



# Cabinetmaking/Millwork Woodworking

The first instructional course in a sequence that prepares individuals to apply technical knowledge and skills to lay out and shape stock; assemble projects; saw and sand projects; and stresses the safe use a variety of hand and power tools and machinery. Recommended projects would be anything that would allow students to incorporate all joints and tools e.g. a nightstand.

**USOE**  
**July 2009**

# WOODWORKING

Levels:	Grades 10-12
Units of Credit:	Minimum 0.5 credits
CIP Code:	48.0701
11 Digit Code:	40-10-00-00-120
11 Digit CE Code:	40-10-00-13-120
Test #:	520
License:	CTE/Secondary
Endorsement:	Cabinetmaking/Millwork
Prerequisite:	None

## COURE DESCRIPTION

The first instructional course in a sequence that prepares individuals to apply technical knowledge and skills to lay out and shape stock; assemble projects; saw and sand projects; and stresses the safe use a variety of hand and power tools and machinery. Recommended projects would be anything that would allow students to incorporate all joints and tools  
e.g. a nightstand.

## CORE STANDARDS, OBJECTIVES, AND INDICATORS

### STANDARD 1

**Students will be able to understand basic elements of the woodworking industry.**

- Objective 1:** Identify career opportunities in cabinetmaking/millwork manufacturing.
- Objective 2:** Identify career opportunities in related millwork industries.
- Objective 3:** Describe the integration of cabinetmaking into construction schedules.

### STANDARD 2

**Students will be able to understand the design, planning and estimation process.**

- Objective 1:** Read and use a working drawing to create a project.
- Objective 2:** Use a material list.
- Objective 3:** Use a procedure list.

### STANDARD 3

**Students will be able to understand and demonstrate safe practices.**

- Objective 1:** Demonstrate the ability to work safely in a cabinet shop following general safety rules.
- Objective 2:** Demonstrate the safe use of woodworking tools and machines.
- Objective 3:** Define MSDS and know its purpose.

**Objective 4:** Pass a written safety test with a score of 100 percent.

#### **STANDARD 4**

**Students will be able to understand and demonstrate the safe use of hand tools.**

**Objective 1:** Describe the purpose and demonstrate the proper use of the following measuring and layout tools:

Measuring tape	Scratch awl	Framing square
Combination square	Try square	

**Objective 2:** Describe the purpose and demonstrate the proper use of the following cutting and shaping tools:

Utility knife	Back saw	Hand plane
Wood chisel	Wood file/rasp	Hand saw
Glue scraper	Putty knife	

**Objective 3:** Describe the purpose and demonstrate the proper use of the following striking tools:

Claw hammer	Nail set	Rubber mallet
Dead-blow hammer		

**Objective 4:** Describe the purpose and demonstrate the proper use of the following drill bits:

Twist	Forstner	Spade
Countersink	Driver bits: Phillips, Square, slotted	

#### **STANDARD 5**

**Students will be able to understand and demonstrate the safe use of portable power tools.**

**Objective 1:** Describe the purpose and demonstrate the proper use of the following portable power tools:

Pneumatic nailer	Power drills	Router
Finish sander	Belt sander	Orbital sander

#### **STANDARD 6**

**Students will be able to understand and demonstrate the safe use of power machines.**

**Objective 1:** Describe the purpose and demonstrate the proper use of the following sawing machines:

Table saw	Power miter saw	Radial arm saw
Band saw		

**Objective 2:** Describe the purpose and demonstrate the proper use of the following surfacing machines:

Surface planer	Jointer
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**Objective 3:** Describe the purpose and demonstrate the proper use of the following

- sanding machines:  
Disc sander                      Surface sander                      Spindle sander
- Objective 4:** Describe the purpose and demonstrate the proper use of the following shaping machines:  
Router table                      Shaper
- Objective 5:** Describe the purpose and demonstrate the proper use of the following drilling machines:  
Drill press

## **STANDARD 7**

**Students will be able to understand wood products and characteristics and procedures.**

- Objective 1:** Distinguish between softwoods and hardwoods.
- Softwoods – pine, red cedar
  - Hardwoods – cherry, oak, alder, walnut, maple
- Objective 2:** Distinguish between solid woods and man-made materials.
- Plywood
  - Particle board
  - MDF

