



Manufacturing Skill Standards Checklist

Student Name	School District
YA Coordinator	YA Consortium
High School Graduation Date	

Certification Areas Completed:

Required Skills - For EACH Pathway

Check completed areas

- Core Skills
- Safety
- Manufacturing Fundamentals

Manufacturing Pathways

Production Pathways

- Assembly & Packaging
- Casting
- Conditioning
- Filling
- Finishing
- Forming
- Joining/Combining
- Molding
- Separating
- Machining- Grinder
- Machining- Lathe
- Machining- Machine Center

Production Operations Management Pathway

- Production Control and Quality Management

Level One Requirements:

- Students must complete ALL listed below

- Required Skills
- Minimum of ONE** Pathway
- Minimum of 2 semesters related instruction
- Minimum of 450 work hours

Level Two Requirements:

- Students must complete all listed below

- Required Skills for EACH pathway
- Minimum of TWO** Pathways
- Minimum of 4 semesters related instruction
- Minimum of 900 work hours

Total Hours Employed	Company Name	Telephone Number

Instructions for the Worksite Mentor(s) and Instructor(s)

The Skill Standards Checklist is a list of the competencies (tasks) to be achieved through mentoring at the worksite.

- The worksite mentor should rate each competency as the student acquires and demonstrates the skill **according to the performance criteria**.
- A competency may be revisited and the score raised as the student becomes more proficient at the worksite.
- The mentor and student should go over this checklist together on a regular basis to record progress and plan future steps to complete the required competencies.

CERTIFICATION: I certify that this student has successfully completed the competencies required in my department. Circle your YA role, sign and print your name, and complete with the date and the name of your department.

SIGN this page IF you have been a mentor, trainer, or instructor of this student

Mentor/Trainer/Instructor Signature	Mentor/Trainer/Instructor Signature
Printed Name	Printed Name
Department	Department
Date Signed	Date Signed

Mentor/Trainer/Instructor Signature	Mentor/Trainer/Instructor Signature
Printed Name	Printed Name
Department	Department
Date Signed	Date Signed

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Printed Name	Printed Name
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Operational Program Notes for Skill Standards Checklist

1. Manufacturing Youth Apprenticeship Curriculum

- Definitions:
 - Competency- The worksite skill to be performed
 - Performance Standards- HOW the worksite will assess skill performance
 - Learning Objectives- Content knowledge to learn these skills; may be taught by the employer, school district and/or technical college.
 - Skill Standards Checklist- The documented list of competencies completed by the YA student
- Performance Standards & Learning Objectives are located in the **Program Guide for this Youth Apprenticeship**.

2. ALL Youth Apprentices **MUST** complete the Required Skills (Core Skills, Safety, and Manufacturing Fundamentals) competencies **for EACH Pathway** they are enrolled in.

- The Required Skills competencies may be completed concurrently with the Manufacturing Pathway process technical competencies.
- The Required Skills are common skills specific to all manufacturing sub-sectors. These skills are *aligned with* the National States' Career Clusters standards for Manufacturing and the Manufacturing Skill Standards Council (MSSC).

3. Youth Apprenticeship choices (depending on job placement)

- Worksites can be chosen from any number of the manufacturing SUB-INDUSTRIES such as:
Chemical, Computers & Electronic, Electrical Equipment & Appliances, Food & Beverage, Furniture, Machine, Non-Metallic Minerals, Petroleum & Coal Products, Plastic & Rubber Production, Primary & Fabricated Metals, Printing, Textiles, Apparel & Leather, Transportation, Wood; or

PROCESSING any variety of manufacturing MATERIALS such as:

Metals (Ferrous, Non-Ferrous, Powdered), Polymers (Wood, Textiles, Leather, Plastic, Elastomer), Ceramics (Clay, Sand, Rock), Composites, Chemicals, Finishes (Wood Finishes, Metal Finishes), Fossil Fuels ((Natural Gas, Crude Oil, Coal), Food & Beverage; and

AS LONG AS the competencies related to that SUB-INDUSTRY and MATERIAL are allowable by DWD Child Labor Laws. Contact the Department of Workforce Development's Equal Rights Division/Labor Standards Bureau at 608-266-6860 for questions regarding child labor laws.

- Students will complete a MINIMUM of one Manufacturing pathway for a Level One Manufacturing YA and a MINIMUM of two Manufacturing pathways for a Level TWO Manufacturing YA.
- The DWD Occupational Certificate will indicate "Manufacturing – plus the Name of Manufacturing Specific Pathway Process(es)" attained when the program is completed.

4. Competency Ratings

- Rate the student on the competencies regularly and revisit the competencies with the student periodically to offer the opportunity for an improved rating
- Arrangements must be made to ensure that the student learns, practices, AND performs each competency **even if** that competency is not part of their regular job function
- "Entry Level" criteria should be interpreted to mean "able to do the task satisfactorily."

