve the issue immediately or advance the issue to the Apprenticeship Committee.

3) Absences require class time to be made up at a rate of one (1) hour for every one (1) hour missed up to a maximum of twelve (12) hours of missed class time per course.

a) An apprentice, who fails to make up hour-for-hour of missed classes or who misses more than twelve (12) hours of class time per course, will be called before the Apprenticeship Committee for disciplinary action.

b) Special circumstances will be reviewed by the Apprenticeship Coordinator and advanced to the Apprenticeship Committee at the discretion of the Apprenticeship Coordinator.

4) Apprentices who receive an incomplete grade must submit all required assignments by the end of the following quarter. Those who fail to do so will be notified to appear before the Apprenticeship Committee for disciplinary action.

h. Failure of Classes:

1) Apprentices must pass each class with a grade equivalent to at least 75%. The employer of an apprentice who fails to pass a

class may receive a written notice of the apprentice's unsatisfactory progress.

2) Apprentices who fail to receive at least 75% in any quarter must arrange, within one (1) week of receiving the failing grade, to meet with the Apprenticeship Coordinator to develop an RSI plan to makeup the course:

The RSI plan will establish the conditions whereby the apprentice will make up the failed classes within a predetermined period of time, not to exceed one year.

3) Apprentices who fail to complete a makeup class within the allotted time will be called before the Apprenticeship Committee for disciplinary action.

4) An apprentice who fails to receive at least 75% in any two (2) quarters during his/her apprenticeship will be notified to appear before the Apprenticeship Committee for disciplinary action and to develop an RSI recovery plan.

i. Hours Reporting:

1) Apprentice shall submit monthly work progress hours by the fifteenth (15th) day of the following month. It is the responsibility of each apprentice to enter their hours into the online AJAC Apprenticeship Tracking System (ATS) or through the AJAC app:

a) Overtime, Sick Leave and Paid Time Off hours do not count towards hours required to complete the program.

b) Apprentices may not submit more than 40 straight time hours per week and no more than 2,080 hours per year, towards the required hours for completion with a maximum of 184 hours per month.

c) Apprentices are encouraged to keep a hardcopy record of all work progress reports as a backup to the ATS and the AJAC app.

2) If the ATS or AJAC app is not available, then the apprentice must make a copy of the work progress report and submit the original signed work progress report to the Apprenticeship Coordinator by:

a) US Mail
b) Fax

c) DocuSign or
d) Email directly to the Apprenticeship Coordinator or designee.

3) If an apprentice has more than one month of unreported hours, they may be called before the Apprenticeship Coordinator to develop a plan to report delinquent hours.

4) Apprentices may be granted a one month extension by the Apprenticeship Coordinator to submit unreported hours; however, if the apprentice fails to submit unreported hours within that extension period, they will be called before the Apprenticeship Committee for possible disciplinary actions, which may include forfeiture of unreported hours, suspension or cancellation of the Apprenticeship Agreement.

5) Employers may dispute hours reported that do not match actual hours worked, or that include overtime, Sick Leave or Paid Time Off. The apprentice must correct and resubmit the hours report.

a) After an employer confirms hours, AJAC Program staff will decline hours that exceed 40 straight time hours per week or hours that exceed 184 hours per month. The apprentice must correct and resubmit the hours report.

b) Apprentices who fail to correct disputed or declined hours within 60 days may be called before the Apprenticeship Committee for possible disciplinary actions, which may include forfeiture of unreported hours, suspension, or cancellation of the Apprenticeship Agreement.

6) Apprentices must maintain employment with an Approved Training Agent to remain active in the apprenticeship program. Apprentices who have been separated from their employer, may complete the RSI quarter they are currently enrolled in and receive credit towards completion of that portion of the RSI provided they pass the class.

a) Apprentices who fail to obtain employment with an Approved Training Agent within six months of separation from employment with an Approved Training Agent, will be cited to appear before the Apprenticeship Committee for disciplinary actions which may include suspension or cancellation of the apprenticeship agreement.

b) Apprentices placed in suspension may be reactivated in the apprenticeship program at the discretion of the

Apprenticeship Committee with employer approval of the reactivation.

B. Disciplinary Procedures

1. The obligations of the sponsor when taking disciplinary action are as follows:

   a. The sponsor shall be responsible for enacting reasonable policies and procedures and applying them consistently. The sponsor will inform all apprentices of their rights and responsibilities per these standards.

   b. The sponsor shall notify the apprentice of intent to take disciplinary action and reasons therefore 20 calendar days prior to taking such action. The reason(s) supporting the sponsor's proposed action(s) must be sent in writing to the apprentice.

   c. The sponsor must clearly identify the potential outcomes of disciplinary action, which may include but are not limited to discipline, suspension or cancellation of the apprenticeship agreement.

   d. The decision/action of the sponsor will become effective immediately.

2. The sponsor may include in this section requirements and expectations of the apprentices and an explanation of disciplinary actions imposed for noncompliance. The sponsor has the following disciplinary procedures to adopt:

   a. Disciplinary Probation: A time assessed when the apprentice's progress is not satisfactory. During this time the sponsor may withhold periodic wage advancements, suspend or cancel the apprenticeship agreement, or take further disciplinary action. A disciplinary probation may only be assessed after the initial probation is complete.

   b. Disciplinary Suspension: A temporary interruption in the progress of an individual's apprenticeship agreement. Conditions will include not being allowed to participate in On-the-Job Training (OJT), go to Related Supplemental Instruction (RSI) classes or take part in any activity related to the Apprenticeship Program until such time as the sponsor takes further action. The program sponsor shall review apprentices in such status at least once each year.

   c. Cancellation: Refers to the termination of an apprenticeship agreement at the request of the apprentice, supervisor, or sponsor. [WAC 296-05-003].

3. Sponsor Disciplinary Procedures:

When violations of these Standards by apprentices and/or a Training Agent occurs, they will be acted upon by the Apprenticeship Coordinator and/or the Apprenticeship Committee as outlined below.

a. The Apprenticeship Coordinator will first and always attempt to resolve problems informally by communicating with all parties concerned.

b. If a hearing by the Apprenticeship Committee is required, apprentice notification will be sent by certified mail at least twenty (20) days prior to the hearing and will contain the alleged charges and Standards section(s) violated, and a range of penalties, which may be imposed.

c. If an apprentice fails to appear before the Apprenticeship Committee when notified, the Apprenticeship Committee may discipline the apprentice in their absence.

d. Following the hearing, the Apprenticeship Committee will make its decision based solely upon the most credible evidence submitted at the hearing and reduced to writing.

e. Apprentices will be notified in writing of the decision of the Apprenticeship Committees by certified mail or within ten (10) business days.

C. Apprentice Complaint Procedures:

1. The apprentice must complete his/her initial probationary period in order to be eligible to file a complaint (WAC 296-05-105).

2. Complaints involving matters covered by a collective bargaining agreement are not subject to the complaint procedures in this section.

3. Complaints regarding non-disciplinary matters must be filed with the program sponsor within 30 calendar days from the date of the last occurrence. Complaints must be in writing.

4. If the apprentice disagrees with the resolution of the complaint or wishes to contest the outcome of a disciplinary action by the program sponsor, the apprentice must file a written request for reconsideration with the program sponsor within 30 calendar days from the date the apprentice received written notice of action by the program sponsor.

5. The program sponsor must reply, in writing, to the request for reconsideration within 30 calendar days from the date the program sponsor receives the request. The program sponsor must send a copy of the written reply to the apprentice within the 30 calendar days.

6. If the apprentice disagrees with the program sponsor's decision, the apprentice may file an appeal with the Apprenticeship Program, (WAC 296-05-105). If the apprentice does not timely file an appeal, the decision of the program sponsor is final after 30 calendar days from the date the program sponsor mails the decision to the apprentice. See section "D" below.

D. Apprentice Complaint Review/Appeals Procedures:

1. If the apprentice disagrees with the program sponsor's decision, the apprentice must submit a written appeal to L&I's apprenticeship section within 30 calendar days from the date the decision is mailed by the program sponsor. Appeals must describe the subject matter in detail and include a copy of the program sponsor's decision.

