

Strands & Standards

CARPENTRY 2



COURSE DESCRIPTION

This is the second in a sequence of courses that prepares individuals to layout, fabricate, erect, install, and repair wooden structures and fixtures using hand and power tools. Includes instruction in common systems of framing, construction materials, estimating, blueprint reading, concrete placing, siding, and mechanical systems. This course is based on the current National Center for Construction Education and Research (NCCER) task list.

License Type

CTE and/or
Secondary

Required Endorsement

Carpentry

Intended Grade Level: 11-12

Units of Credit: 0.5

Core Code: 40.08.00.00.015

CE Core Code: 40.08.00.13.015

Prerequisite: Carpentry 1

Skill Certification: None

Strands & Standards

STRAND 1 Students will receive an orientation to the carpentry trade.

Standard 1 Explain the importance of safety in the construction industry.

STRAND 2 Students will be able to understand and demonstrate the use of wood building materials, fasteners and adhesives.

Standard 1 Explain the terms commonly used in discussing wood and lumber.

Standard 2 Identify various types of imperfections that are found in lumber.

Standard 3 Interpret grade markings on lumber and plywood.

Standard 4 Identify the uses of safety precautions associated with pressure-treated lumber.

Standard 5 Describe the proper method of caring for lumber and wood building materials at the job site.

Standard 6 State the uses of various types of engineered lumber.

Standard 7 List the basic nail and staple types and their uses.

Standard 8 Identify the different types of anchors and their uses.

Standard 9 Describe the common types of adhesives used in construction work and explain their uses.

STRAND 3 Students will be able to understand and demonstrate the safe use of hand and power tools.

Standard 1 Identify the hand tools commonly used by carpenters and describe their uses.

Standard 2 Use hand tools in a safe and appropriate manner.

Standard 3 State the general safety rules for operating all power tools, regardless of type.

Standard 4 State the general rules for properly maintaining all power tools, regardless of type.

Standard 5 Identify the portable tools commonly used by carpenters and describe the uses.

Standard 6 Use portable power tools in a safe and appropriate manner.

STRAND 4 Students will be able to understand and demonstrate the uses of concrete and reinforcing materials.

Standard 1 Perform volume estimates for concrete quantity requirements.

Standard 2 Identify types of concrete reinforcement bars and describe their use.

Standard 3 Recognize four kinds of footings:

- Continuous or spread
- Stepped
- Pier
- Grade beam

Standard 4 Recognize the types of concrete pours that require the construction of edge forms:

- Slabs with or without a foundation

- Driveways
- Sidewalks
- Approaches

Standard 5 Explain the purpose of a screed and identify the different types of screeds.

STRAND 5 Students will be able to understand and demonstrate framing of flooring systems, wall and ceilings and roofing systems.

Standard 1 Read and understand drawings and specifications to determine floor system requirements.

Standard 2 Identify floor and sill framing and support members.

Standard 3 Name the methods used to fasten sills to the foundation

Standard 4 List and recognize different types of floor joists.

Standard 5 List and recognize different types of flooring materials.

Standard 6 Explain the purposes of subflooring and underlayment.

Standard 7 Match selected fasteners used in floor framing to their correct uses.

Standard 8 Demonstrate the ability to:

- Layout and construct a floor assembly
- Install joists for a cantilever floor
- Install a single floor system using tongue and groove plywood/OSB panels.

Standard 9 Identify the components of a wall and ceiling layout.

Standard 10 Describe the procedure for laying out a wood frame wall, including plates, corner posts, door and window openings, partition T's, bracing, and firestops.

Standard 11 Describe the correct procedure for assembling and erecting an exterior wall.

Standard 12 Describe the common materials and methods used for installing sheathing on walls.

Standard 13 Layout, assemble, erect, and brace exterior walls for a frame building.

Standard 14 Understand the terms associated with roof framing.

Standard 15 Identify the roof framing members used in gable and hip roofs.

Standard 16 Identify the various types of trusses used in roof framing.

Standard 17 Used rafter framing square, and calculator in laying out a roof.

Standard 18 Identify various types of sheathing used in roof construction.

Standard 19 Erect a gable roof using trusses.

STRAND 6 Students will be able to understand and demonstrate installation of windows and exterior doors.

Standard 1 Identify various types of fixed, sliding, and swinging windows.

Standard 2 Identify the parts of a window installation.

Standard 3 State the requirements for a proper window installation.

Standard 4 Install a pre-hung window.

