

Industrial Education-Small engines and Benchmarks-Related Standards

Standards

1. Understand the basic procedures involved with small engines.
2. Demonstrate skill in analysis and care of the small engines.
3. Perform basic functions of engine care.

	Understand the basic procedures involved with small engines.	Demonstrate skill in analysis and care of the small engines	Perform basic functions of engine care.
Small engine overhaul	<ol style="list-style-type: none"> 1. Apply shop and equipment safety Rules. (G) 2. Demonstrate use of measuring devices. (MC),(GF) 3. Demonstrate proper care and use of hand and power tools. 	<ol style="list-style-type: none"> 1. Inspect and identify the parts of a small engine. (c) 	<ol style="list-style-type: none"> 1. Remove and replace engine. (c) 2. Disassemble and reassemble an engine. (c) 3. Replace worn out or broken parts (c)

Industrial Education-Construction Benchmarks-Related Standards

Standards

1. Understand the basic safety and safety operation procedures necessary for a construction project.
2. Understand the basic knowledge required building a project.
3. Understand basic sequence of procedures for a project.
4. Understand the process for finishing a project.

	Understand the basic safety and safety operation procedures necessary for a construction project	Understand the basic knowledge required building a project.	Understand basic sequence of procedures for a project	Understand the process for finishing a project.
Adv. Woodworking bm	<ol style="list-style-type: none"> 1. Comply with shop and equipment safety rules. 	<ol style="list-style-type: none"> 1. Cut material to specified dimensions 	<ol style="list-style-type: none"> 3. Explain the cost of doing a job to include 	<ol style="list-style-type: none"> 1. Explain the proper procedures for preparing a surface for

	<p>(G)</p> <p>2. Inspect workplaces for safe working environment and report unsafe conditions.</p> <p>3. Correct safety hazards.</p> <p>4. Clean and maintain work area and leave in safe condition.</p> <p>(MC),(GF)</p> <p>5. Follow tool checkout and maintenance procedures including reporting failures.</p>	<p>and shape.</p> <p>2. Install and remove fasteners properly (i.e., nails, screws, and anchor bolts).</p> <p>3. Measure and compute using fractions and decimals.</p> <p>(G)</p> <p>4. Measure accurately and use the following instruments; ruler, tape measure, chalk line, level, and square.</p> <p>(G)</p>	<p>labor, tools, materials and overhead and their relationship to profit.</p> <p>(C)</p> <p>4. Compute the quantity of commonly used materials needed for a job (i.e., area, cubic area, and linear measurement).</p> <p>(C)</p>	<p>finishing.</p> <p>2. Identify different types of interior finishes.</p>
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Industrial Education-Engineering and Benchmarks-Related Standards

1. Understands and used basic drafting techniques.
2. Use computer and peripheral devices to aid in the documentation for design projects.
3. Apply technical drawing skills to actual projects.

	Understands and used basic draft techniques.	Use computer and peripheral dev the documentation for design pro	Apply technical drawing skills to actual projects.
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<p>Architecture CAD</p>	<ol style="list-style-type: none"> 5. Reproduce drawings 6. Prepare drawings/designs using appropriate media (C) 13. Freehand sketch orthographic and Pictorial views. 14. Apply basic dimensioning. (G) 19. Use drafting references and Standards 20. Identify common manufacturing and construction materials. (C) 	<ol style="list-style-type: none"> 1. Demonstrate basic CAD operation 2. Demonstrate proper care and maintenance of CAD equipment and software. 3. Demonstrate proficiency in creating two-dimensional CAD drawings. 4. Demonstrate proficiency in three-dimensional CAD drawing 	<ol style="list-style-type: none"> 8. Construct an architectural presentation drawing with site plan 9. Construct various section and detail drawings. 10. Construct interior and exterior Elevation drawings. 11. Construct framing plans. 12. Develop, construct and dimension a residential floor plan layout. 13. Construct foundation/basement plan. 14. Prepare window, door and finish schedules. 15. Construct a building perspective drawing. 16. Construct drawings of electrical diagrams. 17. Prepare a building material list. 18. Construct drawings for heating, ventilation, and air conditioning 19. Prepare drawings for plumbing fixtures and piping layout. <p>A. All are career Education (C)</p>
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	Understands and used basic draft techniques.	Use computer and peripheral dev the documentation for design pro	Apply technical drawing skills to actual projects.
Mechanical CAD	<ol style="list-style-type: none"> 5. Reproduce drawings 6. Prepare drawings/designs using appropriate media 9. Construct perpendicular and parallel lines 10. Construct geometric shapes 11. Construct drawings of tangent lines arcs, and ellipses. 12 Draw orthographic views and transfer features. 4. Apply basic dimensioning. (G) 5. Construct basic sectional views 6. Construct axonometric, oblique And one and two point perspective 7. Construct drawings of primary and secondary auxiliary views. 8. Solve mathematical problems. 9. Use drafting references and standards. (G) 10. Identify common manufacturing and construction materials. (C) 11. Identify and select types of fasteners, bearings, seals, springs, springs, keyways, and piping. 22. Construct object intersections and developments. 23. Identify appropriate manufacturing processes. 	<ol style="list-style-type: none"> 5. Demonstrate basic CAD operations . (G) 6. Demonstrate proper care and maintenance of CAD equipment and software. (MC),(GF) 7. Demonstrate proficiency in creating two-dimensional CAD drawings. 8. Demonstrate proficiency in three-dimensional CAD drawings. 9. Demonstrate proficiency in creating three-dimensional CAD drawings. 	<ol style="list-style-type: none"> 1. Construct keyway and keyseat drawing. 2. Construct spline and gear drawings. 3. Construct cam and follower drawings. 4. Construct fastener head drawings. 5. Construct schematic and simplified thread drawings. 6. Interpret and construct welded assembly drawings. 7. Construct casting drawings. 8. Construct drawings of molded plastic parts. 9. Construct sheet metal or flat pattern drawings. 10. Construct exploded and orthographic assembly drawings. 19. Construct drawings of electrical Diagrams.

