

YOSEMITE REGIONAL OCCUPATIONAL PROGRAM

CARPENTRY

CBEDS Code: 5507

JOB TITLES

Carpenter
Carpenter Maintenance
Carpenter (construction)

DOT NO.

860.664.010
860.281.010
860.381-022

Course description:

This outline is to be taught in conjunction with the actual construction of a STORAGE SHED. The order of teaching, according to the following outline, could be changed to accommodate a particular type of building.

Recommended Prerequisites:

DURATION: 260 hours

CREDIT: units

ARTICULATED WITH POSTSECONDARY INSTITUTIONS:

REPLACES:

A= Anchor
CR = Career Readiness

Instructional Content Instruction will include:	Student Outcomes At the end of instruction, the student will be able to:	Hours CL=Classroom CC=Comm. Class.			
1. Common Building & Carpentry Terms and Uses 1. Batter Boards 2. Sheathing	Goal: The student will understand and define terms used in building and carpentry A. Define common building and carpentry terms.	Anchor And CR 10.1	CTE	CL 10	CC
2. Construction zones and codes 1. Administration of Building Code. 2. Explanation of standard building codes, zoning, setbacks and county specifications.	Goal: The student will demonstrate an understanding for construction zones and codes. A. Develop an understanding for zoning laws. B. Recognize how building codes are administered. C. Satisfactorily explain standard building codes, zoning, setbacks, and county specifications D. Identify inspection agencies and departments.	2.5 4.3 10.2 CR 2,4, and 5		10	
3. Foundation Terms: 1. Footings. 2. Walls. 3. Cement.	Goal: The student will understand the procedures and techniques of constructing footing, pier, and foundation wall forms. A. Describe the sequence in building footings, pier and foundation wall forms. B. Identify materials and tools used.	10.1 CR 1	D5.1- D5.10	10	
4. Flooring Terms: 1. Bridging. 2. Joists. 3. Sub flooring. 4. Base boards. 5. Wall board. 6. Sole plates. 7. Girders. 8. Siding.	Goal: Students will understand the procedures and techniques of floor framing. A. Know the framing members and tools used in the process. B. Describe the sequence used in floor framing. C. Identify the structural members and tools used D. Safely and accurately layout, frame and sheath floor.	10.1 10.2 CR 1,2, and 5	D6.1 – D6.8	10	
5. Roofing Terms: 1. Beams & girders. a. Gable. b. Pitch – Run – Span. 2. Rafters: a. Common. b. Cripples. c. Jacks. d. Valley e. Framing square & reading. f. Truss.	Goal: The student will understand the principles of roof design. A. Understand the procedures and techniques of rafter layout. B. Understand common, hip, jack and so forth. C. Demonstrate ability to find the total run and calculate the total rise of gable and hip roofs. D. Understand the principles of roof trusses.	10.1 10.3 11.2 CR 1 and 4	D6.9- D6.16	10	
6. Material Terms: 1. Lumber sizes & types. 2. Nail sizes & types. 3. Tools – types (power & hand) 4. Lumber sizes & types.	Goal: The student will know the names, properties, & appropriate use of materials & supplies used in the construction industry. A. Identify various species of softwood and hardwood. B. Explain the characteristics and grading of wood.	10.1 10.5 CR 1 and 2	A4.1- A4.7 D2.1 D2.3	10	

