

STRANDS AND STANDARDS

WOODS 2



Course Description

The second 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 development of production principles in a manufacturing environment.

Core Code	38.02.00.00.262
Concurrent Enrollment Core Code	None
Units of Credit	0.5
Intended Grade Level	10-12
Prerequisite	Woods 1
Skill Certification Test Number	5202
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 in manufacturing & production.

Standard 1

Understand and demonstrate the safe use of woodworking hand tools and equipment.

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

Standard 2

Demonstrate an ability to design and create patterns, jigs, and fixtures to provide repeatability and which could be used in a production environment.

Standard 3

Practice Lean Manufacturing & Six Sigma production principles.

For example:

- 8 types of waste
- 5 S's
- Value-added work
- DMAIC
- 5 Why's

STRAND 3

Understand wood products, characteristics, and procedures.

Standard 1

Identify typically available wood products and how they are best used.

For example:

- Plywood
- Particle board
- MDF
- Melamine

Standard 2

Demonstrate the use of basic joinery techniques.

For example:

- Dovetail
- Miter
- Biscuit
- Dowel
- Dado

Standard 3

Properly use a selection of adhesives.

For example:

- Yellow glue
- Polyurethane glue
- Contact cement

STRAND 4

Students will construct a cabinet, or an equivalent project build largely from sheet stock.

Standard 1

Use a design, planning, and estimation process.

- Extract pertinent cabinet information and specifications from a set of house plans.
- Identify cabinet standards related to kitchen, vanity, and commercial type cabinets (quality standards, dimension standards, etc.).
- Identify principles of design as they apply to the work triangle in a kitchen layout.

For example:

- U-shape
- Peninsula
- Corridor
- L-shape

- Use standardized sizes and accepted dimensions for standard built-in cabinets.
For example:
 - Work surface height 36"
 - Base cabinet depth 24"
 - Overhead cabinet depth 12"
 - Distance between the upper and lower cabinet 16"-18"
- Draw the necessary views of a selected project.
- Create a Bill of Material for the selected project.
- Optimize the layout of the required parts (nesting) on the available materials.
- Determine the square footage of the sheet stock to be used and determine the project cost.
- Follow a procedure list for construction of a cabinet.

Standard 2

Demonstrate an understanding of the components of a cabinet.

- Identify the components of a cabinet, doors, and drawers.
For example:
 - Face, Side, Bottom, Back
 - Rail, Stile, Mullion, Transom, Panel
 - Base, Toe kick
 - Shelf
 - Molding
 - Nailer
- Identify options for door and drawer front design.
For example:
 - Flush
 - Overlay
 - Lip

Standard 3

Demonstrate the use of fasteners and their best applications.

For example:

- Nails or brads
- Screws
- Staples

Standard 4

Demonstrate the use of project components and hardware.

For example:

- Hinges (offset, overlay, concealed, or butt)
- Drawer guides (wood or metal)
- Knobs and pulls
- Shelf supports

Standard 5

Assemble a cabinet with the proper adhesive and fasteners.

- Layout and construct cabinet doors.
- Cut out and construct drawers.
- Install door and drawer.
- Identify basic construction methods.
 - Frame and panel
 - Casework construction
 - Face frame
 - European 32mm

Standard 6

Demonstrate proper finishing techniques.

For example:

- Finish sand
- Soften edges
- Select and apply an appropriate finish material

Standard 7

Demonstrate effective transportation and installation techniques.

For example:

- Packaging & shipping
- Lifting & handling
- Scribing & trimming
- Leveling & shimming

STRAND 5

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:

- 2D, 2.5D, and 3D
- Post processor

Standard 2

Configure a CNC machine and program it to cut out or shape a component in an assembly.

STRAND 6

Students will investigate future training opportunities and careers in woodworking.

Standard 1

Investigate the woodworking/manufacturing industry.

- Identify career opportunities in woodworking in a manufacturing/production environment.
- Research the pathways available in woods & manufacturing.
 - Project Manager
 - Line Operator
 - Finisher
 - Contractor

Performance Skills

1. Complete a woodworking project that demonstrates production environment practices.
2. Use a CNC machine to cut out and shape parts for an assembly.
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	6		
Woods 2	5202	8	11	8	13	6	2	48	43