



El Camino College
COURSE OUTLINE OF RECORD – Official

Course Acronym:	CTEC
Course Number:	201
Descriptive Title:	Upper Residential Cabinets
Division:	Industry and Technology
Department:	Construction Technology
Course Disciplines:	Construction Technology
Catalog Description:	<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 properties of wood and wood products, the fabrication and installation of upper residential cabinets, construction techniques and the multiple support systems used to attach wall or ceiling mounted cabinets.</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>
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	1
Hours Laboratory (per week):	3
Outside Study Hours:	2
Total Course Hours:	72
Course Units:	2
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	03/18/2013
Transfer UC:	No
Effective Date:	
General Education: ECC	
Term:	
Other:	

	CSU GE:
	Term:
	Other:
	IGETC:
	Term:
	Other:
Student Learning Outcomes:	<p>SLO #1 Face Frame Doweling</p> <p>Student will lay out dowel hole boring locations for a face frame.</p> <p>SLO #2 Dowel Hole Boring</p> <p>Using the horizontal boring machine, student will bore dowel holes.</p> <p>SLO #3 Diagonal Technique Face Frame</p> <p>Student will assemble face frame utilizing diagonal comparative technique to square.</p>
Course Objectives:	<ol style="list-style-type: none"> 1. <ol style="list-style-type: none"> 1. Complete a written comprehensive woodworking safety test with 100% accuracy. 2. Set-up and calibrate a dado head. 3. Demonstrate the gluing procedure used for dowels and face frames. 4. Fabricate a face frame. 5. Calculate the number of sheets of plywood required for a cabinet. 6. Compare and contrast the most common materials used in cabinet construction. 7. Operate a nail gun on a face frame. 8. Demonstrate plate joinery in case construction. 9. Interpret perspective cabinet drawings.
Major Topics:	<p>I. OVERVIEW OF UPPER RESIDENTIAL CABINET MAKING (1 hour, lecture)</p> <ol style="list-style-type: none"> 1. <ol style="list-style-type: none"> A. Shop procedures B. Vendors and suppliers C. Resources and references <p>II. OVERVIEW OF UPPER RESIDENTIAL CABINET MAKING (3 hours, lab)</p> <ol style="list-style-type: none"> 1. <ol style="list-style-type: none"> A. Cages and storerooms B. Toolroom C. Clamping and gluing area D. Finishing room E. Proper shop organization F. Clean-up procedures <p>III. SAFETY (2 hours, lecture)</p> <ol style="list-style-type: none"> 1.

- A. Proper operation of woodworking equipment
- B. Safety procedures
- C. Safety test

IV. SAFETY (6 hours, lab)

- 1.
 - A. Proper operation of woodworking equipment
 - B. Safety concerns
 - C. Safe lab practices

V. UPPER RESIDENTIAL CABINET DESIGN (1 hour, lecture)

- 1.
 - A. General specifications
 - B. Special applications
 - C. Design
 - D. Orthographic projection
 - E. Dimensioning

VI. UPPER RESIDENTIAL CABINET DESIGN (3 hours, lab)

- 1.
 - A. Creating design
 - B. Producing drawing
 - C. Dimensioning cabinet

VII. MATERIALS (2 hours, lecture)

- 1.
 - A. Selection
 - B. Characteristics
 - C. Defects
 - D. Correction techniques
 - E. Surfacing procedure

VIII. MATERIALS (6 hours, lab)

- 1.
 - A. Selecting rough stock
 - B. Identifying defects
 - C. 7-step procedure to correct rough stock

IX. UPPER FACE FRAME (1 hour, lecture)

- 1.
 - A. Milling procedure
 - B. Joint selection

X. UPPER FACE FRAME (3 hours, lab)

- 1.