2. The L&I apprenticeship section will complete its investigation within 30 business days from the date the appeal is received and attempt to resolve the matter.

3. If the Apprenticeship section is unable to resolve the matter within 30 business days, the Apprenticeship section issues a written decision resolving the appeal.

4. If the apprentice or sponsor is dissatisfied with L&I's decision, either party may request the WSATC review the decision. Requests for review to the WSATC must be in writing. Requests for review must be filed within 30 calendar days from the date the decision is mailed to the parties.

5. The WSATC will conduct an informal hearing to consider the request for review.

6. The WSATC will issue a written decision resolving the request for review. All parties will receive a copy of the WSATC's written decision.

XI. SPONSOR – RESPONSIBILITIES AND GOVERNING STRUCTURE

The following is an overview of the requirements associated with administering an apprenticeship program. These provisions are to be used with the corresponding RCW and/or WAC. The sponsor is the policymaking and administrative body responsible for the operation and success of this apprenticeship program. The sponsor may assign an administrator or a committee to be responsible for day-to-day operations of the apprenticeship program. Administrators and/or committee members must be knowledgeable in the process of apprenticeship and/or the application of chapter 49.04 RCW and chapter 296-05 WAC and these standards. If applicable, sponsors must develop procedures for:

A. Committee Operations (WAC 296-05-009): (Not applicable for Plant Programs)

Apprenticeship committees must be composed of an equal number of management and non-management representatives from a minimum of four to a maximum of twelve

members. Committees must convene meetings at least three times per year attended by a quorum of committee members as defined in these approved standards.

B. Program Operations

The sponsor will record and maintain records pertaining to the administration of the apprenticeship program and make them available to the WSATC or Department upon request. Records required by WAC 296-05-100 will be maintained for five (5) years; all other records will be maintained for three (3) years. Apprenticeship sponsors will submit required forms/reports to the Department of Labor and Industries through one of the two prescribed methods below:

Sponsors shall submit required forms/reports through assigned state apprenticeship consultant.

Or;

Sponsors shall submit required forms/reports through the Apprentice Registration and Tracking System (ARTS), accessed through Secure Access Washington (SAW).

Paper forms as well as ARTS external access forms are available from the sponsor's assigned apprenticeship consultant or online at:

http://www.lni.wa.gov/TradesLicensing/Apprenticeship/FormPub/default.asp.

1. The following is a listing of forms/reports for the administration of apprenticeship programs and the time-frames in which they must be submitted:

    a. Apprenticeship Agreements – within first 30 days of employment
    b. Authorization of Signature forms - as necessary
    c. Approved Training Agent Agreements– within 30 days of sponsor action
    d. Minutes of Apprenticeship Committee Meetings – within 30 days of sponsor approval (not required for Plant program)
    e. Request for Change of Status - Apprenticeship/Training Agreement and Training Agents forms – within 30 days of action by sponsor.
    f. Journey Level Wage Rate – annually, or whenever changed as an addendum to section VII. Apprentice Wages and Wage Progression.
    g. Related Supplemental Instruction (RSI) Hours Reports (Quarterly):
        1st quarter: January through March, due by April 10
        2nd quarter: April through June, due by July 10
        3rd quarter: July through September, due by October 10
        4th quarter: October through December, due by January 10
    h. On-the-Job Work Hours Reports (bi-annual)
        1st half: January through June, by July 30
        2nd half: July through December, by January 31

2. The program sponsor will adopt, as necessary, local program rules or policies to administer the apprenticeship program in compliance with these standards. Requests for revision to these standards of apprenticeship must be submitted 45 calendar days

prior to a quarterly WSATC meeting. The Department of Labor and Industries, Apprenticeship Section's manager may administratively approve requests for revisions in the following areas of the standards:

a. Program name
b. Sponsor's introductory statement
c. Section III: Conduct of Program Under Washington Equal Employment Opportunity Plan
d. Section VII: Apprentice Wages and Wage Progression
e. Section IX: Related/Supplemental Instruction
f. Section XI: Sponsor – Responsibilities and Governing Structure
g. Section XII: Subcommittees
h. Section XIII: Training Director/Coordinator

3. The sponsor will utilize competent instructors as defined in WAC 296-05-003 for RSI. Furthermore, the sponsor will ensure each instructor has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide instruction.

C. Management of Apprentices:

1. Each apprentice (and, if under 18 years of age, the parent or guardian) will sign an apprenticeship agreement with the sponsor, who will then register the agreement with the Department before the apprentice attends RSI classes, or within the first 30 days of employment as an apprentice. For the purposes of industrial insurance coverage and prevailing wage exemption under RCW 39.12.021, the effective date of registration will be the date the agreement is received by the Department.

2. The sponsor must notify the Department within 30 days of all requests for disposition or modification to apprentice agreements, which may include:

a) Certificate of completion
b) Additional credit
c) Suspension (i.e. military service or other)
d) Reinstatement
e) Cancellation
f) Corrections
g) Step Upgrades
h) Probation Completion date
i) Other (i.e., name changes, address)
j) Training Agent Cancellation

3. The sponsor commits to rotate apprentices in the various processes of the skilled occupation to ensure the apprentice is trained to be a competent journey-level worker.

4. The sponsor shall periodically review and evaluate apprentices before advancement to the apprentice's next wage progression period. The evidence of such advancement

will be the record of the apprentice's progress on the job and during related/supplemental instruction.

5. The sponsor has the obligation and responsibility to provide, insofar as possible, reasonably continuous employment for all apprentices in the program. The sponsor may arrange to transfer an apprentice from one training agent to another or to another program when the sponsor is unable to provide reasonably continuous employment, or they are unable to provide apprentices the diversity of experience necessary for training and experience in the various work processes as stated in these standards. The new training agent will assume all the terms and conditions of these standards. If, for any reason, a layoff of an apprentice occurs, the apprenticeship agreement will remain in effect unless canceled by the sponsor.

6. An apprentice who is unable to perform the on-the-job portion of apprenticeship training may, if the apprentice so requests and the sponsor approves, participate in related/supplemental instruction, subject to the apprentice obtaining and providing to the sponsor written requested document/s for such participation. However, time spent will not be applied toward the on-the-job portion of apprenticeship training.

7. The sponsor shall hear and decide all complaints of violations of apprenticeship agreements.

8. Upon successful completion of apprenticeship, as provided in these standards, and passing the examination that the sponsor may require, the sponsor will recommend the WSATC award a Certificate of Completion of Apprenticeship. The sponsor will make an official presentation to the apprentice who has successfully completed his/her term of apprenticeship.

D. Training Agent Management:

1. The sponsor shall offer training opportunities for apprentices by ensuring reasonable and equal working and training conditions are applied uniformly to all apprentices. The sponsor shall provide training at an equivalent cost to that paid by other employers and apprentices participating in the program. The sponsor shall not require an employer to sign a collective bargaining agreement as a condition of participation.

2. The sponsor must determine whether an employer can adequately furnish proper on the job training to an apprentice in accordance with these standards. The sponsor must also require any employer requesting approved training status to complete an approved training agent agreement and to comply with all federal and state apprenticeship laws, and these standards.

3. The sponsor will submit training agent agreements to the Department with a copy of the agreement and/or the list of approved training agents within thirty calendar days

from the effective date. Additionally, the sponsor must submit rescinded training agent agreements to the Department within thirty calendar days of said action.

E. Committee governance (if applicable): (see WAC 296-05-009)

1. Apprenticeship committees shall elect a chairperson and a secretary who shall be from opposite interest groups, i.e., chairperson-employers; secretary-employees, or vice versa. If the committee does not indicate its definition of quorum, the interpretation will be "50% plus 1" of the approved committee members. The sponsor must also provide the following information:

   a. Quorum: **Two (2) members of the Committee, one (1) from the employee and one (1) from employer shall be a quorum for the transaction of business. Each party shall have the right to cast the full vote of its membership and it shall be conducted as though all were present and voting.**

   b. Program type administered by the committee: **Group Non-Joint**

   c. The employer representatives shall be:

Dave Trader, Chair
P.O. Box 80727
Seattle, WA 98108

Joshua "Josh" Walton
P.O. Box 80727
Seattle, WA 98108

Mary Hadley
P.O. Box 80727
Seattle, WA 98108

Stela Heuschkel
(Alternate)
P.O. Box 80727
Seattle, WA 98108

   d. The employee representatives shall be:

Mike Rowe
P.O. Box 80727
Seattle, WA 98108

Mark Forslund
P.O. Box 80727
Seattle, WA 98108

Anthony Mendoza
P.O. Box 80727
Seattle, WA 98108

F. Plant programs

For plant programs the WSATC or the Department designee will act as the apprentice representative. Plant programs shall designate an administrator(s) knowledgeable in the process of apprenticeship and/or the application of chapter 49.04 RCW and chapter 296-05 WAC and these standards.

