



El Camino College  
COURSE OUTLINE OF RECORD – Official

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| <b>Course Acronym:</b>              | CTEC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Course Number:</b>               | 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Descriptive Title:</b>           | General Cabinet Making                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Division:</b>                    | Industry and Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Department:</b>                  | Construction Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Course Disciplines:</b>          | Construction Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Catalog Description:</b>         | <p>This course is one in a series of courses designed for students to develop a solid background in the fundamentals of woodworking technology. Topics include operating stationary woodworking equipment, hand-held power tools and sanding equipment safely, lumber characteristics, gluing and clamping techniques, filing and chiseling and fasteners. Students will fabricate free standing woodworking projects.</p> <p><i>Note: Completion of the degree or certificate requirements qualifies students to receive a maximum of two years credit toward the California State Contractor's License for the C-6 Cabinet, Millwork and Finish Carpentry examination.</i></p> |
| <b>Prerequisite:</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Co-requisite:</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Recommended Preparation:</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Enrollment Limitation:</b>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Hours Lecture (per week):</b>    | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Hours Laboratory (per week):</b> | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Outside Study Hours:</b>         | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Total Course Hours:</b>          | 72                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Course Units:</b>                | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Grading Method:</b>              | Letter Grade only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Credit Status:</b>               | Credit, degree applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Transfer CSU:</b>                | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Effective Date:</b>              | Fall 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Transfer UC:</b>                 | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Effective Date:</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>General Education:</b><br>ECC    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Term:</b>                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Other:</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| <b>CSU GE:</b>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Term:</b>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Other:</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>IGETC:</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Term:</b>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Other:</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Student Learning Outcomes:</b> | <p><b>SLO #1 Cross-Cut Plywood</b></p> <p>Using the panel saw, student will cross-cut plywood to specified dimensions.</p> <p><b>SLO #2 Rip Cut Lumber</b></p> <p>Using the table saw, student will rip lumber to predetermined widths.</p> <p><b>SLO #3 Edge Glue Lumber</b></p> <p>Student will edge-glue lumber to increase overall width.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Course Objectives:</b>         | <ol style="list-style-type: none"> <li>1. Complete a written comprehensive woodworking safety test with 100% accuracy.</li> <li>2. Set-up table saw and rip plywood.</li> <li>3. Set-up panel saw and crosscut plywood.</li> <li>4. Assemble a butt joint.</li> <li>5. Demonstrate gluing procedure for butt joints.</li> <li>6. Demonstrate use of clamping cauls such that pressure is distributed uniformly.</li> <li>7. Interpret perspective cabinet drawings.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Major Topics:</b>              | <p><b>I. OVERVIEW OF GENERAL CABINET MAKING (1 hour, lecture)</b></p> <ol style="list-style-type: none"> <li>A. Shop procedures</li> <li>B. Vendors and suppliers</li> <li>C. Resources and references</li> </ol> <p><b>II. OVERVIEW OF GENERAL CABINET MAKING (3 hours, lab)</b></p> <ol style="list-style-type: none"> <li>1. <ol style="list-style-type: none"> <li>A. Cages and storerooms</li> <li>B. Toolroom</li> <li>C. Clamping and gluing area</li> <li>D. Finishing room</li> <li>E. Proper lab organization</li> <li>F. Clean-up procedures</li> </ol> </li> </ol> <p><b>III. SAFETY (1 hour, lecture)</b></p> <ol style="list-style-type: none"> <li>1. <ol style="list-style-type: none"> <li>A. Proper operation of woodworking equipment</li> <li>B. Safety procedures</li> <li>C. Safety test</li> </ol> </li> </ol> <p><b>IV. SAFETY (6 hours, lab)</b></p> |

- A. Proper operation of woodworking equipment
- B. Safety concerns
- C. Safe lab practices

**V. LUMBER (1 hour, lecture)**

- 1.
  - A. Availability
  - B. Characteristics
  - C. Grading system
  - D. Defects
  - E. Calculating board feet

**VI. LUMBER (3 hours, lab)**

- 1.
  - A. Identifying defects
  - B. Analyzing usability
  - C. Determining grade
  - D. Calculating board feet
  - E. Estimating cost

**VII. SURFACING MACHINES (1 hour, lecture)**

- A. Joiner
  - 1. Safety review
  - 2. Capacity
  - 3. Capabilities
  - 4. Adjustments
- B. Thickness planer
  - 1. Safety review
  - 2. Capacity
  - 3. Capabilities
  - 4. Adjustments

