



# Aviation Maintenance Fundamentals

Youth Apprenticeship

## AVIATION MAINTENANCE FUNDAMENTALS

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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.

## OCCUPATIONAL COMPETENCIES

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Aviation Maintenance Fundamentals youth apprentices must complete a **total of 8** Aviation Maintenance Fundamentals competencies in year 1. Employers can substitute up to **1** competency with other occupationally appropriate skills. Substitutions must be added to the competency list for assessment. Note that where necessary, skills can be simulated.

Competencies
<ol style="list-style-type: none"><li>1. Follow safety procedures working around aircrafts/aircraft etiquette</li><li>2. Obtain required tools, equipment, and materials</li><li>3. Maintain work area</li><li>4. Operate tools and equipment safely</li><li>5. Use technical manuals and drawings (blueprint reading)</li><li>6. Perform preventative maintenance</li><li>7. Perform preflight aircraft service</li><li>8. Assist with basic wiring</li></ol>

## POST-SECONDARY PATHWAY OPPORTUNITIES

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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)



# Aviation Maintenance Fundamentals

Youth Apprenticeship

ON-THE-JOB LEARNING PERFORMANCE STANDARDS GUIDE

**(TO BE COMPLETED BY YA CONSORTIUM)**

## YOUTH APPRENTICE INFORMATION

Youth Apprentice Name	
YA Coordinator	YA Consortium
School District	High School Graduation Date

## REQUIREMENTS

### Level One Requirements

Youth apprentices must complete ALL the items listed below. Check completed areas.

- Competency checklist
- Employability Skills checklist (in this OJL Guide) or the DPI Employability Skills Certificate
- Related instruction equal to 1 high school credit or at least 3 college credits
- Minimum of 450 work hours

## HOURS

Record the hours the youth apprentice worked.

Total Hours Employed	Company Name	Telephone Number

## RELATED INSTRUCTION

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YEAR 1: Indicate which related instruction courses the youth apprentice completed. Check Dual Credit box if the youth apprentice is using the course to meet Career Preparation requirement.

Dual Credit	Course Number and Title	Credits	Instruction Provider
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			

## SIGNATURES

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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.

Employer/Mentor Signature	Employer/Mentor Signature
Employer/Mentor	Employer/Mentor
Business/Company	Business/Company
Date Signed	Date Signed
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 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)

Youth apprentices must demonstrate key employability skills.

The DWD YA program employability skills requirement may be attained and demonstrated through two processes. (See options listed below.) Employability skills must be completed for every year a student is in the program. The DPI Employability Skills Certificate may be counted as meeting one of those two years, provided the certificate is earned in the same year the student is enrolled in youth apprenticeship or they can complete the YA Employability Skills in the OJL. The Employability Skills Certificate must be obtained through the DPI.

1. If a student has successfully completed a Wisconsin Department of Public Instruction (DPI) State-Certified Cooperative Education, [Co-Op Employability Skill certification](#) then they have met the YA Employability Skills requirement for that year. A copy of the student's DPI Co-Op Employability Skill Certificate must be maintained on file with their YA regional consortium.

Earned Wisconsin Employability Skills Certificate (checked if applicable) or,

2. Completed and rated "Employability Skills" through this YA OJL guide as described below.

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

The following skills are required of all youth apprentices.