The designated administrator(s) for this program is/are as follows:

None	**None**

XII. SUBCOMMITTEE:

Subcommittee(s) approved by the Department, represented equally from management and non-management, may also be established under these standards, and are subject to the main committee. All actions of the subcommittee(s) must be reviewed by the main committee. Subcommittees authorized to upgrade apprentices and/or conduct disciplinary actions must be structured according to the same requirements for main committees.

None

XIII. TRAINING DIRECTOR/COORDINATOR:

The sponsor may employ a person(s) as a full or part-time training coordinator(s)/ training director(s). This person(s) will assume responsibilities and authority for the operation of the program as are delegated by the sponsor.

Demetria Lynn Strickland, Apprenticeship Coordinator
P.O. Box 80727 Seattle, WA 98108

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Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Journey Level Wage Rate

From which apprentices' wage rates are computed

TO: Washington State Apprenticeship & Training Council

FROM: AJAC - Maintenance Apprenticeship Committee

Occupation:	County(ies):	Journey Level Wage Rate:	Effective Date:
Aircraft Mechanic Airframe	King and Snohomish	$24.15	10/20/2022
Industrial Maintenance/Automation Technician	The state of WA, OR & ID	$24.15	10/20/2022
Industrial Manufacturing Technician	The state of WA, OR & ID	$24.15	10/20/2022
Maintenance/Automation Technician	The state of WA, OR & ID	$24.15	10/20/2022

Sponsors must submit the journey-level wage at least annually or whenever changed to the Department.

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☐ Chair ☒ Authorized Signer	Date September 2, 2022	☐ Secretary	Date
Print Name: Demetria L. Strickland		Print Name:	
Signature: Demetria L. Strickland		Signature:	

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Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Apprenticeship Committee Representative Qualifications

The Apprenticeship Committee is responsible for the day-to-day operations of the apprenticeship and training program and operating the program consistent with the standards of apprenticeship. Pursuant to WAC 296-05-009, the Representative listed below shall be familiar with the applicable apprenticeship standards.

Name of Program
AJAC - Maintenance Apprenticeship Committee

Committee Representative Name	Committee Representative Signature
Mark Forslund	

☐ Employer Representative ☒ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
Engineer Tech.	Trans-Ocean Products - Engineer Technincan	08/11	Current
	(Industrial Maintenence/Automation Technican - 10,000 hours)		
Diesel Tech.	Birch Equipment - Diesel Maintenence Technican	10/06	08/11

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Bellingham Technican College	In process	Engineer Technican	Certificate
AJAC Apprenticeship Committee	06/21	Industrial Maint./AutomationTech	Journeyman
Western Washington University	06/2003	Education	90 credits
Sehome High School	06/2001	High School	Diploma

Other Technical Certifications or Licenses Held

AJAC Industrial Maintenance/Automation Technician - 8000 hrs/600 hrs of RSI - Journeyman Card

Green Belt/LEAN Six-Sigma

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L&I Apprenticeship Consultant	L&I Admin

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Apprenticeship Committee Representative Qualifications

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Name of Program
AJAC - Maintenance Apprenticeship Committee

Committee Representative Name	Committee Representative Signature
Mary Hadley	Mary Hadley

☒ Employer Representative ☐ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
AMT Instructor	South Seattle Commuinty College	4/12	4/14
Master Mechanic	Aviation Technical Services (Mstr. A&P Mech ex. 6000 Hours)	11/09	6/12
Flight Control Te	PlaneTechs Aviation Workforce (AKA - ATS)	5/09	11/09
C Check Inspect	Bombardier (A&P Mechanic - 6000 year of experience)	4/06	2/09
Maint. Supervisc	Alaska Airlines (A&P Machanic 21 years of experience)	1989	4/06
Lead Mechanic	Horizon Airlines (Sheet Metal Fabrication ex. 5000 hours)	12/83	01/89

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Federal Aviation Administration (DOT)	06/80	A&P Mechanic	License
Utah State University, UT	1979	A&P Machanic Courses (RSI)	Certificate
U.S. Airforce, Shepard AFB	1979	Fighter Jets Maintenance	Certificates

Other Technical Certifications or Licenses Held

Airframe and Power plant Licensed Mechanic - License #3051277

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L&I Apprenticeship Consultant	Teri Gardner 9-15-22 L&I Admin

Department of Labor and Industries
Apprenticeship Section
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Olympia WA 98504-4530

Apprenticeship Committee Representative Qualifications

The Apprenticeship Committee is responsible for the day-to-day operations of the apprenticeship and training program and operating the program consistent with the standards of apprenticeship. Pursuant to WAC 296-05-009, the Representative listed below shall be familiar with the applicable apprenticeship standards.

Name of Program
AJAC - Maintenance Apprenticeship Committee

Committee Representative Name	Committee Representative Signature
Anthony Mendoza	DocuSigned by: Anthony M. E0A46C31143831...

☐ Employer Representative ☒ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
Field Service	Thermoforming Systems, LLC	07/19	Current
Technician	(Industrial Manufacturing Technician - 6,200 hours)		
Stacker	Gilbert Warehouse	05/18	07/19
Construction	J&L Siding	06/16	04/18

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification

Other Technical Certifications or Licenses Held

OSHA 10, First Aid/CPR, Forklift Certification

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Department of Labor and Industries
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PO Box 44530
Olympia WA 98504-4530

Apprenticeship Committee Representative Qualifications

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Name of Program
AJAC - Maintenance Apprenticeship Committee

Committee Representative Name	Committee Representative Signature
Michael Rowe	DocuSigned by: Mike Rowe E59C75DB69A947C...

☐ Employer Representative ☒ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
Production Lead	Bridgeways	12/2020	Current
Manufact. Wrk 3	Bridgeways (Ind Manufacturing Tech exp 4000+hours)	8/2018	12/2020
Shop Supervisor	AMC Racing (Automation Tech exp 10,000+ hours)	1/1998	1/2003
Lead designer/	AMC Manufacturing	1/1995	1/1998
Lead programmer			

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Whatcom Community College	2003	Physics	Unfinished
Edmonds Communtiy College	2002	AA	

Other Technical Certifications or Licenses Held

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L&I Apprenticeship Consultant	L&I Admin
Rec'd 9-2-22 SH	Teri Gardner 9-6-22
Rec'd 9-14-22 SH	Teri Gardner 9-15-22

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Apprenticeship Committee Representative Qualifications

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Name of Program
AJAC - Maintenance Apprenticeship Committee

Committee Representative Name	Committee Representative Signature
David Trader	DocuSigned by: Dave Trader A5F3A1AF7FF343E...

[X] Employer Representative [ ] Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
CEO	Pathfinder Manufacturing (formally WFDC)	01/2001	Current
	Work Force Development Center		
Maint.Mechanic	WFDC (Industrial Maintenance experience - 6000+ hours)	05/1997	12/2000
Assembly Tech	WFDC (Industrial Manufacturing experience - 3000+ hours)	10/1995	04/1997
Manager	Penske Automotive Centers (Auto. maint. exp. - 6000 hours)	03/1992	09/1995
Manager	Paccar Automotive (Automation technician exp. 18000 hours)	04/1983	03/1992

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Cascade High School	06/1982	High School	Diploma
		Wood-shop, Electronic, Metals	

Other Technical Certifications or Licenses Held

AS9100D Certified, since inception of company
Dale Carnegie Course, March 2017

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Name of Program

AJAC - Maintenance Apprenticeship Committee

Committee Representative Name	Committee Representative Signature
Joshua Walton	DocuSigned by: Joshua Walton F91F3E9108F3425...