**VIII. SURFACING MACHINES (3 hours, lab)**

- A. Jointer
  - 1. Surface face
  - 2. Surface edges
- B. Planer
  - 1. The planning sequence
  - 2. Surface rough face
  - 3. Surface jointed face

**IX. ROUGH HARDWOOD LUMBER (1 hour, lecture)**

- A. Kiln dried
- B. Air dried
- C. Warpage
- D. Squaring procedure

- E. Ring orientation
- F. Gluing and clamping

#### **X. ROUGH HARDWOOD LUMBER (6 hours, lab)**

- 1.
  - A. Select material
  - B. Identify warpage
  - C. Choose procedure to correct
  - D. Square six sides
  - E. Arrange ring orientation
  - F. Following gluing and clamping procedure

#### **XI. TABLE SAWS (1 hour, lecture)**

- 1.
  - A. Safety procedures
  - B. Type
  - C. Size
  - D. Primary use
  - E. Blades

#### **XII. TABLE SAWS (3 hours, lab)**

- 1.
  - A. Safety procedures
  - B. Selecting the correct blade
  - C. Changing blades correctly
  - D. Ripping procedure
  - E. Cross cutting miter gauge
  - F. Cross cutting clearance

#### **XIII. BAND SAW (1 hour, lecture)**

- 1.
  - A. Safety procedures
  - B. Blade storage
  - C. Blade selection
  - D. Size
    - 1. Width
    - 2. Length
    - 3. Gauge
    - 4. Tooth style
    - 5. Tooth spacing
  - E. Cuts
    - 1. Rough
    - 2. Straight finish
    - 3. Curves
    - 4. Resawing
    - 5. Round
    - 6. Preparation for turning

**XIV. BAND SAW (6 hours, lab)**

- A. Safety procedures, performing pre-use safety inspection
- B. Selecting and installing appropriate blades and demonstrate cuts
  - 1. Rough
  - 2. Straight finish
  - 3. Curves
  - 4. Resaw
  - 5. Round
  - 6. Preparation for turning

**XV. WOOD LATHE (3.5 hours, lecture)**

- 1.
  - A. Identifying lathe parts
  - B. Methods of operation
  - C. Tool selection
  - D. Mounting stock
  - E. Turning techniques

**XVI. WOOD LATHE (9 hours, lab)**

- A. Selecting tooling, mounting styles and demonstrating:
  - 1. Between center
  - 2. Spindle
  - 3. Mandrel
  - 4. 4 jaw chuck
- B. Face plate
  - 1. Bowl
  - 2. Hollow form

**XVII. ROUTERS (3 hours, lecture)**

- A. Bits
  - 1. Edge forming
  - 2. Groove
- B. Standard handheld
  - 1. Edge forming
  - 2. Grooving
- C. Plunge router
  - 1. Templates
  - 2. Profile

**XVIII. OUTERS (6 hours, lab)**

- A. Standard router
  - 1. Selecting bit
  - 2. Edge profile
  - 3. Groove using template guide
  - 4. Groove using edge guide