Required Skills

Required of ALL Manufacturing YA Students

Copy this page FOR EACH pathway to be completed

Core Skills

	Circle rating MINIMUM of 2 for EACH		
1. Apply math and science	1	2	3
2. Communicate effectively	1	2	3
3. Cooperate with others in a team setting	1	2	3
4. Act professionally	1	2	3
5. Think critically	1	2	3
6. Exhibit legal & ethical responsibilities	1	2	3
7. Use technology	1	2	3

Safety

	Circle rating MINIMUM of 2 for EACH		
1. Follow personal safety requirements	1	2	3
2. Maintain a safe work environment	1	2	3
3. Demonstrate professional role in an emergency	1	2	3

Manufacturing Fundamentals

	Circle rating MINIMUM of 2 for EACH		
1. Focus on customer needs	1	2	3
2. Interpret technical drawings	1	2	3
3. Measure using various instruments	1	2	3
4. Operate tools and equipment safely	1	2	3
5. Ensure materials & products meet quality specification	1	2	3

Additional Comments:

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 & supervision/Rarely displays behavior

Manufacturing Pathways

- Choose a **MINIMUM** of **ONE** pathway for a **Level One** YA
- Choose a **MINIMUM** of **TWO** pathways for a **Level Two** YA
- The DWD Occupational Certificate will indicate “Manufacturing _____ [NAME of Manufacturing Specific Pathway Process(es)]” attained when the program is completed.

Production Pathways

1. **Assembly & Packaging**
2. **Casting**
Examples: Metal, Sand, Die, Plaster, Slush, Static, Centrifugal, Continuous
3. **Conditioning**
Examples: Heat Treating, Annealing, Hardening, Tempering
4. **Filling**
Examples: Aseptic, Canning, Bottling
5. **Finishing**
Examples: Barrel, Sanding, Deburring, Buffing, Brushing, Polishing, Electropolishing, Chemical cleaning, Ultrasonic cleaning, Vapor degreasing, Painting, Coating, Dipping, Electroplating, Engraving, Plating
6. **Forming**
Examples: Forging, Open/Closed Die, Rolling, Extrusion, Pressing, Blanking, Punching, Drawing, Bending, Piercing, Shearing
7. **Joining/Combining**
Examples: Welding, Brazing, Soldering, Sintering, Adhesive Bonding, Thermosetting, Fastening, Stitching, Stapling, Press-Fitting, Chemical
8. **Molding**
Examples: Powder Compaction, Sintering, Injection, Blow, Liquid Resin, Thermoforming, Extrusion, Foam, Vacuum forming, Compression, Shrink filling
9. **Separating**
Examples: Centrifuging, Filtration, Pressing, Distillation, Evaporation, Fractionalization, Chemical
10. **Machining- Grinder**
11. **Machining- Lathe**
12. **Machining- Machine Center**
Examples: Milling, Turning, Drilling, Sawing, Broaching, Planing, Shaping, Sharpening, Routing, Ultrasonic, Electrical Discharge, Chemical, Laser, Waterjet

Production Operations Management Pathway

1. **Production Control and Quality Management**

Production Pathway

Assembly & Packaging

	Circle Rating		
	MINIMUM of 2 for EACH		
1. Identify set up for assembly	1	2	3
2. Select tools and materials	1	2	3
3. Check safety parameters	1	2	3
4. Perform assembly set up	1	2	3
5. Verify assembly set up	1	2	3
6. Perform assembly	1	2	3
7. Perform quality checks	1	2	3
8. Build packaging	1	2	3
9. Package product	1	2	3
10. Process packaging documentation	1	2	3
11. Clean up	1	2	3

MAINTENANCE & REPAIR

	Circle Rating		
	MINIMUM of 2 for EACH		
1. Monitor equipment for correct operation	1	2	3
2. Assist with the identification and diagnosis of equipment problems	1	2	3
3. Perform routine preventative maintenance	1	2	3
4. Assist with routine repair maintenance	1	2	3
5. Assist with maintenance communication	1	2	3

Additional Comments:

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 & supervision/Rarely displays behavior

Production Pathway

Check the appropriate Process.

Copy this page if competency is to be achieved in more than one of the following processes.

