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| WI Youth Apprenticeship Logo | Aviation Maintenance Fundamentals  Youth Apprenticeship |

# AVIATION Maintenance Fundamentals

Aviation Maintenance Fundamentals youth apprentices gain various, high-demand aircraft maintenance skills. All youth apprentices must take the Aviation Maintenance Fundamentals the first year and can specialize in Airframe and Powerplant (A&P) or Avionics the second year. Apprentices must adhere to industry safety and security standards.

**Length of Apprenticeship:** One year. Youth apprentices can enter the Airframe and Powerplant (A&P) or Avionics youth apprenticeship for a second year.

# Required Competencies

Youth apprentices must become proficient in both general employability and occupation-specific competencies. All of these, and examples of how each can be demonstrated, are found in the following pages. A total of 8 occupational competencies must be learned for this occupation. Employers may substitute out one of these and should write in the competency they are adding. Youth apprentices must be evaluated on these competencies at least two times each year of their apprenticeship.

|  |
| --- |
| **Competencies** |
| 1. Follow safety procedures working around aircrafts/aircraft etiquette 2. Obtain required tools, equipment, and materials 3. Maintain work area 4. Operate tools and equipment safely 5. Use technical manuals and drawings (blueprint reading) 6. Perform preventative maintenance 7. Perform preflight aircraft service 8. Assist with basic wiring |

# Post-Secondary Pathway Opportunities

There are several post-secondary pathway opportunities in this area. The -following is a partial list.

* Aviation Technician Powerplant
* Aviation Mechanic (Airframe)
* Information Technology (IT) Network (Avionics Technician)

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| WI Youth Apprenticeship Logo | Aviation Maintenance Fundamentals  Youth Apprenticeship  On-the-Job Learning Performance Standards Guide |

# Youth Apprentice information

|  |
| --- |
| Youth Apprentice Name |
| YA Coordinator |
| YA Consortium |
| School District |

# SIGNATURES

The On-the-Job Learning Performance Standards Guide includes a list of competencies youth apprentices learn through mentoring and training at the worksite.

Instructions for the Worksite Employers/Mentors and School-Based or YA coordinators: This document should be reviewed with the employer/mentor, school-based or YA coordinator on a regular basis with the youth apprentice to record progress and plan future steps to ensure completion of the required competencies. Mentors, school-based/YA coordinator, and the apprentice sign below.

**E****mployer/Mentor**

**1st Evaluation (Required) 2nd Evaluation (Required)**

|  |  |
| --- | --- |
| Employer/Mentor Signature | Employer/Mentor Signature |
| Employer/Mentor | Employer/Mentor |
| Business/Company | Business/Company |
| Date Signed | Date Signed |

**3rd Evaluation (Optional) 4th Evaluation (Optional)**

|  |  |
| --- | --- |
| Employer/Mentor Signature | Employer/Mentor Signature |
| Employer/Mentor | Employer/Mentor |
| Business/Company | Business/Company |
| Date Signed | Date Signed |

**School-Based and/or YA Coordinator**

**1st Evaluation (Required) 2nd Evaluation (Required)**

|  |  |
| --- | --- |
| School-Based and/or YA Coordinator Signature | School-Based and/or YA Coordinator Signature |
| School-Based and/or YA Coordinator | School-Based and/or YA Coordinator |
| School District or Organization | School District or Organization |
| Date Signed | Date Signed |

**3rd Evaluation (Optional) 4th Evaluation (Optional)**

|  |  |
| --- | --- |
| School-Based and/or YA Coordinator Signature | School-Based and/or YA Coordinator Signature |
| School-Based and/or YA Coordinator | School-Based and/or YA Coordinator |
| School District or Organization | School District or Organization |
| Date Signed | Date Signed |

**Youth Apprentice**

**1st Evaluation (Required) 2nd Evaluation (Required)**

|  |  |
| --- | --- |
| Youth Apprentice Signature | Youth Apprentice Signature |
| Youth Apprentice | Youth Apprentice |
| School District / High School | School District / High School |
| Date Signed | Date Signed |

**3rd Evaluation (Optional) 4th Evaluation (Optional)**

|  |  |
| --- | --- |
| Youth Apprentice Signature | Youth Apprentice Signature |
| Youth Apprentice | Youth Apprentice |
| School District / High School | School District / High School |
| Date Signed | Date Signed |

# employability Skills (TO BE COMPLETED BY yA EMPLOYER/MENTOR)

All youth apprentices must demonstrate the key employability skills listed below in order to complete the YA program. They do so by earning at least a "Meets Expectation" rating in each.  **At least two evaluations are required each year of a youth apprenticeship.**  More columns are included below for those who choose to conduct more frequent reviews.