☒ Employer Representative ☐ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
Training Mgr.	Unitech Composites	08/19	08/22
Document Mgr.	Trident Training Facility - Kings Bay	03/18	08/19
Production Sup	Naval Support Center - Kings Bay	04/14	03/18
	(Industrial Maintenance Tech - 8,000 hours)		
QA Maint.	Navy - U.S.S. Florida (Blue)	03/17	11/17
Manager	(Industrial Maintenance Tech - 1,600 hours)		

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
U.S. Navy - Machine Tool Operator	05/06	Lathe Operation	Endorsement
U.S. Navy - Submarine QA Inspector	06/04	QA Inspector	Endorsement
Navy - First Line Leadership	08/02	Leadership Fundamentals	Endorement
Navy Nuclear Power School	10/00	Physics, Heat/Fluid Power	Endorsement
Navy - Mate School	04/00	Hydraulics, Pump Op., AC&R	Endorsement

Other Technical Certifications or Licenses Held

Universal Refrigerant Technician
Structural Firefighter 1

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SH 9-2-22	Teri Gardner 9-6-22
L&I Apprenticeship Consultant	L&I Admin

Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Apprenticeship Committee Representative Qualifications

The Apprenticeship Committee is responsible for the day-to-day operations of the apprenticeship and training program and operating the program consistent with the standards of apprenticeship. Pursuant to WAC 296-05-009, the Representative listed below shall be familiar with the applicable apprenticeship standards.

Name of Program
AJAC - Maintenance Apprenticeship Committee

Committee Representative Name	Committee Representative Signature
Stela Heuschkel	DocuSigned by: Stela Heuschkel B7FC9E5FFA0443E...

☒ Employer Representative ☐ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
Admin/HR Mgr	Chemi-Con Materials Corporation	02/98	present

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Seattle Research Partners		PHR preparation	1999
SHRM		PHR preparation	2000
Big Bend Community College		General studies	1980

Other Technical Certifications or Licenses Held

PHR & SHRM-CP.

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Rec'd 9-14-22 SH Rec'd 9-2-22 SH L&I Apprenticeship Consultant	Teri Gardner 9-15-22 Teri Gardner 9-6-22 L&I Admin

Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Apprenticeship Related/Supplemental Instruction (RSI) Plan Review

Program Name AJAC – Maintenance Apprenticeship Committee	
Occupation Industrial Maintenance/Automation Technician	
Term/OJT Hours 8000 hours	Total RSI Hours 600 hours
Training Provider AJAC	

By the signature placed below, the **program sponsor** agrees to provide the prescribed RSI for each registered apprentice and assures that:

1. The RSI content and delivery method is and remains reasonably consistent with the latest occupational practices, improvements, and technical advances.
2. The RSI is coordinated with the on-the-job work experience.
3. The RSI is provided in safe and healthful work practices in compliances with WISHA and applicable federal and state regulations.
4. The RSI Plan is maintained, updated and submitted to the Department a minimum of once every 5 years (WSATC Policy 2015-01; rev, 10-21-21).
5. The RSI will be conducted by instructors who meet the qualification of the "competent instructor" as described in WAC 296-05-003:
    a. Has demonstrated a satisfactory employment performance in her/her occupation for a minimum of three years beyond the customary learning period for that occupation; and
    b. Meets the State Board for Community and Technical Colleges requirements for a professional technical instructor (see WAC 131-16-080 through -094), or be a subject matter expert, which is an individual, such as a journey worker, who is recognized within the industry as having expertise in a specific occupation; and
    c. Has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide the related technical instruction.
6. If using alternative forms of instruction, such as correspondence, electronic media, or other self-study, instruction shall be clearly defined.

Signatures on next page

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☐ Chair ☒ Authorized Signer	Date September 2, 2022	☐ Secretary	Date
Print Name: Demetria L. Strickland		Print Name:	
Signature: Demetria L. Strickland		Signature:	

Training Provider Signature

Approved By (Print Name): Demetria L. Strickland	Title: AJAC Executive Director/Training Coordinator
Signature of the Training Provider: Demetria L. Strickland	
Date: September 2, 2022	

If additional training providers are needed, go to page 4.

SBCTC

Print Name:	Title:
Signature of the Program Administrator:	
Date:	
☐ SBCTC recommends approval	☐ SBCTC recommends return to sponsor

Program Name	Occupational Objective
AJAC – Maintenance Apprenticeship Committee	Industrial Maintenance/Automation Technician

Note: The description of each element must be in sufficient detail to provide adequate information for review by the SBCTC and Review Committee. To add more elements, click on the plus sign that appears below the "Description of Element/Course" field.

Describe minimum hours of study per year in terms of (check one):

☐ 12-month period from date of registration.

☒ Defined 12-month school year.

☐ 2,000 hours of on-the-job training.

Element/Course: IMMA 101: Technical Drawings	Planned Hours: 50

Mode of Instruction (check all that apply)

☒ Classroom ☒ Lab ☒ Online ☐ Self-Study

Provided by: Maintenance Apprenticeship Committee

Description of element/course:

In this course, apprentices will learn to read and interpret technical drawings, schematics, sheet metal drawings, bills of materials, parts lists as well as practice basic drafting. Apprentices will begin by interpreting the basic elements of a drawing: line types, symbols, 3rd angle projection, principles of orthographic projection, and normal, detail, sectional, and auxiliary views. Apprentices will use authentic industry drawings to learn to interpret dimensioning and tolerancing on prints, GD & T per ASME Y14 Standards, welding symbols, surface finish, ADCNs, and DCNs. Drawings studied in this class will include machining, fabrication, sheet metal, assemblies and fluid power systems. Apprentices will also learn about various types of threads, fasteners, cams, and gears. Hands-on activities in this course include creating various types of shop sketches such as creating an original drawing for a sheet metal product, and applying print-reading knowledge to inspect a part.

Year 1

Element/Course: IMMA 102: Lifting and Rigging	Planned Hours: 50

Mode of Instruction (check all that apply)

☒ Classroom ☒ Lab ☒ Online ☐ Self-Study

Provided by: Maintenance Apprenticeship Committee

Description of element/course:

The apprentices will learn about the practical application and safe operation of lifting equipment commonly used in industrial maintenance such as forklifts, scissor lifts, and cranes. Apprentices will learn proper and safe techniques for manual lifting, hand signaling, and radio communication. Apprentices will learn about methods of moving machinery, which includes lifting materials, supplies, and equipment such as cranes, forklifts, pallet jacks, and engine hoists. This course also covers techniques for lifting personnel such as manlifts and bucket trucks, and includes all protection training. Apprentices will learn about techniques, calculations, and equipment for rigging and rigging inspection. Hands-on experience may include forklift operation, material staging, rigging projects, crane operation, and field trips where available.

8 hours of safety covered in this course
Year 1

Element/Course: IMMA 103: Precision Machining	Planned Hours: 50

Mode of Instruction (check all that apply)

☒ Classroom ☒ Lab ☒ Online ☐ Self-Study

Provided by: Maintenance Apprenticeship Committee

Description of element/course:

The apprentices will explore beginning theory, application, and hands-on experience with precision machining practices for industrial maintenance. Apprentices will explore topics related to manual machine tool setup and operation, for saws, drill presses, engine lathes, milling machines, and grinders. Apprentices

will also gain bench work experience, including hole-making and part finishing operation using hand tools. An emphasis will be placed on preventative maintenance and safety in the shop while operating machines and handling tools and materials.

8.5 hours of safety in this course
Year 1

Element/Course: IMMA 121: Maintenance Welding	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
In this course, apprentices will explore theory in the classroom and gain hands-on experience with essential welding and cutting practices commonly used for industrial maintenance applications. Apprentices will explore theory and practice for cutting processes such as oxyfuel cutting, plasma cutting, and ironworker operation. Apprentices will practice welding techniques using the following processes: GMAW (MIG welding), SMAW (stick welding), and OAW. Additional topics include brazing, blueprint reading (welding symbols), repair welding, surfacing, and pipe welding. Apprentices will learn how to properly inspect and set up the equipment before welding, as well as how to prepare materials and various types of joints for welding. Apprentices will also learn about finishing procedures, inspection, and cleanup. The capstone project for this course is a welded steel stepstool that can be used in the home or the shop, which the apprentices will plan out, cut, weld, finish, and inspect. Throughout the course there will be an emphasis on safety, which includes proper attire and personal protective equipment (PPE), as well as potential hazards and necessary safety precautions before, during, and after welding.