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<p>6. Material Terms: (cont.) 5. Nail sizes & types. 6. Tools – types (power & hand)</p>	<p>C. Recognize the difference dimensions, costs, and uses of lumber. D. Identify metal fasteners, including nails, clips and hangers. E. Understand the names, functions and safe uses of hand and power tools.</p>	<p>Anchor 10.1 10.5</p>	<p>CTE A6.1 A6.3 A6.4 D3.3</p>	<p>CL</p>	<p>CC</p>
<p>7. Planning & Layout. 1. Site excavation. 2. Batter Boards: a. Plumb line. b. Use of diagonals. c. Locating outside wall of foundation.</p>	<p>Goal: The student will understand the procedures and techniques of site preparation and foundation layout. A. Understand surveying, establishing building corners, setting batter boards, and trenching. B. Know the tools and materials used in the process. C. Describe how to prepare a site and layout footings and foundations. D. Demonstrate how to safely and accurately establish lot boundaries, local-building lines, and prepare site for forming.</p>	<p>10.1-10.3 10.5 11.1 CR 1 and 4</p>	<p>B2.1- B2.6</p>	<p>20</p>	
<p>8. Footings & Foundations: 1. Back slope a. Wall footing b. Sub soil c. Footing trench 2. Stud, sheathing, tie wires, & staking forms. a. Cement b. Floor Structure Anchor</p>	<p>Goal: The student will understand procedures and techniques of constructing footing, pier and foundation wall forms. A. Understand staking, leveling, and bracing. B. Know the forming members, materials and tools used in the process. C. Safety and accurately fabricate, install footings and foundations.</p>	<p>6.1-6.6 10.1 10.3 CR 1</p>	<p>B7.1- B7.6 D5.1- D5.10</p>	<p>23</p>	
<p>9. Floor Framing (Western & Balloon). 1. Posts and beams. 2. Sill and floor joists. 3. Sub floors 4. Sheathing</p>	<p>Goal: The student will understand the procedures and techniques of floor framing. A. Understand install posts, joists, girders, and subfloor. B. Know the framing members and tools used in the process. C. Describe the sequence used in floor framing. D. Safely and accurately lay out, frame and sheath floors.</p>	<p>6.1-6.6 6.10 6.12 10.1 10.3 CR 1,2, and 4</p>	<p>D6.1- D6.5</p>	<p>20</p>	
<p>10. Wall Framing 1. Terms and code. 2. Corners and Partitions 3. Doors and windows: a. Use of code b. Headers 4. Nailing patterns. 5. Squaring walls. 6. Terms. a. Studs b. Sole plate c. Lintel or header d. Let-in-bracing e. Fire-blocking</p>	<p>Goal: The student will understand the procedures and techniques of wall and partition framing. A. Understand installing plates, studs, headers, bracing and so forth. B. Know the framing members and tools used in the process. C. Describe the sequence used in framing walls and partitions. D. Safely and accurately layout, frame and erect walls and partitions.</p>	<p>6.3 6.4 6.10 6.12 10.1 10.3 CR 1,2, and 4</p>	<p>D6.6- D6.9</p>	<p>60</p>	

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		Anchor	CTE	CL	CC
<p>11. Ceiling & Roof Framing</p> <p>1. Roof types: a. Flat. b. Gable. c. Hip & valley.</p> <p>2. Rafters: a. Common. b. Hip c. Jack. d. Valley. e. Ridge boards.</p> <p>3. Roof & rafter layout: a. Determining pitch, rise, & run. b. Reading rafter tables. c. Terms of cutting rafters: a. Birds mouth. b. Measuring line. c. Plumb cuts. d. Heal cuts.</p>	<p>Goal: The student will know the procedures, techniques, & processes used in the installation of roofing.</p> <p>A. Identify and explain roof types, terminology, and their principles. B. Layout common rafters for a house, employing the rafter table book method. C. Construct specialized roof framing D. Layout hip, valley, and jack rafters. E. Raise a roof, cut in gable studs, frame gable overhang, and install collar ties and purlin F. Explain the different types of trusses and flat desk roofs G. Layout and install ceiling joists. H. Demonstrate methods of erecting dormers I. Lay plywood roof sheathing on roof frames</p>	<p>6.3-6.6 6.12 10.1-10.5 11.1</p> <p>CR 1,2, 4 and 5</p>	<p>D6.10- D6.14</p>	<p>50</p>	
<p>12. Wall Covering.</p> <p>1. Wall (outside) covering: a. Fiberboard. b. Gypsum board (drywall) c. 4 x 8 sheets of plywood exterior. d. Nailing patterns.</p> <p>2. Sheathing. 3. Shingles. 4. Tongue & grooved siding. 5. Board & batten siding.</p>	<p>Goal: The student will understand the procedures and techniques of applying exterior wall finish.</p> <p>A. Understand sheathing, siding, trim and so forth. B. Know the tools and materials used in the process. C. Demonstrate ability to install exterior wall finish safely and accurately.</p>	<p>6.2-6.6 6.10 6.12 10.1-10.5</p> <p>CR 1 and 4</p>	<p>D7.1- D7.4</p> <p>D8.1- D8.4</p>	<p>9</p>	
<p>13. Roofing (including layout for all different types):</p> <p>1. Felt types. 2. Shingles: a. Wood b. Shakes c. Asphalt 3. Nailing patterns.</p>	<p>Goal: The student will understand the procedures and techniques of applying roofing materials.</p> <p>A. Understand flashing, shingles and so forth. B. Describe sequence used in applying roofing materials. C. Demonstrate ability to prepare a roof with underlayment and flashing and apply composition shingles, wood shingles, and shakes.</p>	<p>6.3 6.4 6.10 6.12 10.1-10.5 11.1</p> <p>CR 1,2 and 4</p>	<p>D6.15 D6.16</p>	<p>9</p>	
<p>14. Floors:</p> <p>1. 4 x 8 sheathing. 2. Diagonal 1 x 6 sheathing. 3. Floor patterns.</p>	<p>Goal: Student will understand the procedures and techniques of applying finish flooring.</p> <p>A. Understand installing, underlayment, wood flooring, resilient flooring and so forth. B. Know the tools and materials used in the process.</p>	<p>6.3 6.4 6.10 6.12 10.1-10.5</p> <p>CR 1 and 4</p>	<p>D6.4 D8.10</p>	<p>9</p>	