Employability Skills	Rating		
Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
1. Develops positive work relationships with others. <i>Examples of qualities and habits that the employee might exhibit include . . .</i> <ul style="list-style-type: none"> <li>• Interacts with others with respect and in a non-judgmental manner</li> <li>• Responds to others in an appropriate and non-offensive manner</li> <li>• Helps co-workers and peers accomplish tasks or goals</li> <li>• Applies problem-solving strategies to improve relations with others</li> <li>• When managing others, shows traits such as compassion, listening, coaching, team development, and appreciation</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Employability Skills	Rating		
Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
<p>2. Communicates effectively with others</p> <p><i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Adjusts the communication approach for the target audience, purpose, and situation to maximize impact</li> <li>• Organizes messages/information in a logical and helpful manner</li> <li>• Speaks clearly and writes legibly</li> <li>• Models behaviors to show active listening</li> <li>• Applies what was read to actual practice</li> <li>• Asks appropriate questions for clarity</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>3. Collaborates with others</p> <p><i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Works effectively in teams with people of diverse backgrounds regardless of sex, race, ethnicity, nationality, sexuality, religion, political views, and abilities</li> <li>• Shares responsibility for collaborative work and decision making</li> <li>• Uses the problem-solving process to work through differences of opinion in a constructive manner to achieve a reasonable compromise</li> <li>• Avoids contributing to an unproductive group conflict</li> <li>• Shares information and carries out responsibilities in a timely manner</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>4. Maintains composure under pressure</p> <p><i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Uses critical thinking to determine the best options or outcomes when faced with a challenging situation</li> <li>• Carries out assigned duties while under pressure</li> <li>• Acts in a respectful, professional, and non-offensive manner while under pressure</li> <li>• Applies stress management techniques to cope under pressure</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>5. Demonstrates integrity</p> <p><i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Carries out responsibilities in an ethical, legal and confidential manner</li> <li>• Responds to situations in a timely manner</li> <li>• Takes personal responsibility to correct problems</li> <li>• Models behaviors that demonstrate self-discipline, reliability, and dependability</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Employability Skills	Rating		
Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
<p>6. Performs quality work</p> <p><i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Carries out written and verbal directions accurately</li> <li>• Completes work efficiently and effectively</li> <li>• Performs calculations accurately</li> <li>• Conserves resources, supplies, and materials to minimize costs and environmental impact</li> <li>• Uses equipment, technology, and work strategies to improve workflow</li> <li>• Applies problem-solving strategies to improve productivity</li> <li>• Adheres to worksite regulations and practices</li> <li>• Maintains an organized work area</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>7. Provides quality goods or services (internal and external)</p> <p><i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Shows support for the organizational goals and principles by own personal actions</li> <li>• Displays a respectful and professional image to customers</li> <li>• Displays an enthusiastic attitude and desire to take care of customer needs</li> <li>• Seeks out ways to increase customer satisfaction</li> <li>• Produces goods to workplace specifications</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>8. Shows initiative and self-direction</p> <p><i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Prioritizes and carries out responsibilities without being told</li> <li>• Responds with enthusiasm and flexibility to handle tasks that need immediate attention</li> <li>• Reflects on any unsatisfactory outcome as an opportunity to learn</li> <li>• Improves personal performance by doing something different or differently</li> <li>• Analyzes how own actions impact the overall organization</li> <li>• Supports own action with sound reasoning and principles</li> <li>• Balances personal activities to minimize interference with work responsibilities</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Employability Skills	Rating		
Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
<p>9. Adapts to change <i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Shows flexibility and willingness to learn new skills for various job roles</li> <li>• Uses problem-solving and critical-thinking skills to cope with changing circumstances</li> <li>• Modifies own work behavior based on feedback, unsatisfactory outcomes, efficiency, and effectiveness</li> <li>• Displays a "can do" attitude</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>10. Demonstrates safety and security regulations and practices <i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Follows personal safety requirements</li> <li>• Maintains a safe work environment</li> <li>• Demonstrates professional role in an emergency</li> <li>• Follows security procedures</li> <li>• Maintains confidentiality</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>11. Applies job-related technology, information, and media <i>Examples of qualities and habits that the employee might exhibit include . . .</i></p> <ul style="list-style-type: none"> <li>• Applies technology effectively in the workplace</li> <li>• Assesses and evaluates information on the job</li> <li>• Assesses training manuals, website, and other media related to the job</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>12. Fulfills training or certification requirements for employment <i>Examples of this requirement may include . . .</i></p> <ul style="list-style-type: none"> <li>• Participation in required career-related training and/or educational programs</li> <li>• Passing certification tests to qualify for licensure and/or certification</li> <li>• Participation in company training or orientation</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>13. Sets personal goals for improvement <i>Examples of this requirement may include . . .</i></p> <ul style="list-style-type: none"> <li>• Setting goals that are specific and measurable</li> <li>• Setting work-related goals that align with the organization's mission</li> <li>• Identifying strategies to reach goals</li> <li>• Reflecting on goal progress to regularly evaluate and modify goals</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## OCCUPATIONAL COMPETENCIES

