PRECISION EXAMS by youscience

Woods I

EXAM INFORMATION	DESCRIPTION
Exam Number 520 **Items** 48 **Points** 54.50 **Prerequisites** NONE **Recommended Course Length** ONE SEMESTER **National Career Cluster** MANUFACTURING ARCHITECTURE & CONSTRUCTION **Performance Standards** INCLUDED (OPTIONAL) **Certificate Available** YES	The first in a sequence of courses that prepares individuals to apply technical knowledge and skills to lay-out, shape, assemble, and finish projects. Value is placed on developing craftsmanship, a production sense, and in design principles. This course emphasizes the safe use of a variety of hand tools, power tools, and machinery. **EXAM BLUEPRINT**

STANDARD	PERCENTAGE OF EXAM
1. Safety Practices	13%
2. Foundational Skills	32%
3. Wood Products	44%
4. CNC Equipment	7%
5. Careers in Woodworking	4%

STANDARD 1

Students will follow safety practices

Objective 1 Identify potential safety hazards and follow general laboratory safety practices.

1. Assess workplace conditions regarding safety and health.
2. Identify potential safety issues and align with relevant safety standards to ensure a safe workplace/jobsite.
3. Locate and understand the use of shop safety equipment.
4. Select appropriate personal protective equipment.

Objective 2 Use safe work practices.

1. Use personal protective equipment according to manufacturer rules and regulations.
2. Follow correct procedures when using any hand or power tools.
3. Ref: https://schools.utah.gov/cte/tech/publicationsresources under the Safety Program and Management tab.

Objective 3 Complete a basic safety test without errors (100%) before using any tools or shop equipment.

STANDARD 2

Students will develop foundational skills for woodworking

Objective 1 Demonstrate the safe use of woodworking hand tools and equipment.

1. Ref: Common Woodworking Tools

Objective 2 Use basic manufacturing documentation.

1. Work from a scale drawing.
2. Use a material list.
3. Follow a work order or a plan of procedure.

Objective 3 Reliably make measurements to within a sixteenth (1/16) of an inch.

Objective 4 Demonstrate basic math concepts. For example:

1. Add, subtract multiply and divide multi-digit numbers.

2. Add, subtract, multiply, and divide fractions and mixed numbers.
3. Reduce fractions and convert fractions to decimals.
4. Calculate ratios and percentages.

STANDARD 3

Understand wood products, characteristics, and procedures

Objective 1 Classify several examples of woods by type.

1. Softwoods (coniferous trees)
2. Hardwoods (deciduous trees)

Objective 2 Describe the parts of a tree and the significance that it has in project construction.

1. Bark
2. Annual (growth) rings
3. Sap wood
4. Heart wood
5. Pith
6. Lignin

Objective 3 Demonstrate the use of basic joinery techniques. For example:

1. Butt
2. Miter
3. Rabbet
4. Dado

Objective 4 Understand order of operations for squaring a board.

1. Plane to within 1/16” of final thickness
2. Joint an edge
3. Rip to width
4. Cut one end square
5. Cut to length
6. Sand to final thickness

Objective 5 Understand and demonstrate proper techniques for applying adhesives.

Objective 6 Understand and demonstrate sanding and finishing techniques.

1. Understand and properly apply the basic rules of sanding.

2. Properly prepare a surface for finishing.
3. Understand application methods of stain and clear finishes.

STANDARD 4

Students will be able to perform automated manufacturing processes using CNC equipment

Objective 1 Know and understand basic terms related to CNC machines. For example:

1. X, Y, and Z axis
2. Vector
3. G-code

Objective 2 Configure a CNC machine and program it with a tool path to create a simple decorative design on a wood surface.

STANDARD 5

Students will investigate future training opportunities and careers in woodworking

Objective 1 Locate the USBE's CTE Manufacturing & Production pathway.

Objective 2 Identify occupations related to woodworking. For example:

1. Cabinetmaking
2. Custom Millwork
3. Production Manager
4. Forester
5. Architect
6. Teacher

Objective 3 Recognize the importance of both "hard" and "soft" skills in the workplace.

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Performance assessments may be completed and evaluated at any time during the course. The following performance skills are to be used in connection with the associated standards and exam. To pass the performance standard the student must attain a performance standard average of 8 or higher on the rating scale. Students may be encouraged to repeat the objectives until they average 8 or higher.

Student's Name: _____

Class: _____

PERFORMANCE STANDARDS RATING SCALE

- ☐ Complete a woodworking project that demonstrates the use of woodworking tools, machinery, basic joinery, adhesive, and finishing techniques.
- ☐ Use a CNC machine to apply a simple design to a wood surface.
- ☐ Demonstrate practice of the Technology & Engineering Professional Workplace Skills.
- ☐ Participate in a significant activity that provides each student with an opportunity to render service to others, employ leadership skills, or demonstrate skills they have learned through this course, preferably through participation in a Career & Technical Student Organization (CTSO) such as SkillsUSA.

PERFORMANCE STANDARD AVERAGE SCORE:

Evaluator Name: _____

Evaluator Title: _____

Evaluator Signature: _____

Date: _____