10 hours of safety covered in this course
Year 2

Element/Course: IMMA 122: Electrical Systems	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
In this course, apprentices will learn about industrial electrical theory, components, and systems necessary to troubleshoot electrical problems. Apprentices will begin by learning to interpret electrical symbols, diagrams, and terminology. They will explore topics such as electric power, circuits, wiring, and transformers. This course will also cover AC theory, DC generators and motors, servo motors, industrial electronics, and an introduction to programmable logic controls (PLCs), as well troubleshooting techniques. Apprentices will gain hands-on experience with simulators and electrical systems used in industry, with an emphasis on troubleshooting and repair.

10 hours of safety covered in this course
Year 2

Element/Course: IMMA 123: Machine Automation Theory	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
This course explores advancing technologies in manufacturing relevant to industrial maintenance, including computer numerical control (CNC) technology, automation, and programmable logic controllers (PLCs). Apprentices will learn about CNC machines, drives, positioning systems, feedback methods, and sensors, as well as maintenance and safety topics. Apprentices will also explore PLC topics such as logic and

programming, and practice using hands-on simulation software. The capstone project for this course is to create a closed-loop system that actuates components in a determined sequence.

5 hours of safety covered in this course
Year 2

Element/Course: IMMA 201: Math for Industrial Maintenance	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
Apprentices will develop a working knowledge and practical application of mathematics as it relates to industrial maintenance. All basic math concepts will be covered, including adding, subtracting, multiplying and dividing fractions, ratio, proportion and percentages. Apprentices will identify and apply formulas to common shop problems, manipulate formulas, simplify expressions, and solve linear equations. Number lines and Cartesian coordinates will be covered. This course will also focus on the fundamentals and applications of geometry and trigonometry. Topics include perimeters, areas, volume, trigonometric ratios and function, right angles and non-right angles. Apprentices will discuss relationships of lines, planes, angles, congruent and similar triangles, polygons and circles while performing geometric and trigonometric functions as they relate to manufacturing and aerospace.

Year 3

Element/Course: IMMA 202: Maintenance Machining	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
The apprentices will explore intermediate-level theory, application, and hands-on experience with precision machining practices for industrial maintenance. Apprentices will learn complex techniques for operating lathes, milling machines, and other machine tools in order to create their culminating project, a gear puller, which they can use in maintenance work. Apprentices will explore additional machining topics important for industrial maintenance, such as key seats and keyways, restoring and removing threads and bolts, and fastening and assembly techniques.

10 hours of safety covered in this course
Year 3

Element/Course: IMMA 203: Mechanical Systems	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
The apprentices will learn to maintain all the elements of a mechanical system. Apprentices will begin by exploring mechanical fundamentals such energy, mechanical forces, and simple machines. Apprentices will learn to troubleshoot, assemble, and maintain couplings, gears, pulleys, chains, sprockets, and brakes. Hands-on activities include the disassembly, repair, and assembly of mechanical systems found in industry such as gearboxes, worm drives, standard transmissions, and differential drives. Apprentices will also practice alignment skills using a simulation station.

5 hours of safety covered in this course
Year 3

Element/Course: IMMA 221: Fluid Power Systems	Planned Hours: 50

Mode of Instruction (check all that apply)

☒ Classroom ☒ Lab ☒ Online ☐ Self-Study

Provided by: Maintenance Apprenticeship Committee

Description of element/course:

This course explores the fundamental theories and practical application of fluid power systems with a focus on hydraulic system setup, maintenance, and repair. Apprentices will explore the fundamentals of fluid power systems, including structures and components, operation, safety, as well as interpreting related standards, symbols, and diagrams. Hydraulic fluid types, properties, handling, and maintenance topics will be covered, as well as system components such as motors, piping and hoses, pumps, actuators, and valves. Apprentices will practice their skills in the troubleshooting and repair of hydraulic systems with hands-on simulators.

10 hours of safety covered in this course
Year 4

Element/Course: IMMA 222: Materials, Processes, and References	Planned Hours: 50

Mode of Instruction (check all that apply)

☒ Classroom ☒ Lab ☒ Online ☐ Self-Study

Provided by: Maintenance Apprenticeship Committee

Description of element/course:

In this course, apprentices will explore metallurgy, material properties and characteristics, related standards, and processes commonly used to manipulate materials. Apprentices will begin by learning about material composition and characteristics of the five basic metals: steel, stainless steel, cast iron, aluminum, and brass (copper). This course will then explore manufacturing processes used to manipulate metals, such as machining, casting, and forging, as well as processes that change their chemical composition, including heat treatment. The apprentices will also learn about and practice inspection techniques such as hardness testing and non-destructive testing (NDT) techniques with modern equipment. Projects for this course include materials testing, heat treatment, case hardening, casting, and material sample identification. Throughout the course, apprentices will research materials and processes in a shop reference, *Machinery's Handbook.*

5 hours of safety covered in this course
Year 4

Element/Course: IMMA 223: Industrial Maintenance Capstone Project	Planned Hours: 50

Mode of Instruction (check all that apply)

☒ Classroom ☒ Lab ☒ Online ☐ Self-Study

Provided by: Maintenance Apprenticeship Committee

Description of element/course:

In this course, apprentices will design, build, and implement a mechatronics project that incorporates skills that have been studied and practiced throughout the industrial maintenance technician apprenticeship. Using new and salvaged parts, apprentices will create a robot or automated system that incorporates mechanical systems, fluid power systems, electrical systems, and programmable logic controllers. Apprentices will utilize tools and equipment from the industrial maintenance field including hand tools, machine tools, welding equipment, and measuring tools.

5 hours of safety covered in this course
Year 4

Additional Training Providers (if necessary)

Click or tap here to enter text.	
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Title of Training Provider	Organization of Training Provider

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Rec'd 9-2-22 SH Rec'd 9-14-22 SH	Teri Gardner 9-6-22 Teri Gardner 9-15-22
L&I Apprenticeship Consultant	L&I Admin

Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Apprenticeship Related/Supplemental Instruction (RSI) Plan Review

Program Name AJAC – Maintenance Apprenticeship Committee	
Occupation Industrial Manufacturing Technician	
Term/OJT Hours 3000 hours	Total RSI Hours 300 hours
Training Provider AJAC	

By the signature placed below, the **program sponsor** agrees to provide the prescribed RSI for each registered apprentice and assures that:

1. The RSI content and delivery method is and remains reasonably consistent with the latest occupational practices, improvements, and technical advances.
2. The RSI is coordinated with the on-the-job work experience.
3. The RSI is provided in safe and healthful work practices in compliances with WISHA and applicable federal and state regulations.
4. The RSI Plan is maintained, updated and submitted to the Department a minimum of once every 5 years (WSATC Policy 2015-01; rev, 10-21-21).
5. The RSI will be conducted by instructors who meet the qualification of the "competent instructor" as described in WAC 296-05-003:
    a. Has demonstrated a satisfactory employment performance in her/her occupation for a minimum of three years beyond the customary learning period for that occupation; and
    b. Meets the State Board for Community and Technical Colleges requirements for a professional technical instructor (see WAC 131-16-080 through -094), or be a subject matter expert, which is an individual, such as a journey worker, who is recognized within the industry as having expertise in a specific occupation; and
    c. Has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide the related technical instruction.
6. If using alternative forms of instruction, such as correspondence, electronic media, or other self-study, instruction shall be clearly defined.

Signatures on next page

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☐ Chair ☒ Authorized Signer	Date September 2, 2022	☐ Secretary	Date
Print Name: Demetria L. Strickland		Print Name:	
Signature: Demetria L. Strickland		Signature:	

Training Provider Signature

Approved By (Print Name): Demetria L. Strickland	Title: AJAC Executive Director/Training Coordinator
Signature of the Training Provider: Demetria L. Strickland	
Date: September 2, 2022	

If additional training providers are needed, go to page 4.