	<p>(C)</p> <p>24. Use precision measuring instruments. (G)</p> <p>25. Calculate tolerances and fits.</p> <p>26. Construct and interpret geometric d and tolerancing symbols.</p> <p>27. Read and interpret a variety of drawings. (C)</p>		
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Industrial Education-Engineering and Benchmarks-Related Standards

1. Understands and used basic drafting techniques.
2. Use computer and peripheral devices to aid in the documentation for design projects.
3. Apply technical drawing skills to actual projects.

	Understands and used basic drafting techniques.	Use computer and peripheral devices to documentation for design projects.	Apply technical drawing skills to actual projects.
Drawing 1	<p>1. Use and maintain basic manual drafting equipment and machines.</p> <p>2. Use architect metric, civil, and mechanical engineer's scales and demonstrate with technique. (G),(GF)</p> <p>3. Identify and draw the various line types.</p> <p>7. Perform basic geometric constructions</p> <p>20. Construct and bisect lines, arcs, and ellipses</p> <p>21. Construct perpendicular and parallel lines.</p> <p>22. Construct geometric shapes(e.g., pentagon, hexagon, octagon)</p> <p>12. Draw orthographic views and transfers features.</p> <p>13. Freehand sketch orthographic and pictorial views (C)</p> <p>14. Apply basic dimensioning techniques.</p>		

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Industrial Education-Woodworking I and Benchmarks-Related Standards

Standards

5. Understand the basic safety and safety operation procedures necessary for a construction project.
6. Understand the basic knowledge required building a project.
7. Understand basic sequence of procedures for a project.
8. Understand the process for finishing a project.

	Understand the basic safety and safety operation procedures necessary for a construction project.	Understand the basic knowledge required building a project.	Understand basic sequence of procedures for a project.	Understand the process for finishing a project
Wood 1	<ol style="list-style-type: none"> 1. Comply with shop and equipment safety rules. (G) 2. Inspect workplaces for safe working environment and report unsafe conditions. (MC),(GF) 3. Correct safety hazards. 4. Clean and maintain work area and leave in safe condition. 5. Follow tool checkout and maintenance 	<ol style="list-style-type: none"> 1. Cut material to specified dimensions and shape. (GF),(MC) 2. Install and remove fasteners properly (i.e., nails, screws, and anchor bolts). 3. Measure and compute using fractions and decimals. 4. Measure accurately and use the following instruments; ruler, tape measure, chalk 	<ol style="list-style-type: none"> 3. Explain the cost of doing a job to include labor, tools, materials and overhead and their relationship to profit. (C) 4. Compute the quantity of commonly used materials needed for a job (i.e., area, cubic area, and linear measurement). (C),(G) 	<ol style="list-style-type: none"> 2. Explain the proper procedures for preparing a surface for finishing. 2. Identify different types of interior finishes.

	procedures including reporting failures.	line, level, and square		
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Industrial Education-Welding - Benchmarks-Related Standards

Standards

1. Understand the basic safety and safety operating procedures necessary for welding.
2. Understand the basic knowledge required welding.
3. Operate both gas welder and arc welder.

	Understand the basic safety and safety operating procedures necessary for welding	Understand the basic knowledge required welding	Operate both gas welder and arc welder
Welding	<ol style="list-style-type: none"> 1. Identify safety rules used for welding. (GF),(MC) 	<ol style="list-style-type: none"> 1. Operate the gas welder. (c) 2. Operate the arc welder. (c) 3. Operate the wire feed welder. (C) 	<ol style="list-style-type: none"> 4. Weld six gas welding joints correctly. 5. Braze four welding joints correctly. 3. Arc welds five joints correctly.