|  |  |
| --- | --- |
| **1** | ***Working to Meet Expectations:*** Needs improvement; requires much assistance and supervision; rarely displays this behavior |
| **2** | ***Meets Expectations:***  Meets entry-level criteria; requires some supervision; often displays this behavior |
| **3** | ***Exceeds Expectations:*** Exceeds entry-level criteria; requires minimal supervision; consistently displays this behavior |

|  | **Employability Skills** | **Rating** | | | |
| --- | --- | --- | --- | --- | --- |
| **Competency and Rating Criteria** | | **Year One Evaluation Rating** | | | |
| **Initial** | **Mid Year 1** | **Mid Year 2** | **Final** |
| 1. Develops positive work relationships with others.   *Examples of qualities and habits that the employee might exhibit include . . .*   * Interacts with others with respect and in a non-judgmental manner * Responds to others in an appropriate and non-offensive manner * Helps co-workers and peers accomplish tasks or goals * Applies problem-solving strategies to improve relations with others * When managing others, shows traits such as compassion, listening, coaching, team development, and appreciation | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Communicates effectively with others   *Examples of qualities and habits that the employee might exhibit include . . .*   * Adjusts the communication approach for the target audience, purpose, and situation to maximize impact * Organizes messages/information in a logical and helpful manner * Speaks clearly and writes legibly * Models behaviors to show active listening * Applies what was read to actual practice * Asks appropriate questions for clarity | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Collaborates with others   *Examples of qualities and habits that the employee might exhibit include . . .*   * Works effectively in teams with people of diverse backgrounds regardless of sex, race, ethnicity, nationality, sexuality, religion, political views, and abilities * Shares responsibility for collaborative work and decision making * Uses the problem-solving process to work through differences of opinion in a constructive manner to achieve a reasonable compromise * Avoids contributing to an unproductive group conflict * Shares information and carries out responsibilities in a timely manner | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Maintains composure under pressure   *Examples of qualities and habits that the employee might exhibit include . . .*   * Uses critical thinking to determine the best options or outcomes when faced with a challenging situation * Carries out assigned duties while under pressure * Acts in a respectful, professional, and non-offensive manner while under pressure * Applies stress management techniques to cope under pressure | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Demonstrates integrity   *Examples of qualities and habits that the employee might exhibit include . . .*   * Carries out responsibilities in an ethical, legal and confidential manner * Responds to situations in a timely manner * Takes personal responsibility to correct problems * Models behaviors that demonstrate self-discipline, reliability, and dependability | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Performs quality work   *Examples of qualities and habits that the employee might exhibit include . . .*   * Carries out written and verbal directions accurately * Completes work efficiently and effectively * Performs calculations accurately * Conserves resources, supplies, and materials to minimize costs and environmental impact * Uses equipment, technology, and work strategies to improve workflow * Applies problem-solving strategies to improve productivity * Adheres to worksite regulations and practices * Maintains an organized work area | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Provides quality goods or services (internal and external)   *Examples of qualities and habits that the employee might exhibit include . . .*   * Shows support for the organizational goals and principles by own personal actions * Displays a respectful and professional image to customers * Displays an enthusiastic attitude and desire to take care of customer needs * Seeks out ways to increase customer satisfaction * Produces goods to workplace specifications | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Shows initiative and self-direction   *Examples of qualities and habits that the employee might exhibit include . . .*   * Prioritizes and carries out responsibilities without being told * Responds with enthusiasm and flexibility to handle tasks that need immediate attention * Reflects on any unsatisfactory outcome as an opportunity to learn * Improves personal performance by doing something different or differently * Analyzes how own actions impact the overall organization * Supports own action with sound reasoning and principles * Balances personal activities to minimize interference with work responsibilities | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Adapts to change   *Examples of qualities and habits that the employee might exhibit include . . .*   * Shows flexibility and willingness to learn new skills for various job roles * Uses problem-solving and critical-thinking skills to cope with changing circumstances * Modifies own work behavior based on feedback, unsatisfactory outcomes, efficiency, and effectiveness * Displays a "can do" attitude | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Demonstrates safety and security regulations and practices   *Examples of qualities and habits that the employee might exhibit include . . .*   * Follows personal safety requirements * Maintains a safe work environment * Demonstrates professional role in an emergency * Follows security procedures * Maintains confidentiality | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Applies job-related technology, information, and media   *Examples of qualities and habits that the employee might exhibit include . . .*   * Applies technology effectively in the workplace * Assesses and evaluates information on the job * Assesses training manuals, website, and other media related to the job | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Fulfills training or certification requirements for employment   *Examples of this requirement may include . . .*   * Participation in required career-related training and/or educational programs * Passing certification tests to qualify for licensure and/or certification * Participation in company training or orientation | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. Sets personal goals for improvement   *Examples of this requirement may include . . .*   * Setting goals that are specific and measurable * Setting work-related goals that align with the organization's mission * Identifying strategies to reach goals * Reflecting on goal progress to regularly evaluate and modify goals | | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |

# OCCUPATIONAL Competencies (TO BE COMPLETED BY yA EMPLOYER/MENTOR)

Youth apprentices must earn a rating of at least "MEETS EXPECTATIONS" in each competency by the conclusion of the apprenticeship. A total of 8 competencies, 7 must be from the list below. If necessary, employers can substitute one competency with another occupationally appropriate skill. That skill should be added to the competency list for assessment. **At least two evaluations are required each year of a youth apprenticeship.** More columns are included below for those who choose to conduct more frequent reviews.

|  |  |
| --- | --- |
| **1** | ***Working to Meet Expectations:*** Needs improvement; requires much assistance and supervision; rarely displays this behavior |
| **2** | ***Meets Expectations:***  Meets entry-level criteria; requires some supervision; often displays this behavior |
| **3** | ***Exceeds Expectations:*** Exceeds entry-level criteria; requires minimal supervision; consistently displays this behavior |

| **Occupational Competencies** | **Rating** | | | |
| --- | --- | --- | --- | --- |
| **Competency and Rating Criteria** | **Evaluation *Minimum Rating of 2 EACH Check Rating*** | | | |
| **Initial** | **Mid Year 1** | **Mid Year 2** | **Final** |
| 1. **Follow safety procedures working around aircrafts/aircraft etiquette**  * assess general work area safety * wear proper Personal Protective Equipment (PPE) * identify unsafe work area elements * assess aircraft support safety * identify trip hazards * identify fluid leaks on surfaces * walk in safe areas/identify security areas * report safety concerns/violations to supervisor * document use and/or maintenance * follow Federal Aviation Administration (FAA) regulations and technical documents | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. **Obtain required tools, equipment, and materials**  * determine procedure to be completed * select required tools, equipment, and materials * follow tool/equipment checkout procedures * verify tool/equipment is current for preventative maintenance and/or calibration * use tool for intended purpose | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. **Maintain work area**  * retrieve manuals * organize tools * sweep work area * put equipment away * clean work area * dispose of garbage and recyclables * return tools to proper location * notify supervisor of safety concerns or violations * complete service documentation | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. **Operate tools and equipment safely**  * operate only equipment trained on * verify tool/equipment is available for use and in working order * select safety equipment and personal protective equipment (PPE) * operate tool/equipment appropriate for the job task * operate tool/equipment without modification * monitor tool/equipment for safe operation while operating * shut down equipment when task is complete * notify employer if tool/equipment not operating as expected * document use and/or maintenance | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. **Use technical manuals and drawings** (blueprint reading)  * access electronic data system * select appropriate maintenance manual * obtain equipment and materials needed * follow safety and service procedures * identify work instructions for task * identify tools for work task on manual/drawing * identify job/task specifications * adhere to all maintenance regulations | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. **Perform preventative maintenance**  * obtain equipment and materials needed * follow safety and service procedures * remove aircraft panels * aid changing aircraft oil * replace wheel bearings * check safety wires * inspect ports * change spark plugs * change batteries * change lightbulbs * change air filters * service struts * cleanup work area * return tools to proper location * complete service documentation | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. **Perform preflight aircraft service**  * obtain equipment and materials needed * follow safety and service procedures * check fuel * fuel aircraft * check oil levels * check oxygen levels * check tire pressure * check light function * clean windshield * clean exterior of aircraft * perform visual inspection of brakes * perform visual inspection of wheels and tires * inspect exterior surfaces for corrosion * select proper cleaning solution for different materials * dispose of used hazardous materials * assist de-icing an aircraft * assist safe movement of aircraft (wing walking) * cleanup work area * return tools to proper location * complete service documentation | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| 1. **Assist with basic wiring**  * obtain equipment and materials needed * follow safety and service procedures * interpret wiring diagrams * use a multimeter * identify pins, connectors, and wire numbers * identify faulty wiring * assist with repair of wiring * install and secure wire harnesses * clean parts * cleanup work area * return tools to proper location * complete service documentation | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** | **1**  **2**  **3** |
| Competency Substitute (if you replaced a competency above, note the competency and rating) | **1**  **2**  3 | **1**  **2**  3 | **1**  **2**  3 | **1**  **2**  **3** |
| **Comments**: | | | | |

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