Course	Industrial Wood I-6 Day
Unit	Unit 1: Introduction to Industrial Wood Technology & Safety

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**
• Why is safety crucial in the woodshop environment? • What are the basic tools and materials used in industrial wood technology? • How do we plan a project from start to finish?	• Safety equipment slows me down and isn't necessary. • Woodworking tools are all dangerous and shouldn't be used without extreme caution. • Measuring once is enough for precise cuts.

Key Vocabulary	**Related Misconceptions**
• PPE (Personal Protective Equipment) • Tool safety • Grain direction • Measuring tools (tape measure, caliper) • Blueprint reading	• Safety equipment slows me down and isn't necessary. • Woodworking tools are all dangerous and shouldn't be used without extreme caution. • Measuring once is enough for precise cuts.

Course	Industrial Wood I-6 Day
Unit	Unit 2: Tools, Equipment, 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	Skills/Competencies
• How do different tools function and when should each be used? • What are the common types of wood and their characteristics? • How does tool maintenance affect project quality and safety?	• Identify and select appropriate tools for specific woodworking tasks. • Demonstrate safe operation of common power and hand tools. • Distinguish between hardwoods and softwoods based on properties. • Perform routine maintenance and cleaning of tools. • Select and use appropriate fasteners for joining wood pieces.

Key Vocabulary	Related Misconceptions
• Power tools (saws, drills, sanders) • Hand tools (chisels, planes, clamps) • Hardwood vs. softwood • Tool calibration • Fasteners (nails, screws, adhesives)	• One tool can do every job effectively. • Softwoods are always weak and hardwoods are always strong. • "Tool maintenance is optional if the tool looks fine

Southmoreland School District
Curriculum Framework

Course	Industrial Wood I-6 Day
Unit	Unit 3: Measurement, Layout, and Design Principles

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
• Why is accuracy important in woodworking? • How do geometry and math influence design and construction? • How can effective layout prevent waste?	• Apply precise measurement techniques using squares, levels, and protractors. • Use geometry concepts to calculate angles and dimensions. • Develop and interpret scale drawings and project layouts. • Create an accurate bill of materials for a project. • Demonstrate proper marking and layout of wood pieces before cutting.

Key Vocabulary	Related Misconceptions
• Precision and tolerance • Square and level • Angles (90°, 45°) • Scale drawing • Bill of materials	• Close enough measurements won't affect the final product. • Geometry doesn't really apply outside of math class. • Layout is unnecessary if you follow the plan exactly.

Course	Industrial Wood I-6 Day
Unit	Unit 4: 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
• What are the different types of wood joints, and when should each be used? • How do joints contribute to the strength and aesthetics of a project? • What are common issues when joining wood?	• Demonstrate the preparation and construction of various wood joints. • Select appropriate joinery techniques for project requirements. • Apply adhesives and mechanical fasteners correctly. Assess joint quality and make necessary adjustments. • Use hand and power tools to execute joinery safely and precisely.

Key Vocabulary	Related Misconceptions
• Butt joint • Dovetail joint • Mortise and tenon • Lap joint • Adhesives and mechanical fasteners	• All joints are equally strong." • "Glue alone is enough for a strong joint." • "Visible joints always mean poor craftsmanship."

Southmoreland School District
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Course	Industrial Wood I-6 Day
Unit	Unit 5: Wood Finishing and Surface Treatment

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 different finishes protect and enhance wood products? • What factors affect finish choice? • How do surface preparation and finishing techniques influence the final look?	• Prepare wood surfaces using sanding and cleaning techniques. • Select and apply appropriate finishes for protection and aesthetics. • Demonstrate brushing and spraying techniques for even finish application. • Identify problems in finishing and apply corrective measures. • Evaluate the durability and appearance of finishes over time.

Key Vocabulary	**Related Misconceptions**
• Sanding • Stain • Varnish • Sealant • Brush and spray application	• Finishing is only for appearance, not protection. • One coat of finish is sufficient. • Any finish works the same on all woods.

Southmoreland School District
Curriculum Framework

Course	Industrial Wood I-6 Day
Unit	Unit 6: Machine Operation and Maintenance

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
• What are the safe operating procedures for woodworking machinery? • How does regular maintenance impact tool longevity and safety? • How can troubleshooting help prevent downtime?	• Identifying characteristics of various music genres and styles. • Exploring the evolution and influence of different genres.

Key Vocabulary	Related Misconceptions
• Table saw • Planer • Jointer • Maintenance schedule Lockout/tagout procedures	• Machines do all the work; operator skill is not important. • Maintenance can be skipped if the machine works fine. • Troubleshooting requires a professional every time.

Course	Industrial Wood I-6 Day
Unit	Unit 7: Project Management and Production

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 you plan, schedule, and execute a wood project efficiently? What are cost factors in production? • How do quality control and inspection ensure project success?	• Develop project plans including timelines and resource allocation. • Estimate costs for materials, labor, and overhead. • Implement quality control checks throughout project stages. • Manage inventory and materials efficiently. • Collaborate and communicate effectively in project teams.

Key Vocabulary	Related Misconceptions
• Workflow • Project timeline • Budgeting • Quality control • Inventory management	• Projects don't need detailed planning." • Cost doesn't affect design decisions. • Inspection is only for final products.

Course	Industrial Wood I-6 Day
Unit	Unit 8: Career Exploration and Industry Trends

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
• What career opportunities exist in the wood industry? • How is technology changing woodworking? • How can lifelong learning support a career in industrial wood?	• Research and present information on careers in woodworking and related fields. Demonstrate basic skills using technology such as CAD or CNC software. Understand sustainable and environmentally friendly woodworking practices. • Identify opportunities for apprenticeships and further education. • Develop a personal career plan including goals and pathways for lifelong learning.

Key Vocabulary	Related Misconceptions
• CNC machining • Sustainable forestry • CAD (Computer-Aided Design) • Apprenticeships Continuing education	• Woodworking careers are limited to manual labor. • Technology will replace all traditional woodworking skills. • Training stops after high school.