### (TO BE COMPLETED BY YA EMPLOYER/MENTOR)

Aviation Maintenance Fundamentals youth apprentices must complete a **total of 8** Aviation Maintenance Fundamentals competencies in year 1. Employers can substitute up to **1** competency with other occupationally appropriate skills. Substitutions must be added to the competency list for assessment. Note that where necessary, skills can be simulated.

#### Rating Scale

3: Exceeds entry level criteria | Requires minimal supervision | Consistently displays this behavior

2: Meets entry level criteria | Requires some supervision | Often displays this behavior

1: Needs improvement | Requires much assistance and supervision | Rarely displays this behavior

If any competencies are rated "1" on the final performance review checklist that is submitted to WI DWD it is considered a failed checklist.

Occupational Competencies	Rating		
	Minimum Rating of 2 for EACH		
	Check Rating		
Competency and Rating Criteria	1	2	3
<p><b>1. Follow safety procedures working around aircrafts/aircraft etiquette</b></p> <ul style="list-style-type: none"> <li>• assess general work area safety</li> <li>• wear proper Personal Protective Equipment (PPE)</li> <li>• identify unsafe work area elements</li> <li>• assess aircraft support safety</li> <li>• identify trip hazards</li> <li>• identify fluid leaks on surfaces</li> <li>• walk in safe areas/identify security areas</li> <li>• report safety concerns/violations to supervisor</li> <li>• document use and/or maintenance</li> <li>• follow Federal Aviation Administration (FAA) regulations and technical documents</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>2. Obtain required tools, equipment, and materials</b></p> <ul style="list-style-type: none"> <li>• determine procedure to be completed</li> <li>• select required tools, equipment, and materials</li> <li>• follow tool/equipment checkout procedures</li> <li>• verify tool/equipment is current for preventative maintenance and/or calibration</li> <li>• use tool for intended purpose</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Occupational Competencies	Rating		
Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
<p><b>3. Maintain work area</b></p> <ul style="list-style-type: none"> <li>• retrieve manuals</li> <li>• organize tools</li> <li>• sweep work area</li> <li>• put equipment away</li> <li>• clean work area</li> <li>• dispose of garbage and recyclables</li> <li>• return tools to proper location</li> <li>• notify supervisor of safety concerns or violations</li> <li>• complete service documentation</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>4. Operate tools and equipment safely</b></p> <ul style="list-style-type: none"> <li>• operate only equipment trained on</li> <li>• verify tool/equipment is available for use and in working order</li> <li>• select safety equipment and personal protective equipment (PPE)</li> <li>• operate tool/equipment appropriate for the job task</li> <li>• operate tool/equipment without modification</li> <li>• monitor tool/equipment for safe operation while operating</li> <li>• shut down equipment when task is complete</li> <li>• notify employer if tool/equipment not operating as expected</li> <li>• document use and/or maintenance</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>5. Use technical manuals and drawings (blueprint reading)</b></p> <ul style="list-style-type: none"> <li>• access electronic data system</li> <li>• select appropriate maintenance manual</li> <li>• obtain equipment and materials needed</li> <li>• follow safety and service procedures</li> <li>• identify work instructions for task</li> <li>• identify tools for work task on manual/drawing</li> <li>• identify job/task specifications</li> <li>• adhere to all maintenance regulations</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Occupational Competencies	Rating		
Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
<p><b>6. Perform preventative maintenance</b></p> <ul style="list-style-type: none"> <li>• obtain equipment and materials needed</li> <li>• follow safety and service procedures</li> <li>• remove aircraft panels</li> <li>• aid changing aircraft oil</li> <li>• replace wheel bearings</li> <li>• check safety wires</li> <li>• inspect ports</li> <li>• change spark plugs</li> <li>• change batteries</li> <li>• change lightbulbs</li> <li>• change air filters</li> <li>• service struts</li> <li>• cleanup work area</li> <li>• return tools to proper location</li> <li>• complete service documentation</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>7. Perform preflight aircraft service</b></p> <ul style="list-style-type: none"> <li>• obtain equipment and materials needed</li> <li>• follow safety and service procedures</li> <li>• check fuel</li> <li>• fuel aircraft</li> <li>• check oil levels</li> <li>• check oxygen levels</li> <li>• check tire pressure</li> <li>• check light function</li> <li>• clean windshield</li> <li>• clean exterior of aircraft</li> <li>• perform visual inspection of brakes</li> <li>• perform visual inspection of wheels and tires</li> <li>• inspect exterior surfaces for corrosion</li> <li>• select proper cleaning solution for different materials</li> <li>• dispose of used hazardous materials</li> <li>• assist de-icing an aircraft</li> <li>• assist safe movement of aircraft (wing walking)</li> <li>• cleanup work area</li> <li>• return tools to proper location</li> <li>• complete service documentation</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Occupational Competencies	Rating		
Competency and Rating Criteria	Minimum Rating of 2 for EACH Check Rating		
	1	2	3
<b>8. Assist with basic wiring</b> <ul style="list-style-type: none"> <li>• obtain equipment and materials needed</li> <li>• follow safety and service procedures</li> <li>• interpret wiring diagrams</li> <li>• use a multimeter</li> <li>• identify pins, connectors, and wire numbers</li> <li>• identify faulty wiring</li> <li>• assist with repair of wiring</li> <li>• install and secure wire harnesses</li> <li>• clean parts</li> <li>• cleanup work area</li> <li>• return tools to proper location</li> <li>• complete service documentation</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Competency Substitute</b> (if you replaced a competency above, note the competency and rating)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>			



