

DESE Model Curriculum

GRADE LEVEL/COURSE TITLE: Carpentry, Introductory Craft Skills –
Module 27105-06 Floor Systems

Course Code:

COURSE INTRODUCTION:

17003 Carpentry

Carpentry courses provide information related to the building of wooden structures, enabling students to gain an understanding of wood grades and construction methods and to learn skills such as laying sills and joists; erecting sills and rafters; applying sheathing, siding, and shingles; setting door jambs; and hanging doors. Carpentry courses may teach skills for rough construction, finish work, or both. Students learn to read blueprints, draft, use tools and machines properly and safely, erect buildings from construction lumber, perform finish work inside of buildings, and do limited cabinet work. Carpentry courses may also include career exploration, good work habits, and employability skills.

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UNIT (#) TITLE: Carpentry, Introductory Craft Skills (27105-06) – Floor Systems [This module introduces the Carpentry trainee to residential floor systems. The module covers the materials and general methods used to construct floor systems, with emphasis placed on the platform method of floor framing.]			SUGGESTED UNIT TIMELINE: CLASS PERIOD (min.):			
ESSENTIAL QUESTIONS: 1. How can different materials meet specific flooring requirements? 2. What structural features are required of flooring systems?						
ESSENTIAL MEASURABLE LEARNING OBJECTIVES	CCSS LEARNING GOALS (Anchor Standards/Clusters)	CROSSWALK TO STANDARDS				
		GLEs/CLEs	PS	CCSS	OTHER	DOK
1. Identify the different types of framing systems.				RST 11-12.2, L 11-12.6	27105-06	Level 1
2. Read and interpret drawings and specifications to determine floor system requirements.				RST 11-12.2	27105-06	Level 2
3. Identify floor and sill framing and support members.				RST 11-12.2, L 11-12.6	27105-06	Level 1
4. Name the methods used to fasten sills to the foundation.				RST 11-12.2	27105-06	Level 1
5. Given specific floor load and span data, select the proper girder/beam size from a list of available girders/beams.				RST 11-12.2, F-IF 4	27105-06	Level 1
6. List and recognize different types of floor joists.				RST 11-12.3	27105-06	Level 1
7. Given specific floor load and span data, select the proper joist size from a list of available joists.				RST 11-12.3, F-IF 4	27105-06	Level 1
8. List and recognize different types of bridging.				RST 11-12.3	27105-06	Level 1
9. List and recognize different types of flooring materials.				RST 11-12.3	27105-06	Level 1

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10. Explain the purposes of subflooring and underlayment.				RST 11-12.3	27105-06	Level 1
11. Match selected fasteners used in floor framing to their correct uses..				RST 11-12.3	27105-06	Level 1
12. Estimate the amount of material needed to frame a floor assembly.				RST 11-12.3, A-CED 4, A-REI 1, S-ID 6c, S-ID 7	27105-06	Level 2
13. Demonstrate the ability to: • Lay out and construct a floor assembly • Install bridging • Install joists for a cantilever floor • Install a subfloor using butt-joint plywood/OSB panels • Install a single floor system using tongue-and-groove plywood/ OSB panels				G-C0 2, 4, 12, G-SRT 2, G-GMD 4, G-MG 3	27105-06	Level 2
ASSESSMENT DESCRIPTIONS*: (Write a brief overview here. Identify Formative/Summative. Actual assessments will be accessed by a link to PDF file or Word doc.).						
*Attach Unit Summative Assessment, including Scoring Guides/Scoring Keys/Alignment Codes and DOK Levels for all items. Label each assessment according to the unit descriptions above (i.e., Grade Level/Course Title/Course Code, Unit #).						
Obj. # 1-13	INSTRUCTIONAL STRATEGIES (research-based): (Teacher Methods) ☒ Direct ☐ Indirect ☐ Experiential ☐ Independent Study ☐ Interactive Instruction					
Obj. # 1-13	INSTRUCTIONAL ACTIVITIES: (What Students Do) 1. 2. 3.					

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UNIT RESOURCES: (include Internet addresses for linking)

(MCCE Resource) TE DVD ROM 10

Deconstruction: The Science of Building a House-Foundation to Roof

Discovery Channel University

LAWRENCEVILLE, NJ, SHOPWARE, 2004.

DVD ROM

This video highlights scientific aspects of concrete, steel, wood, and nails, and the forces that impact them. Experiments done on the building site and at materials testing labs investigate the strengths of concrete, rebar, and engineered lumber; the chemical properties of Portland cement and galvanized nails; and the effects of dead load and live load, torque and shear induced by wind and earthquakes, and Bernoulli's Principle as it relates to the effects of tornadoes on roofs. Microscope and infrared imaging plus animations give extra angles of insight. So do field trips to a concrete batch plant, a tree farm to study silviculture, and a saw mill to see how computerized cutting and sorting are done. 50 minutes.