SBCTC

Print Name:	Title:
Signature of the Program Administrator:	
Date:	
☐ SBCTC recommends approval	☐ SBCTC recommends return to sponsor

Program Name	Occupational Objective
AJAC – Maintenance Apprenticeship Committee	Industrial Manufacturing Technician

Note: The description of each element must be in sufficient detail to provide adequate information for review by the SBCTC and Review Committee. To add more elements, click on the plus sign that appears below the "Description of Element/Course" field.

Describe minimum hours of study per year in terms of (check one):

☐ 12-month period from date of registration.
☒ Defined 12-month school year.
☐ 2,000 hours of on-the-job training.

Element/Course: MT 101: Manufacturing Safety	Planned Hours: 50
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☒ Online ☐ Self-Study Provided by: Maintenance Apprenticeship Committee	
Description of element/course: Students will be oriented to the occupation and will learn about foundational safety requirements specific to manufacturing and production. Course content will include basic shop safety, OSHA 10 and CPR/First Aid. The course will introduce the concepts of working in a safe and productive manufacturing workplace, safety, and environmental assessments, emergency drills and emergency teams, unsafe conditions and corrective action, equipment safety training, processes and procedures that support a safe work environment, safety and health requirements for maintenance, installation and repair, monitoring safe equipment and operator performance, and effective safety enhancing workplace practices. **25 hours of safety in course** **Year 1**	

Element/Course: MT 102: Industrial Manufacturing Basics	Planned Hours: 50
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☒ Online ☐ Self-Study Provided by: Maintenance Apprenticeship Committee	
Description of element/course: Students will apply quality and continuous improvement practices to manufacturing and production. The course will introduce quality assurance, inspection, blueprint reading, interpreting manufacturing documents, precision measurement, and basic tools/equipment use and knowledge. Students will learn the process of periodic or statistically based internal quality audit activities, check and document calibration of gauges and other data collection equipment, suggest continuous improvements, inspect materials and product/process at all stages to ensure they meet specifications, document the results of quality tests, communicate quality problems, take corrective actions to restore or maintain quality, use common measurement systems and precision measurement tools. **Year 1**	

Element/Course: MT 103: Industrial Manufacturing Production Processes	Planned Hours: 50
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☒ Online ☐ Self-Study Provided by: Maintenance Apprenticeship Committee	
Description of element/course: Students will learn to identify customer needs and required resources for production. They will learn about production, communication, lean manufacturing, problem solving, and front line leadership techniques. The course will introduce the set up and operation of machines including tooling and equipment. Students will learn to identify customer needs, determine resources available for production process, set up equipment for the production process, set team production goals, make job assignments, coordinate work flow with team	

members and other work groups, communicate production and material requirements and product specification, perform and monitor the process to make the product, document product and process compliance with customer requirements, and prepare final product for shipping or distribution. Additionally, students will examine emerging industrial technologies and trends in green manufacturing.

5 hours of safety in course
Year 1

Element/Course: MT 104: Industrial Manufacturing Machine Maintenance	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
Students will learn the foundational principles and skills relating to machine maintenance awareness. They will learn to apply principles of welding, basic electricity, and fluid power systems. Students will examine common applications for lubricants, coolants, bearings, couplings, belt drives, and chain drives. The course will apply machine control and automation concepts to awareness of machine maintenance. Students will learn how to perform preventative maintenance and routine repair, monitor indicators to ensure correct operations, perform all housekeeping to maintain production schedules, and recognize potential maintenance issues with basic production systems, including knowledge of when to inform maintenance personnel about problems with electrical, pneumatic, hydraulic, and other systems.

5 hours of safety in course
Year 2

Element/Course: MT 201: Communications	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
Apprentices are introduced to basic communication concepts relating to the workplace. Concepts include theory and skills practice related to interpersonal, intercultural, and production team communications, technical writing and business communications, phone and email etiquette, and conflict management. Students will create a professional portfolio that includes a resume, examples of skills, accomplishments, and samples of work.

Year 2

Element/Course: MT: 202 Shop Math	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
Apprentices will develop a working knowledge and practical application of mathematics as it relates to industrial maintenance. All basic math concepts will be covered, including adding, subtracting, multiplying and dividing fractions, ratio, proportion and percentages. Apprentices will identify and apply formulas to common shop problems, manipulate formulas, simplify expressions, and solve linear equations. Number lines and Cartesian coordinates will be covered. This course will also focus on the fundamentals and applications of geometry and trigonometry. Topics include perimeters, areas, volume, trigonometric ratios and function,

right angles, and non-right angles. Apprentices will discuss relationships of lines, planes, angles, congruent and similar triangles, polygons and circles while performing geometric and trigonometric functions as they relate to manufacturing and aerospace.

Year 2

Additional Training Providers (if necessary)

Click or tap here to enter text.	
Print Name Training Provider	Signature of Training Provider
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Title of Training Provider	Organization of Training Provider

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Rec'd 9-14-22 SH Rec'd 9-2-22 SH L&I Apprenticeship Consultant	Teri Gardner 9-15-22 Teri Gardner 9-6-22 L&I Admin

Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Apprenticeship Related/Supplemental Instruction (RSI) Plan Review

Program Name AJAC – Maintenance Apprenticeship Committee	
Occupation Maintenance/Automation Technician	
Term/OJT Hours 2000 hours	Total RSI Hours 150 hours
Training Provider AJAC	

By the signature placed below, the **program sponsor** agrees to provide the prescribed RSI for each registered apprentice and assures that:

1. The RSI content and delivery method is and remains reasonably consistent with the latest occupational practices, improvements, and technical advances.
2. The RSI is coordinated with the on-the-job work experience.
3. The RSI is provided in safe and healthful work practices in compliances with WISHA and applicable federal and state regulations.
4. The RSI Plan is maintained, updated and submitted to the Department a minimum of once every 5 years (WSATC Policy 2015-01; rev, 10-21-21).
5. The RSI will be conducted by instructors who meet the qualification of the "competent instructor" as described in WAC 296-05-003:
    a. Has demonstrated a satisfactory employment performance in her/her occupation for a minimum of three years beyond the customary learning period for that occupation; and
    b. Meets the State Board for Community and Technical Colleges requirements for a professional technical instructor (see WAC 131-16-080 through -094), or be a subject matter expert, which is an individual, such as a journey worker, who is recognized within the industry as having expertise in a specific occupation; and
    c. Has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide the related technical instruction.
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Signatures on next page

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☐ Chair ☒ Authorized Signer	Date September 2, 2022	☐ Secretary	Date
Print Name: Demetria L. Strickland		Print Name:	
Signature: Demetria L. Strickland		Signature:	

Training Provider Signature

Approved By (Print Name): Demetria L. Strickland	Title: AJAC Executive Director/Training Coordinator
Signature of the Training Provider: Demetria L. Strickland	
Date: September 2, 2022	

If additional training providers are needed, go to page 4.

SBCTC

Print Name:	Title:
Signature of the Program Administrator:	
Date:	
☐ SBCTC recommends approval	☐ SBCTC recommends return to sponsor

Program Name AJAC – Maintenance Apprenticeship Committee	Occupational Objective Maintenance/Automation Technician

Note: The description of each element must be in sufficient detail to provide adequate information for review by the SBCTC and Review Committee. To add more elements, click on the plus sign that appears below the "Description of Element/Course" field.

Describe minimum hours of study per year in terms of (check one):

☐ 12-month period from date of registration.

☐ Defined 12-month school year.

☒ 2,000 hours of on-the-job training.