# Post-Program Completion Survey

Youth Apprenticeship

## YA POST-PROGRAM COMPLETION SURVEY: EMPLOYER FEEDBACK

Employers complete the following information. YA Coordinators will enter this into the Post-Program Completion Survey.

YA Employer Post-Program Completion Questions	
Will you offer or have you offered the Youth Apprentice a continuing position with your company?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If continuing position offered to youth apprentice, did they accept?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>If yes, please answer the questions below:</b>	
Was the offer for full time or part time work?	<input type="checkbox"/> Full-time <input type="checkbox"/> Part-time
Title of the position offered:	
What is the wage of the continuing employment offer?	
If applicable, will the youth apprentice advance to a Registered Apprenticeship?	

## YA POST-PROGRAM COMPLETION SURVEY: COMPLETED BY YA CONSORTIUM

The [Post-Program Completion Survey](#) form is to be provided to each student completing the Youth Apprenticeship program to capture information on the student's plans after leaving the program. This **form should be completed by the Youth Apprenticeship Coordinator** to capture information from all high school seniors and their employers after successful completion of the Youth Apprenticeship Program.

The form should be completed during the final meeting between the student, mentor, and Youth Apprenticeship Coordinator, when the final checklist or On-the-Job Learning (OJL) Guide is filled out and signed. Information captured on this form must be entered online using the Youth Apprenticeship Online Data Application (YODA) System.

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DWD is an equal opportunity employer and service provider. If you have a disability and need assistance with this information, please dial 7-1-1 for Wisconsin Relay Service. Please contact the Division of Employment and Training at 888-258-9966 and press 6 to request information in an alternate format, including translated to another language.