## **STANDARD 8**

**Students will be able to understand and demonstrate basic math and measuring concepts.**

- Objective 1:** Add two- and three-digit numbers.
- Objective 2:** Subtract two-, three-, and four-digit numbers.
- Objective 3:** Solve two-digit divisor numbers.
- Objective 4:** Multiply a two-digit factor.
- Objective 5:** Add, subtract, multiply, and divide fractions and mixed numbers.
- Objective 6:** Convert fractions to decimals.
- Objective 7:** Reduce fractions.
- Objective 8:** Add, subtract, multiply, and divide decimal numbers.
- Objective 9:** Calculate percentages and basic ratios.
- Objective 10:** Add and subtract linear measurement in feet and inches.
- Objective 11:** Use a ruler or measuring tape to measure within a sixteenth (1/16) of an inch.

## **STANDARD 9**

**Students will be able to understand and demonstrate the use of fasteners and adhesives.**

- Objective 1:** Identify the various woodworking fasteners and the application of each.
- Nails
  - Screws

- c. Staples

**Objective 2:** Properly use an adhesive in the construction of a project.

**Objective 3:** Identify the different types of clamps.

- a. Bar
- b. "C"
- c. Spring
- d. Handscrew.

## **STANDARD 10**

**Students will be able to understand and demonstrate the use of joinery.**

**Objective 1:** Identify the basic woodworking joints.

- a. Butt
- b. Miter
- c. Rabbet
- d. Dado

**Objective 2:** Construct a basic woodworking project using the basic joints.

## **STANDARD 11**

**Students will be able to understand and demonstrate the use of cabinet components and hardware.**

**Objective 1:** Complete a project.

**Objective 2:** Identify common cabinet/furniture hardware.

- a. Hinges – overlay, butt, and European
- b. Drawer guides (wood or metal)
- c. Knobs and pulls

## **STANDARD 12**

**Students will be able to understand and demonstrate sanding and finishing techniques.**

**Objective 1:** Understand and properly apply the basic rules of sanding.

**Objective 2:** Properly prepare a surface for finishing

**Objective 3:** Properly apply stain and/or clear finish.

## **PROFESSIONAL DEVELOPMENT**

### **STANDARD 13**

**Students will be able to understand and apply professional development skills in the workplace.**

**Objective 1:** Students will understand the need for professional development.

- a. Complete a personal inventory.
- b. Set and meet goals.

- c. Be self-motivated.
- d. Know how to make decisions.
- e. Know how to manage time.
- f. Organize personal belongings and lab equipment.
- g. Learn to communicate verbally.
- h. Write effective communications.
- i. Establish a personal reading program.
- j. Develop effective work skills and attitudes.
- k. Master a working knowledge of SkillsUSA.\*
  - Learn the acronym SkillsUSA.
  - State the SkillsUSA motto.
  - State the SkillsUSA creed.
  - Learn the SkillsUSA colors.
  - Describe the official SkillsUSA dress.
  - Describe the procedure for becoming a SkillsUSA officer.

**Objective 2:** Students will understand the need for leadership skills.

- a. Serve on a committee.
  - Prepare an agenda.
- b. Assist in planning a meeting.
- c. Review basic parliamentary procedure.
- d. Make a main motion.
- e. Participate in a school project.
- f. Attend a community meeting.
  - Practice effective speaking.
- g. Present a three- to five-minute talk.
- h. Implement a leadership project.
  - Master a working knowledge of SkillsUSA.
  - Describe the meaning of the SkillsUSA emblem.
  - State the SkillsUSA pledge.
  - Describe the duties of a SkillsUSA officer.

**Objective 3:** Students will understand the need for career planning.

- a. Define your future occupation.
- b. Survey employment opportunities.
- c. Report on a trade journal article.
- d. Explore opportunities for advanced training.
- e. Conduct a worker interview.
- f. Contact a professional association.
- g. Explore entrepreneurship opportunities.
- h. Give a talk about your career.
- i. Review career goals.

**Objective 4:** Students will understand the importance of employability and work habits.

- a. Develop a list of work standards to follow at school and on the job.

- b. Evaluate your personal ethics.
    - Evaluate your personal ethics against acceptable workplace ethics.
  - c. Build a job search network.
  - d. Find job leads.
  - e. Write a resume.
  - f. Create a job portfolio.
  - g. Complete a job application.
  - h. Write a business letter and memo.
  - i. Participate in an actual or simulated job interview.
- \* SkillsUSA PDP requirements - recommended