- A. Dimensioning of stock
- B. Fabrication of joints
- C. Gluing and clamping
- D. Squaring

XI. CASEWORK SHEET GOODS (2 hours, lecture)

- 1.
 - A. Plywood
 - B. Medium Density Fiberboard (MDF)
 - C. Melamine
 - D. Grades
 - E. Proper handling

XII. CASEWORK SHEET GOODS (6 hours, lab)

- 1.
 - A. Proper handling techniques
 - B. Table saw ripping techniques
 - C. Panel saw cross cutting
 - D. Final dimensioning

XIII. JOINTS (2 hours, lecture)

- 1.
 - A. Dado
 - B. Blind dado
 - C. Rabbet
 - D. Rabbet dado
 - E. Miter

XIV. JOINTS - SET UP AND MACHINING JOINTS (6 hours, lab)

- 1.
 - A. Dado
 - B. Blind dado
 - C. Rabbet
 - D. Rabbet dado
 - E. Miter

XV. ADJUSTABLE SHELF SUPPORT SYSTEMS (1 hour, lecture)

- 1.
 - A. Plant on
 - B. Inset
 - C. Line bore

XVI. ADJUSTABLE SHELF SUPPORT SYSTEMS (3 hours, lab)

- 1.
 - A. Selecting appropriate type
 - B. Mill

C. Install

XVII. JIGS AND FIXTURES UNIQUE TO UPPER RESIDENTIAL CABINETS (1 hour, lecture)

1.
 - A. Use
 - B. Design
 - C. Construction

XVIII. JIGS AND FIXTURES UNIQUE TO UPPER RESIDENTIAL CABINETS (3 hours, lab)

1.
 - A. Design jig as alternate method of cutting
 - B. Fabrication of jigs
 - C. Machine joints

XIX. ROUGH ASSEMBLY PROCEDURE (2 hours, lecture)

1.
 - A. Glues
 - B. Mechanical fasteners
 - C. Biscuits
 - D. Screws, nails and staples
 - E. Clamping
 - F. Squaring technique

XX. ROUGH ASSEMBLY PROCEDURE (6 hours, lab)

1.
 - A. Dry fit
 - B. Selecting glue and fastening techniques
 - C. Assembling
 - D. Clamping techniques
 - E. Final squaring

XXI. FINAL FIT (2 hours, lecture)

1.
 - A. Flush trimming techniques
 - B. Sanding techniques
 - C. Detail routing techniques

XXII. FINAL FIT (6 hours, lab)

1.
 - A. Flush trim
 - B. Sand
 - C. Detail routing

XXIII. INSTALLATION PREPARATION (1 hour, lecture)

	<p>1.</p> <ul style="list-style-type: none"> A. Support systems B. Hanging strips C. Backing D. Scribe and trim molding <p>XXIV. INSTALLATION PREPARATION (3 hours, lab)</p> <p>1.</p> <ul style="list-style-type: none"> A. Installation of support members B. Cutting, fitting and installing hanging strips C. Preparing and installing back D. Mill, scribe and other trim molding
Total Lecture Hours:	18
Total Laboratory Hours:	54
Total Hours:	72
Primary Method of Evaluation:	3) Skills demonstration
Typical Assignment Using Primary Method of Evaluation:	Presented with a piece of stock in rough condition, mill the stock with a radial arm saw, jointer, planer and table saw to produce material that is square on all six surfaces. Submit material to the instructor.
Critical Thinking Assignment 1:	Design an upper residential cabinet, including a detailed drawing complete with dimensions and specifications. Submit drawing to the instructor.
Critical Thinking Assignment 2:	Create a Bill of Material (BOM) required for the fabrication of an upper residential cabinet. Record the cost of materials on the BOM and submit to the instructor.
Other Evaluation Methods:	Class Performance Objective Exam Performance Exams
Instructional Methods:	Demonstration Lab Lecture
If other:	
Work Outside of Class:	Required reading Skill practice Study
If Other:	
Up-To-Date Representative Textbooks:	Patrick Molzahn, William Umstattd and Charles Davis. <u>MODERN CABINETMAKING</u> . Goodheart Willcox Publishers, 6 th edition, 2023
Alternative Textbooks:	
Required Supplementary Readings:	
Other Required Materials:	Safety glasses Ear plugs

	Dust mask
	Closed toe shoes
Requisite:	
Category:	
Requisite course(s): List both prerequisites and corequisites in this box.	
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	
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Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Jack Selph
Date:	10/09/2012
Original Board Approval Date:	03/18/2013
Last Reviewed and/or Revised by:	Jack Selph
Date:	02/15/2023
Last Board Approval Date:	07/17/2023 effective FALL 2024