- Casting
- Conditioning
- Filling
- Finishing

- Forming
- Joining/Combining
- Molding
- Separating

	Circle Rating		
	MINIMUM of 2 for EACH		
1. Identify set up	1	2	3
2. Select tools and materials	1	2	3
3. Check safety parameters	1	2	3
4. Perform set up	1	2	3
5. Verify set up	1	2	3
6. Perform start up	1	2	3
7. Operate equipment	1	2	3
8. Monitor product and process	1	2	3
9. Process documentation	1	2	3
10. Shutdown process	1	2	3
11. Clean up	1	2	3

MAINTENANCE & REPAIR

	Circle Rating		
	MINIMUM of 2 for EACH		
1. Monitor equipment for correct operation	1	2	3
2. Assist with the identification and diagnosis of equipment problems	1	2	3
3. Perform routine preventative maintenance	1	2	3
4. Assist with routine repair maintenance	1	2	3
5. Assist with maintenance communication	1	2	3

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Production Pathway

Machining - Grinder

	Circle Rating MINIMUM of 2 for EACH		
1. Identify set up	1	2	3
2. Select tools and materials	1	2	3
3. Check safety parameters	1	2	3
4. Perform set up	1	2	3
5. Verify set up	1	2	3
6. Perform start up	1	2	3
7. Operate equipment	1	2	3
8. Monitor machining product and process	1	2	3
9. Process documentation	1	2	3
10. Shutdown machining process	1	2	3
11. Clean up	1	2	3
12. Use hand tools	1	2	3
13. Use CNC Equipment	1	2	3

Maintenance & Repair

	Circle Rating MINIMUM of 2 for EACH		
1. Monitor equipment for correct operation	1	2	3
2. Assist with the identification and diagnosis of equipment problems			
3. Perform routine preventative maintenance	1	2	3
4. Assist with routine repair maintenance	1	2	3
5. Assist with maintenance communication	1	2	3

Additional Comments:

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Production Pathway

Machining - Lathe

	Circle Rating MINIMUM of 2 for EACH		
1. Identify set up	1	2	3
2. Select tools and materials	1	2	3
3. Check safety parameters	1	2	3
4. Perform set up	1	2	3
5. Verify set up	1	2	3
6. Perform start up	1	2	3
7. Operate equipment	1	2	3
8. Monitor machining product and process	1	2	3
9. Process documentation	1	2	3
10. Shutdown machining process	1	2	3
11. Clean up	1	2	3
12. Use hand tools	1	2	3
13. Use CNC Equipment	1	2	3

Maintenance & Repair

	Circle Rating MINIMUM of 2 for EACH		
1. Monitor equipment for correct operation	1	2	3
2. Assist with the identification and diagnosis of equipment problems			
3. Perform routine preventative maintenance	1	2	3
4. Assist with routine repair maintenance	1	2	3
5. Assist with maintenance communication	1	2	3

Additional Comments:

Rating Scale:

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Production Pathway

Machining - Machine Center

	Circle Rating MINIMUM of 2 for EACH		
1. Identify set up	1	2	3
2. Select tools and materials	1	2	3
3. Check safety parameters	1	2	3
4. Perform set up	1	2	3
5. Verify set up	1	2	3
6. Perform start up	1	2	3
7. Operate equipment	1	2	3
8. Monitor machining product and process	1	2	3
9. Process documentation	1	2	3
10. Shutdown machining process	1	2	3
11. Clean up	1	2	3
12. Use hand tools	1	2	3
13. Use CNC Equipment	1	2	3

Maintenance & Repair

	Circle Rating MINIMUM of 2 for EACH		
1. Monitor equipment for correct operation	1	2	3
2. Assist with the identification and diagnosis of equipment problems	1	2	3
3. Perform routine preventative maintenance	1	2	3
4. Assist with routine repair maintenance	1	2	3
5. Assist with maintenance communication	1	2	3

Additional Comments:

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Production Operations Management Pathway

Production Control

	Circle Rating MINIMUM of 2 for EACH		
1. Assist in purchasing materials and supplies	1	2	3
2. Distribute materials and products to customers	1	2	3
3. Manage inventory	1	2	3
4. Assist with resource planning	1	2	3
5. Assist with financial management	1	2	3

Quality Management

	Circle Rating MINIMUM of 2 for EACH		
1. Analyze production processes	1	2	3
2. Calibrate tools and instruments	1	2	3
3. Monitor operations for product and process quality	1	2	3
4. Take corrective action to restore or maintain quality	1	2	3
5. Participate in quality and continuous improvement processes	1	2	3

Additional Comments:

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- 1 = Needs improvement/Requires much assistance & supervision/Rarely displays behavior

Additional Certifications, Training, Seminars and Projects

Please list in detail any additional certifications earned, any training and seminars attended, and/or any projects completed during the course of the Manufacturing Youth Apprenticeship.

Description		
Notes/Comments		
Date Completed	Signature	Date Signed

Description		
Notes/Comments		
Date Completed	Signature	Date Signed

Description		
Notes/Comments		
Date Completed	Signature	Date Signed

Other Notes or Comments		
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