Southmoreland School District
Curriculum Framework

Course	Industrial Wood I-3 Day
Unit	Unit 1: Safety, Tools, and Materials

Standards

- 13.1.12.C: Demonstrate safety practices in a woodshop environment.
- 13.3.12.A: Understand and apply tools and technologies to create wood products.
- 13.3.12.D: Use measurement, math, and geometry skills to complete projects.
- 3.4.12.A: Analyze and apply appropriate materials for design and construction.
- 3.1.12.A: Understand properties of materials and their applications.
- 3.2.12.C: Apply measurement, geometry, and design principles in technical projects.

Essential Questions

- Why is safety the foundation of all woodworking?
  How do you select and maintain tools for specific wood tasks?
- What characteristics define different wood types and materials?

Skills/Competencies

- Apply and enforce safety rules and proper PPE use.
- Identify, select, and maintain common woodworking tools.
- Differentiate wood types and select appropriate materials.
- Use tools safely and effectively for specific tasks.
- Properly use fasteners and adhesives for joining wood.

Key Vocabulary

- PPE (Personal Protective Equipment)
- Power tools and hand tools
- Hardwood and softwood
- Tool maintenance
- Fasteners (nails, screws, adhesives)

Related Misconceptions

- Safety slows down work.
- One tool fits all jobs.
- Softwoods are always weak.

Course	Industrial Wood I-3 Day
Unit	Unit 2: Measurement, Layout, and Joinery Techniques

Standards

- 13.1.12.C: Demonstrate safety practices in a woodshop environment.
- 13.3.12.A: Understand and apply tools and technologies to create wood products.
- 13.3.12.D: Use measurement, math, and geometry skills to complete projects.
- 3.4.12.A: Analyze and apply appropriate materials for design and construction.
- 3.1.12.A: Understand properties of materials and their applications.
- 3.2.12.C: Apply measurement, geometry, and design principles in technical projects.

Essential Questions	Skills/Competencies
• How does precision affect woodworking outcomes? • What measurement and layout tools ensure accuracy? • How do various joinery techniques impact strength and design?	• Execute precise measurement and layout for woodworking projects. • Use geometry principles to plan cuts and angles. • Construct common joinery types safely and effectively. • Apply adhesives and mechanical fasteners properly. • Evaluate joint quality and adjust as needed.

Key Vocabulary	Related Misconceptions
• Precision, tolerance • Square, level, angle • Butt joint, dovetail, mortise and tenon • Adhesives and mechanical fasteners	• Close enough" is good enough for measurements. • All joints are equally strong. • Glue alone is enough for joining.

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Course	Industrial Wood I-3 Day
Unit	Unit 3: Wood Finishing and Machine Operation

Standards

- 13.1.12.C: Demonstrate safety practices in a woodshop environment.
- 13.3.12.A: Understand and apply tools and technologies to create wood products.
- 13.3.12.D: Use measurement, math, and geometry skills to complete projects.
- 3.4.12.A: Analyze and apply appropriate materials for design and construction.
- 3.1.12.A: Understand properties of materials and their applications.
- 3.2.12.C: Apply measurement, geometry, and design principles in technical projects.

Essential Questions	Skills/Competencies
• How do surface treatments protect and beautify wood? • What are the best practices for finishing techniques? How do safe machine operation and maintenance affect production?	• Prepare wood surfaces and apply appropriate finishes. • Demonstrate brush and spray finishing techniques. • Operate woodworking machinery safely and efficiently. • Perform routine machine maintenance and troubleshooting. • Follow lockout/tagout procedures during maintenance.

Key Vocabulary	Related Misconceptions
• Sanding, stain, varnish, sealant • Brush and spray application • Table saw, planer, jointer • Maintenance schedule, lockout/tagout	• Finishing is only for aesthetics. • One coat of finish is sufficient. • Machines do the work; operator skill is minimal.

Course	Industrial Wood I-3 Day
Unit	Unit 4: Project Management, Production, and Career Exploration

Standards

- 13.1.12.C: Demonstrate safety practices in a woodshop environment.
- 13.3.12.A: Understand and apply tools and technologies to create wood products.
- 13.3.12.D: Use measurement, math, and geometry skills to complete projects.
- 3.4.12.A: Analyze and apply appropriate materials for design and construction.
- 3.1.12.A: Understand properties of materials and their applications.
- 3.2.12.C: Apply measurement, geometry, and design principles in technical projects.

Essential Questions	Skills/Competencies
• How do planning and management improve woodworking projects? • What are the key factors in budgeting and quality control? • What career paths exist in woodworking and how can technology be leveraged?	• Develop project plans with timelines and resource management. • Estimate project costs and manage budgets. • Implement quality control throughout production. • Research woodworking careers and industry trends. • Use basic CAD/CNC technology concepts. • Create a personal career and lifelong learning plan.

Key Vocabulary	Related Misconceptions
• Workflow, project timeline, budgeting • Quality control, inventory management CNC machining, CAD, sustainable forestry • Apprenticeships, continuing education	• Planning is unnecessary for small projects. • Cost is unrelated to design decisions. Woodworking careers are manual labor only.

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