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|                             | <ul style="list-style-type: none"> <li>5. Direction of feed</li> </ul> <p>B. Plunge router</p> <ul style="list-style-type: none"> <li>1. Create profile templates</li> <li>2. Route profile</li> <li>3. Create interior template</li> <li>4. Route interior cut</li> <li>5. Direction of feed</li> </ul> <p><b>XIX. ROUTER TABLE (1.5 hours, lecture)</b></p> <p>A. Set-up</p> <ul style="list-style-type: none"> <li>1. Guards</li> <li>2. Fence</li> <li>3. Feather boards</li> <li>4. Feed direction</li> </ul> <p>B. Router bit types</p> <p><b>XX. ROUTER TABLE (3 hours, lab)</b></p> <p>A. Route edge profile sample</p> <ul style="list-style-type: none"> <li>1. Standard fence</li> <li>2. Zero clearance fence</li> </ul> <p>B. Route groove sample</p> <p><b>XXI. POWER SANDERS (3 hours, lecture)</b></p> <p>A. Stationary</p> <ul style="list-style-type: none"> <li>1. Belt installation</li> <li>2. Table adjustment</li> <li>3. Technique</li> </ul> <p>B. Handheld</p> <ul style="list-style-type: none"> <li>1. ½ and ¼ sheet finish</li> <li>2. Random orbit</li> <li>3. Belt</li> </ul> <p>C. Abrasives</p> <ul style="list-style-type: none"> <li>1. Grade</li> <li>2. Type</li> </ul> <p><b>XXII. POWER SANDERS (6 hours, lab)</b></p> <p>A. Stationary sanders</p> <ul style="list-style-type: none"> <li>1. Adjustments</li> <li>2. Technique</li> </ul> <p>B. Handheld</p> <ul style="list-style-type: none"> <li>1. Selecting and installing appropriate abrasive</li> <li>2. Demonstrate correct technique for: <ul style="list-style-type: none"> <li>a. Belt</li> <li>b. Random orbit</li> <li>c. ½ and ¼ sheet</li> </ul> </li> </ul> |
| <b>Total Lecture Hours:</b> | 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| <b>Total Laboratory Hours:</b>                                | 54                                                                                                                                                                                                                                                           |
| <b>Total Hours:</b>                                           | 72                                                                                                                                                                                                                                                           |
| <b>Primary Method of Evaluation:</b>                          | 3) Skills demonstration                                                                                                                                                                                                                                      |
| <b>Typical Assignment Using Primary Method of Evaluation:</b> | Identify position of dado cuts and face frame alignments to create the dado joints to construct a storage box. When completed, consult the instructor for evaluation.                                                                                        |
| <b>Critical Thinking Assignment 1:</b>                        | Cut straight and parallel boards on a table saw to prepare material for edge gluing to increase width of a panel. When completed, consult the instructor for evaluation.                                                                                     |
| <b>Critical Thinking Assignment 2:</b>                        | Using a band saw, reference the Plan of Procedure to make cuts in the correct order to fabricate a push stick. Submit push stick to the instructor.                                                                                                          |
| <b>Other Evaluation Methods:</b>                              | Class Performance<br>Objective Exam<br>Performance Exams                                                                                                                                                                                                     |
| <b>Instructional Methods:</b>                                 | Demonstration<br>Laboratory<br>Lecture                                                                                                                                                                                                                       |
| <b>If other:</b>                                              |                                                                                                                                                                                                                                                              |
| <b>Work Outside of Class:</b>                                 | Required reading<br>Other (specify)<br>Research                                                                                                                                                                                                              |
| <b>If Other:</b>                                              |                                                                                                                                                                                                                                                              |
| <b>Up-To-Date Representative Texts:</b>                       | Patrick Molzah. William Umstattd and Charles Davis. <u>MODERN CABINET MAKING</u> . 6th edition. Goodheart Willcox Publishers. 2023<br><br>Charles Woolever. <u>Construction Technology Safety Guide in the Woodshop</u> . 2003. Daily J. Discipline Standard |
| <b>Alternative Texts:</b>                                     |                                                                                                                                                                                                                                                              |
| <b>Required Supplementary Readings:</b>                       |                                                                                                                                                                                                                                                              |
| <b>Other Required Materials:</b>                              | Safety glasses<br>Ear plugs<br>Dust mask                                                                                                                                                                                                                     |

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|                                                                                                                                                    | Closed toe shoes |
| <b>Requisite:</b>                                                                                                                                  |                  |
| <b>Category:</b>                                                                                                                                   |                  |
| <b>Requisite course(s):</b><br>List both prerequisites and corequisites in this box.                                                               |                  |
| <b>Requisite and Matching skill(s):</b> Bold the requisite skill. List the corresponding course objective under each skill(s).                     |                  |
| <b>Requisite Skill:</b>                                                                                                                            |                  |
| <b>Requisite Skill and Matching Skill(s):</b> Bold the requisite skill(s). If applicable                                                           |                  |
| <b>Requisite course:</b>                                                                                                                           |                  |
| <b>Requisite and Matching skill(s):</b> Bold the requisite skill. List the corresponding course objective under each skill(s).                     |                  |
| <b>Requisite Skill:</b>                                                                                                                            |                  |
| <b>Requisite Skill and Matching skill(s):</b> Bold the requisite skill. List the corresponding course objective under each skill(s). If applicable |                  |
| <b>Enrollment Limitations and Category:</b>                                                                                                        |                  |
| <b>Enrollment Limitations Impact:</b>                                                                                                              |                  |
| <b>Course Created by:</b>                                                                                                                          | Jack Selph       |
| <b>Date:</b>                                                                                                                                       | 10/09/2012       |
| <b>Original Board Approval Date:</b>                                                                                                               | 03/18/2013       |
| <b>Last Reviewed and/or Revised by:</b>                                                                                                            | Jack Selph       |
| <b>Date:</b>                                                                                                                                       | 04/28/2025       |

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|--------------------------------------|------------|
| <b>Last Board Approval<br/>Date:</b> | 06/26/2025 |
| <b>Effective Term:</b>               | FA 2026    |