- Standard 5** Identify the common types of exterior doors and explain how they are constructed.
- Standard 6** Identify the types of thresholds used with exterior doors.
- Standard 7** Install a pre-hung exterior door with weather-stripping.
- Standard 8** Identify the various types of locksets used on exterior doors and explain how they are installed.
- Standard 9** Install a lockset.

STRAND 7 Students will be able to understand and demonstrate installation of roofing materials.

- Standard 1** Identify roofing terms
- Square
 - Coverage
 - Exposure
 - Head lap
 - Rake
 - Underlayment
 - Flashing
 - Weather guard
 - Vents
 - Gutters
- Standard 2** Identify different roofing materials.
- Asphalt – standard and metric
 - Cedar
 - Tile
 - Metal

STRAND 8 Students will be able to understand and demonstrate installation of insulation materials.

- Standard 1** Identify the types of installation.
- Flexible
 - Loose fill
 - Rigid
 - Reflective

STRAND 9 Students will be able to understand and demonstrate drywall installation and finishing.

- Standard 1** Identify the different types of gypsum wallboard (drywall) and their uses.
- Standard 2** Select the type and thickness of drywall required for specific installations.
- Standard 3** Select fasteners for drywall installation.
- Standard 4** Explain the fastener schedules for different types of drywall installations.
- Standard 5** Perform single-layer and multi-layer drywall installations using different types of fastening systems, including:
- Nails
 - Drywall screws
 - Adhesives

- Standard 6** Identify the hand tools used in drywall finishing and demonstrate the ability to use these tools.
- Standard 7** Identify the automatic tools used in drywall finishing.
- Standard 8** Identify the materials used in drywall finishing and state the purpose and use of each type of material, including:
- Compounds
 - Joint reinforcing tapes
 - Trim materials
 - Textures and coatings

STRAND 10 Students will be able to understand and demonstrate interior finishing.

- Standard 1** Identify various types of door jambs and frames and demonstrate the installation procedures for placing selected door jambs and frames in different types of interior partitions.
- Standard 2** Identify different types of interior doors.
- Standard 3** List and identify specific items included on a typical door schedule.
- Standard 4** Demonstrate the procedure for placing and hanging a selected door.
- Standard 5** Identify the different types of standard moldings and describe their uses.
- Standard 6** Make square and miter cuts using a miter box or power miter saw.
- Standard 7** Make coped joint cuts using a coping saw.
- Standard 8** Install interior trim, including.
- Door trim
 - Window trim
 - Base trim
 - Ceiling trim

STRAND 11 Students will enhance their understanding of Carpentry as a profession and will develop professional skills for the workplace.

- Standard 1** As a participating member of the SkillsUSA student organization, complete the SkillsUSA Level 2 Professional Development Program.
- Measure/modify short-term goals.
 - Identify stress sources.
 - Select characteristics of a positive image.
 - Demonstrate Government awareness.
 - Demonstrate awareness of professional organizations.
 - Apply team skills to a group project.
 - Observe and critique team skills at a local professional meeting.
 - Demonstrate business meeting skills.
 - Explore workplace ethics: codes of conduct.
 - Demonstrate social etiquette.
 - Complete survey for employment opportunities.
 - Review a professional journal and develop a three- to five- minute speech.
 - Complete a job application.
 - Assemble an employment portfolio.
 - Explore supervisory and management roles in an organization.
 - Conduct a worker interview.
 - Perform a self-evaluation of proficiency in program competencies.

Standard 2 Serve in the school's SkillsUSA chapter as a committee member.

Standard 3 Display a professional attitude toward the instructor and peers.

Standard 4 As a participating member of the SkillsUSA student organization, complete the SkillsUSA Level 3 Professional Development Program.

- Evaluate your career and training goals.
- Market your career choice.
- Develop personal financial skills.
- Serve as a volunteer in the community.
- Plan and develop a business.
- Conduct a worker interview.
- Develop a resume and write a cover letter.
- Demonstrate interviewing skills.
- Understand the cost of customer service.
- Identify and apply conflict resolution skills.
- Demonstrate evaluation skills.
- Examine workplace ethics: the role of values in making decisions.
- Perform a skill demonstration.
- Learn what is contained in Material Safety Data Sheets (MSDS).
- Perform a self-evaluation of proficiency in program competencies.

Standard 5 Serve as an officer in the school's chapter of SkillsUSA.

Standard 6 Participate in an authorized SkillsUSA carpentry competition.

Standard 7 Display a professional attitude toward the instructor and peers.

* SkillsUSA PDP requirements - recommended