

SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Building Construction Technology Program
Revision Date: August 22, 2022

I. CATALOG DESCRIPTION

Course Number: CNST1224
Course Title: Construction Processes and Practices
Prerequisite(s): None
Corequisite(s): CNST1225
Catalog Description: Introduction to hand tools, construction safety, machine woodworking, modern practices, and processes used in the building construction industry. Carpentry techniques, competency in blueprint reading, proper layout practices, parts cutting and assembly procedures.
Credit Hours: 3
Class Hours: 0
Lab Hours: 135
Total Contact Hours: 135

II. COURSE OBJECTIVES: *Course will:*

- A. Identify tools and materials common to the construction trades.
- B. Safely operate hand and power tools and power machines.
- C. Interpret a working drawing.
- D. Layout and plan a job according to a working drawing.
- E. Work with a variety of construction materials.
- F. Complete a variety of construction processes and assemblies.
- G. Evaluate a variety of projects.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Select the correct tool for the construction job.
 - 2. Properly operate power tools and machines safely.
 - 3. Hang drywall, tape drywall, and finish drywall according to industry standards.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #3: Critical Thinking & Problem Solving
Outcome 2: Synthesize information to arrive at reasoned solutions to problems.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

- A. Tool Preparation
- B. Special Demonstrations
 - 1. Hand & power tools, cutting large panels, wood identification, plastic laminate, floor joists, wall stud, and rafter layouts
- C. Hand Tool Projects
 - 1. End Lap Joint
 - 2. Dovetail Lap Joint
 - 3. Open Mortise & Tenon
 - 4. Mortising a hinge
- D. Power Tool Projects
 - 1. Octagon
 - 2. Lock Mortising

3. Plastic Laminate
4. Tote Box
5. Large saw horses
6. Small saw horses
7. Tool Chest
- E. Wall Mockup Projects
 1. Drywall Installation and Finish
 2. Hanging a Door
 3. Install Trim and Molding
- F. Fork Lift Training (Physical)

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s): Vogt, *Carpentry*, (Refer to CID and/or instructor for current edition)
- B. Supplies/Tools required by the Building Construction Program:

1. Safety glasses. Must meet Z87 specs 2. Work boots, leather, optional steel toe Z41 3. Hard hat, OSHA approved for construction 4. Construction Master calculator, Model 4065 v3.1 or 3.0 5. Carpenter level, 24" to 30" 6. Steel tape measure 12' to 25' 7. Hearing protection 8. Jump drive storage device, 1GB min. 9. Hammer, 16 oz. Plumb OAN 11½ 10. Combination Square, Stanley #122, not plastic 11. Framing square, Stanley R100B Must have octagon scale, rafter table, essex bd measure, brace table 12. Coping Saw-Stanley #39-106, 6¾" 13. Block Plane, Low angle, Stanley #60 or Bailey 12-960 14. Chisels (4)- Stanley #64-¼", ½", ¾", 1"	15. Scratch Awl-Stanley 100 Plus 16. Oilston, Large Carborundum, reversible 17. Nail sets (3)- 1/32", 2/32", 3/32" 18. Putty Knife-Stanley #1540 19. Panel/utility knife- Retractable with extra blades 20. Chalk box, 100' –Irwin #125 21. Scriber/Compass 22. T-bevel, sliding-Stanley #H1225, plastic or wood handle 23. Screwdrivers-Phillips #1 & #2 square #2, Straight ¼" 24. Nail apron or web belt with pouches 25. Drill bit set- (1/16", 5/32", 3/32", 1/8", 3/16", ¼") min. 26. ⅜" Drill, variable speed, forward/reverse, electric or battery 27. Screwdriver bit set for ⅜" drill. Include #1 & #2 Phillips, #25 Torx, #2 square bit & straight 28. Architect Scale 29. Square gauges-1 pair
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| 30. | Needle nose pliers | 39. | Combination countersink bit-1 1/4" x #8 |
| 31. | Drywall knives 4" & 6" (not plastic) | 40. | Speedbor Wood bits-Set of 6 (3/8"-1") |
| 32. | Pliers, vise-grip or side cutters | 41. | Paper shop towels |
| 33. | Pocket plane Stanley Surform/Drywall rasp | 42. | Router bit 1/4" shank, 1/2" straight cut |
| 34. | 25' Extension cord with optional multiple ends, GFCI 12-3 or 14-3 wire | 43. | Router bit 1/4" shank 45 degree chamfer with bearing guide |
| 35. | Flat pry bar-Wonderbar or Superbar | 44. | Router bit 1/4" shank Flush cut laminate bit with bearing guide |
| 36. | Cats claw, cats paw, sheep claw | 45. | Router bit 1/4" shank 1/4" round over with bearing guide |
| 37. | Sanding block, Wood, rubber or plastic | | |
| 38. | VIX bits-#5 and #9 | | |

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
1. Lab demonstration
 2. Lab assistance
 3. Speaker(s)
 4. Field Trip(s)
 5. Instructional handouts

VII. METHODS OF EVALUATION

- A. Methods of evaluation, although determined by the individual instructor, traditionally includes the following:
1. Projects (100% of final grade)

VIII. SPECIFIC COURSE REQUIREMENTS

- A. Student must meet all of the following to receive a passing grade:
1. Achieve a passing grade of "C" (70%) or higher, based on SCC grading scale.
 2. Submit own work. Students turning in homework, reports, field notes, or calculations by someone other than themselves will receive 0% and be referred to the Division Dean and Dean of Students for further disciplinary action. Consequences can include failing the course.
 3. Demonstrate attitude, skills, and character commensurate with industry standards.
 4. All program policies of the Building Construction Technology program will be strictly enforced.
 5. Intentional damage to college property will not be tolerated and may result in punitive action, such as being removed from the program.
 6. All cell phones will be turned off during class/lab time. If this becomes a problem, the instructor may consider the delinquent student absent.