STRANDS AND STANDARDS

WOODS 1

Course Description

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.

Core Code	38.02.00.00.261
Concurrent Enrollment Core Code	None
Units of Credit	0.5
Intended Grade Level	10-12
Prerequisite	None
Skill Certification Test Number	5201
Test Weight	0.5
License Area of Concentration	CTE or Secondary
Required Endorsement(s)	Woods

STRAND 1

Students will follow safety practices.

Standard 1

Identify potential safety hazards and follow general laboratory safety practices.

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

Standard 2

Use safe work practices.

- Use personal protective equipment according to manufacturer rules and regulations.
- Follow correct procedures when using any hand or power tools.
- Ref: https://schools.utah.gov/file/4de1dd59-0425-4f76-9e33-fdcf5de45dbf

Standard 3

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

STRAND 2

Students will develop foundational skills for woodworking.

Standard 1

Demonstrate the safe use of woodworking hand tools and equipment.

- Ref: https://schools.utah.gov/file/2c4efa51-62bb-4ea6-85eb-948282eddb70

Standard 2

Use basic manufacturing documentation.

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

Standard 3

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

Standard 4

Demonstrate basic math concepts.
For example:

- Add, subtract multiply and divide multi-digit numbers.
- Add, subtract, multiply, and divide fractions and mixed numbers.
- Reduce fractions and convert fractions to decimals.
- Calculate ratios and percentages.

STRAND 3

Understand wood products, characteristics, and procedures.

Standard 1

Classify several examples of woods by type.

- Softwoods (coniferous trees)
- Hardwoods (deciduous trees)

Standard 2

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

- Bark
- Annual (growth) rings
- Sap wood
- Heart wood
- Pith
- Lignin

Standard 3

Demonstrate the use of basic joinery techniques.
For example:

- Butt
- Miter
- Rabbet
- Dado

Standard 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

Standard 5

Understand and demonstrate proper techniques for applying adhesives.

Standard 6

Understand and demonstrate sanding and finishing techniques.

- Understand and properly apply the basic rules of sanding.
- Properly prepare a surface for finishing.
- Understand application methods of stain and clear finishes.

STRAND 4

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

Standard 1

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

- X, Y, and Z axis
- Vector
- G-code

Standard 2

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

STRAND 5

Students will investigate future training opportunities and careers in woodworking.

Standard 1

Locate the USBE's CTE Manufacturing & Production pathway.

Standard 2

Identify occupations related to woodworking.
For example:

- Cabinetmaking
- Custom Millwork
- Production Manager
- Forester
- Architect
- Teacher

Standard 3

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

Performance Skills

1. Complete a woodworking project that demonstrates the use of woodworking tools, machinery, basic joinery, adhesive, and finishing techniques.
2. Use a CNC machine to apply a simple design to a wood surface.
3. Demonstrate practice of the *Technology & Engineering Professional Workplace Skills*. https://schools.utah.gov/file/fd0c16aa-8bee-4d07-85b5-88e0c913790e
4. 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.

Skill Certificate Test Points by Strand

Test Name	Test #	Number of Test Points by Strand					Total Points	Total Questions
		1	2	3	4	5		
Woods 1	5201	7	16	24.5	4	2	53.5	48