Element/Course: IMMA 101: Technical Drawings	Planned Hours: 50
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☒ Online ☐ Self-Study Provided by: Maintenance Apprenticeship Committee	
Description of element/course: In this course, apprentices will learn to read and interpret technical drawings, schematics, sheet metal drawings, bills of materials, parts lists as well as practice basic drafting. Apprentices will begin by interpreting the basic elements of a drawing: line types, symbols, 3rd angle projection, principles of orthographic projection, and normal, detail, sectional, and auxiliary views. Apprentices will use authentic industry drawings to learn to interpret dimensioning and tolerancing on prints, GD & T per ASME Y14 Standards, welding symbols, surface finish, ADCNs, and DCNs. Drawings studied in this class will include machining, fabrication, sheet metal, assemblies and fluid power systems. Apprentices will also learn about various types of threads, fasteners, cams, and gears. Hands-on activities in this course include creating various types of shop sketches such as creating an original drawing for a sheet metal product, and applying print-reading knowledge to inspect a part. **Year 1**	

Element/Course: IMMA 203: Mechanical Systems	Planned Hours: 50
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☒ Online ☐ Self-Study Provided by: Maintenance Apprenticeship Committee	
Description of element/course: The apprentices will learn to maintain all the elements of a mechanical system. Apprentices will begin by exploring mechanical fundamentals such energy, mechanical forces, and simple machines. Apprentices will learn to troubleshoot, assemble, and maintain couplings, gears, pulleys, chains, sprockets, and brakes. Hands-on activities include the disassembly, repair, and assembly of mechanical systems found in industry such as gearboxes, worm drives, standard transmissions, and differential drives. Apprentices will also practice alignment skills using a simulation station. **5.5 hours of Safety covered in the course** **Year 1**	

Element/Course: IMMA 221: Fluid Power Systems	Planned Hours: 50
Mode of Instruction (check all that apply) ☒ Classroom ☒ Lab ☒ Online ☐ Self-Study Provided by: Maintenance Apprenticeship Committee	
Description of element/course: This course explores the fundamental theories and practical application of fluid power systems with a focus on hydraulic system setup, maintenance, and repair. Apprentices will explore the fundamentals of fluid power systems, including structures and components, operation, safety, as well as interpreting related standards, symbols, and diagrams. Hydraulic fluid types, properties, handling, and maintenance topics will	

be covered, as well as system components such as motors, piping and hoses, pumps, actuators, and valves. Apprentices will practice their skills in the troubleshooting and repair of hydraulic systems with hands-on simulators.

10 hours of Safety covered in the course
Year 1

Element/Course: IMMA 121: Maintenance Welding	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:

In this course, apprentices will explore theory in the classroom and gain hands-on experience with essential welding and cutting practices commonly used for industrial maintenance applications. Apprentices will explore theory and practice for cutting processes such as oxyfuel cutting, plasma cutting, and ironworker operation. Apprentices will practice welding techniques using the following processes: GMAW (MIG welding), SMAW (stick welding), and OAW. Additional topics include brazing, blueprint reading (welding symbols), repair welding, surfacing, and pipe welding. Apprentices will learn how to properly inspect and set up the equipment before welding, as well as how to prepare materials and various types of joints for welding. Apprentices will also learn about finishing procedures, inspection, and cleanup. The capstone project for this course is a welded steel stepstool that can be used in the home or the shop, which the apprentices will plan out, cut, weld, finish, and inspect. Throughout the course there will be an emphasis on safety, which includes proper attire and personal protective equipment (PPE), as well as potential hazards and necessary safety precautions before, during, and after welding.

* This course will be an optional replacement course to IMMA 221- Fluid Power Systems which will depend on the training facility.

10 hours of Safety covered in the course
Year 1

Additional Training Providers (if necessary)

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For L&I Staff Use Only	
Rec'd 9-2-22 SH Rec'd 9-14-22 SH	Teri Gardner 9-6-22 Teri Gardner 9-15-22
L&I Apprenticeship Consultant	L&I Admin

Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Apprenticeship Related/Supplemental Instruction (RSI) Plan Review

Program Name AJAC – Maintenance Apprenticeship Committee	
Occupation Aircraft Mechanic Airframe	
Term/OJT Hours 6000 hours	Total RSI Hours 450 hours
Training Provider AJAC	

By the signature placed below, the **program sponsor** agrees to provide the prescribed RSI for each registered apprentice and assures that:

1. The RSI content and delivery method is and remains reasonably consistent with the latest occupational practices, improvements, and technical advances.
2. The RSI is coordinated with the on-the-job work experience.
3. The RSI is provided in safe and healthful work practices in compliances with WISHA and applicable federal and state regulations.
4. The RSI Plan is maintained, updated and submitted to the Department a minimum of once every 5 years (WSATC Policy 2015-01; rev, 10-21-21).
5. The RSI will be conducted by instructors who meet the qualification of the "competent instructor" as described in WAC 296-05-003:
    a. Has demonstrated a satisfactory employment performance in her/her occupation for a minimum of three years beyond the customary learning period for that occupation; and
    b. Meets the State Board for Community and Technical Colleges requirements for a professional technical instructor (see WAC 131-16-080 through -094), or be a subject matter expert, which is an individual, such as a journey worker, who is recognized within the industry as having expertise in a specific occupation; and
    c. Has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide the related technical instruction.
6. If using alternative forms of instruction, such as correspondence, electronic media, or other self-study, instruction shall be clearly defined.

Signatures on next page

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☐ Chair ☒ Authorized Signer	Date September 2, 2022	☐ Secretary	Date
Print Name: Demetria L. Strickland		Print Name:	
Signature: Demetria L. Strickland		Signature:	

Training Provider Signature

Approved By (Print Name): Demetria L. Strickland	Title: AJAC Executive Director/Training Coordinator
Signature of the Training Provider: Demetria L. Strickland	
Date: September 2, 2022	

If additional training providers are needed, go to page 4.

SBCTC

Print Name:	Title:
Signature of the Program Administrator:	
Date:	
☐ SBCTC recommends approval	☐ SBCTC recommends return to sponsor

Program Name	Occupational Objective
AJAC – Maintenance Apprenticeship Committee	Aircraft Mechanic Airframe

Note: The description of each element must be in sufficient detail to provide adequate information for review by the SBCTC and Review Committee. To add more elements, click on the plus sign that appears below the "Description of Element/Course" field.

Describe minimum hours of study per year in terms of (check one):

☐ 12-month period from date of registration.
☒ Defined 12-month school year.
☐ 2,000 hours of on-the-job training.

Element/Course: AMTA 101 Basic Electricity	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:

This course introduces the fundamentals of basic electricity and prepares the way for further study of electrical circuitry and how aircraft electrical systems function. Students will analyze the relationship between voltage, current, resistance, power, capacitance, and inductance in an electrical circuit. Students will be able to read and interpret electrical circuit diagrams and demonstrate how to inspect and service batteries. Basic electricity includes Ohms law, Kirchhoff's Current law, Watt's law, batteries, wiring, Direct Current (DC) and Alternating Current (AC). Students will define magnetism and how it is used to generate power and power electric motors. They will explain power distribution in the aircraft and how the wiring is protected from overloads. Teaching levels are high in this class to ensure students can explain general principles, demonstrate sufficient skills to simulate return to service, and perform with a high degree of practical application.

10 hours of safety covered in this course
Year 1

Element/Course: AMTA 102: General Topics I	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:

The first part of the course introduces the student to basic aircraft drawings, schematics, and diagrams. Topics will include drawing interpretation, symbols, plan views, blow-up diagrams, wiring diagrams, and basic drafting technique. Students will learn aircraft drawings to the proficiency required to perform normal aircraft inspection and typical repairs and alterations. For example, interpretation of drawings needed to perform an actual or simulated accomplishment of an airworthiness directive. The second part of the course the student will learn how to measure the weight and balance of an aircraft. The final parts of this course introduce the student to aircraft materials including standard aircraft hardware, lines, fittings, fabrication, installation, and removal; corrosion prevention and removal. Discussion of processes will include structural materials, basic heat treatment, and identifying appropriate non-destructive testing methods. The student will also be introduced to inspection measuring devices.

5.5 hours of safety covered in this course
Year 1

Element/Course: AMTA 103: General Topics II	Planned Hours: 50

Mode of Instruction (check all that apply)

☒ Classroom ☒ Lab ☒ Online ☐ Self-Study

Provided by: Maintenance Apprenticeship Committee

Description of element/course:

This course covers four main sections: Ground Operation and Servicing, Cleaning and Corrosion Control, Applied Math, and Maintenance Forms and Records. Students are introduced to the identification of different fuels and the necessary precautions to observe when refueling an aircraft. Awareness of ground operations hazards is also emphasized. Students will learn the proper procedures for starting reciprocating and turbine engines and procedures for proper engine run-up, aircraft movement, and tie down. They will be able to start aircraft engines following necessary precautions, as well as how to move and secure aircraft.
Students will explain correct usage of cleaning materials and be able to properly clean an aircraft safely using the correct materials. This class emphasizes the identification of various types of corrosion, evaluation of corrosion damage, the proper way of removing corrosion deposits, evaluate the cleaned area after treatment, and protect it from further corrosion. Students will be introduced to applied math principles as they relate to aircraft maintenance. Maintenance Forms and Records emphasize the importance of the legal aspects of aviation maintenance. Students will be able to properly describe the work done to an aircraft and make the proper maintenance record entries. At the end of this section students will be able to make the correct maintenance record for a 100-hour inspection and compile a discrepancy list for an aircraft that has failed an inspection. The student will also be able to describe a repair of an aircraft structure and properly complete an FAA Form 337.

5.5 hours of safety covered in this course
Year 1

Element/Course: AMTA 104: Aircraft Structures I	Planned Hours: 50

Mode of Instruction (check all that apply)

☒ Classroom ☒ Lab ☒ Online ☐ Self-Study

Provided by: Maintenance Apprenticeship Committee

Description of element/course:

Basic Physics gives instruction in mechanical advantage conversion between forms of energy, vibration, gas laws, heat, and pressure. At the end of this section the student will be able to demonstrate their knowledge of basic physics by passing a written test on such subjects as sound, light, heat, temperature, gas laws, fluid mechanics, aircraft structures, and theory of flight.

Maintenance Publications reinforces the importance of regulations governing aviation maintenance and the information furnished by the aircraft, engine, and component manufacturers. Upon completion of this section the student will be able to demonstrate their ability to select the appropriate Type Certificate Data Sheets, locate all of the applicable Airworthiness Directives and Alerts, as well as locate and use manufacturers' maintenance manuals and service bulletins.

The Mechanic Privileges and Limitations section explains what is expected of the AMT by the aircraft owner, and what is allowed by the FAA. Upon completion the student will be able to explain the legal limitations of each category of maintenance airmen; and the privileges granted to Aviation Maintenance Technicians, Authorized Inspectors, and Repairmen.

Assembly covers the relationship between aircraft rigging and the aerodynamics of flight. Upon completion the student will be able to correctly balance and assemble aircraft primary and secondary control surfaces. The student will also demonstrate the correct way to jack an aircraft to inspect and service the landing gear.

Airframe Inspection explains one of the major functions of an aviation maintenance technician: determining the legal airworthiness of an aircraft, its engine, and components. Upon completion the student will be able to conduct a routine inspection of an aircraft to determine its conformity to the applicable Type Certificate data, make the proper maintenance record entries for the inspection, and locate and interpret all applicable Airworthiness Directives and Service Bulletins.

10 hours of safety covered in this course
Year 2

Element/Course: AMTA 201: Aircraft Structures II	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
Sheet Metal and Nonmetallic Structures examines sheet-metal and nonmetallic composite structures including the stresses on aircraft structure, and the strength of various metal materials. The types of composite materials and details of their manufacture are discussed as a foundation for the understanding of "Composite Structure Inspection and Repair". Upon completion the student will demonstrate their ability to inspect sheet-metal structures, access damage, design an airworthy repair, lay-out and form sheet-metal components and assemble them using the appropriate solid rivets or special fasteners.

In the Soldering and Brazing section, the student will learn silver soldering, soft soldering, brazing, and be able to give a detailed description of the types, tools, materials, and methods of soldering and brazing for aircraft construction and maintenance. Upon completion the student will be able to demonstrate their ability to solder and braze.

5 hours of safety covered in this course
Year 2

Element/Course: AMTA 202: Air Systems I	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
Aircraft Landing Gear Systems topics include shock struts, steering systems, wheels and tires, brakes, warning systems, electrical brake controls, anti-skid systems, retraction and position indicating systems.

Hydraulic and Pneumatic Power System topics include power system components, safety practices, hydraulic fluid types and characteristics, inspection, servicing, and standard maintenance practices.

Assembly and Rigging explains the relationship between aircraft rigging and the aerodynamics of flight. Upon completion of this section, the student will be able to correctly assemble an aircraft, rig the primary and secondary control surfaces, verify the correct alignment of all of the components, demonstrate their knowledge of functions of the flight controls of fixed-wing and rotary-wing aircraft, and explain the effects of improperly rigged control surfaces.

The Airframe Inspection section provides students with the information and skills-through text, lecture, and interactive discussion-necessary to perform Conformity, Airworthiness, Required, Preflight, Special, Altimeters and Static Systems, ATC Transponder, Major, Progressive, and Large Aircraft Inspections. Also,

upon completion of this course the student will be able to conduct an Annual or 100-Hour Inspection which includes Examination of the Aircraft Records, Survey of Maintenance Information, Inspection of the Aircraft, Fuel System, Landing Gear, Airframe, Control System, Record of the Inspection, and Failed Inspection.

5 hours of safety covered in this course
Year 2

Element/Course: AMTA 203: Air Systems II	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
The Cabin Atmosphere Control System section teaches students how to maintain an aircraft cabin environment with the proper pressure, temperature, humidity, and air movement.

The Ice and Rain Control Systems section provides the student with information on systems that prevent the formation of ice on an aircraft structure and those that remove ice after it forms. Upon completion of this course the student will be able to identify common problems, specify the appropriate correction, recognize the appropriate chemicals used, and be cognizant of the safety precautions required for handling them, and describe the function of deicing, anti-icing, and rain removal systems.

The Fire Protection Systems section of the course addresses fire, nature of fire, and the appropriate methods and agents for detecting and extinguishing aircraft fires. Upon completion, the student will be able to describe the principles of operation of installed fire detection and extinguishing system, interpret the indication of carbon monoxide detectors, and be able to determine the condition of the extinguishing system and the contents of the agent bottles.

The Aircraft Fuel Systems section of this course teaches students about how modern aircraft carry a large volume of highly flammable fuel in a complex system of tanks, valves, and pumps, and the responsibility to the aviation maintenance technician to understand these systems in order to service them safely and efficiently. His section also describes the various aircraft fuels, and explains the fuel system requirements specified in the Airworthiness Standards of the Federal Aviation Regulations.

5.5 hours of safety covered in this course
Year 3

Element/Course: AMTA 204: Air Systems III	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☒ Lab ☒ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
The Aircraft Electrical System section builds on the AMTA 101 Basic Electricity section. Upon completion of this course students will be able to identify and install the correct types of connectors on aircraft electrical wiring, select and install the correct size and type of wiring and approved components in an electrical system, and demonstrate the use of schematic diagrams to troubleshoot an aircraft electrical system, identify faults, isolate them, and address and correct the faults.

The Aircraft Instrument Systems section of this course teaches students about the instrument systems needed to provide the flight crew with data relating to the operation of the various flight and powerplant systems, and the installation and maintenance of these systems.

The Communication and Navigation Systems section of this course teaches students how flight depends upon electronic navigation and communication, basic radio theory to provide an understanding of how these systems work, and the skills necessary to determine the condition of the installed equipment and its interface with the aircraft itself.

The Position and Warning Systems section teaches students about the operations of remote indicating systems that the aviation maintenance technician must understand to properly service them. Three different systems are addressed: antiskid brakes and their systems, their electrical circuits and those for landing gear actuation, and warning systems for instruments that indicate and measure movement. Upon completion, the student will be able to demonstrate the correct way to service landing-gear-position indicating systems and antiskid brake systems, isolate faults in these systems and correct them, and describe the operation of the various remote position indicating systems.

5 hours of safety covered in this course
Year 3

Element/Course: AMTA 205: General and Airframe Test Prep	Planned Hours: 50

Mode of Instruction (check all that apply)
☒ Classroom ☐ Lab ☐ Online ☐ Self-Study
Provided by: Maintenance Apprenticeship Committee

Description of element/course:
Prepares apprentices to pass the Aviation Maintenance Technician General and Airframe Exams. Apprentices will review subjects covered in AMTA 101-204, learn test taking skills, complete written and oral practice problems, and solve practical problems through hands-on activities.

2.5 hours of safety covered in this course
Year 3

Additional Training Providers (if necessary)

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