



El Camino College
COURSE OUTLINE OF RECORD – Official

Course Acronym:	CTEC
Course Number:	213
Descriptive Title:	Furniture Making Laboratory - Building without Plans
Division:	Industry and Technology
Department:	Construction Technology
Course Disciplines:	Cabinet Making AND Furniture Making
Catalog Description:	This course is one in a series of courses structured as a problem-solving approach to furniture making with an emphasis on building without plans. Abandoning formal detailed plans, students will use thumbnail sketching techniques to create a furniture design. Thumbnail sketches will be used to create a full size drawing detailing joinery and using coloring techniques to emphasize wood contrasts. Taking measurements directly from full size drawings and referencing joinery details, students will fabricate a furniture piece. <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>
Prerequisite:	Construction Technology 200 or Construction Technology 201 or Construction Technology 202 or Construction Technology 203 with a minimum grade of C or concurrent enrollment
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	0
Hours Laboratory (per week):	4.5
Outside Study Hours:	0
Total Course Hours:	81
Course Units:	1.5
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	Fall 2013
Transfer UC:	No
Effective Date:	
General Education:	ECC

Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	
Term:	
Other:	
Student Learning Outcomes:	SLO #1 Project Option Thumbnails Student will create three thumbnail sketches of project options. SLO #2 Full Size Drawing from Thumbnail Student will expand selected thumbnail sketch to full size drawing. SLO #3 Coloring Techniques Student will enhance details of full size drawing using coloring techniques.
Course Objectives:	1. Correctly answer objective questions on the safe use of woodworking equipment. 2. Create thumbnails sketches of a furniture piece. 3. Expand a thumb nail sketch of your furniture design to a full scale sketch. 4. Articulate joinery techniques that will be used to fabricate furniture project. 5. Create a Bill of Material (BOM) and a Plan of Procedure from referring to the full scale sketch of furniture project. 6. Demonstrate appropriate skill level in fabrication and assembly of furniture project.
Major Topics:	I. OVERVIEW OF BUILDING WITHOUT PLANES (3 hours, lab) 1. A. Project requirements B. Resources C. Lab procedures 1. Cages and storerooms 2. Toolroom 3. Clamping and gluing area 4. Finishing room 5. Proper lab organization 6. Clean-up procedures II. SAFETY (2 hours, lab) 1. A. Comprehensive safety test B. Demonstration III. BUILDING WITHOUT PLANS (6 hours, lab) 1.

	A. Creating multiple thumbnail sketches of a furniture piece B. Creating full-scale drawing from a selected thumbnail sketch C. Coloring in wood and joinery creating perspective D. Creating mockup of joinery technique E. Referencing full-scale drawing to create BOM F. Formulating Plan of Procedure G. Selecting material for furniture piece IV. FABRICATION OF PROJECT (54 hours, lab) 1. A. Using BOM B. Using Plan of Procedure C. Fabricating components D. Milling joints E. Assembling furniture piece V. FINISHING (10 hours, lab) 1. A. Sanding B. Staining C. Painting D. Protective coating VI. PRESENTATION (6 hours, lab) 1. A. Evaluation of project B. Discussion of challenges C. Soliciting recommended improvements
Total Lecture Hours:	0
Total Laboratory Hours:	81
Total Hours:	81
Primary Method of Evaluation:	3) Skills demonstration
Typical Assignment Using Primary Method of Evaluation:	Produce multiple thumbnail sketches of a headboard design including multiple joinery options. Submit sketches to the instructor.
Critical Thinking Assignment 1:	Referencing thumbnail sketches of an entertainment center, produce a full-scale drawing using coloring techniques to emphasize wood contrasts. Submit drawing to the instructor.
Critical Thinking Assignment 2:	Create joint mockups for a head board and evaluate design aesthetic and joint design. When completed, consult the instructor for evaluation.
Other Evaluation Methods:	Class Performance Objective Exam

	Performance Exams
Instructional Methods:	Demonstration Lab Lecture
If other:	
Work Outside of Class:	Course is lab only - minimum required hours satisfied by scheduled lab time and estimated student hours outside of class per week is zero.
If Other:	
Up-To-Date Representative Texts:	Willis H. Wagner and Clois E. Kicklighter, <u>MODERN WOODWORKING</u> , Goodheart-Willcox, 2006. Discipline Standard Charles Woolever. <u>CONSTRUCTION TECHNOLOGY SAFETY GUIDE IN THE WOODSHOP</u> . 2003. Daily J. Discipline Standard
Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	Safety glasses Ear plugs Dust mask Closed toe shoes
Requisite:	Prerequisite
Category:	sequential
Requisite course(s): List both prerequisites and corequisites in this box.	Construction Technology 200 or Construction Technology 201 or Construction Technology 202 or Construction Technology 203
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	Ability to use woodshop machinery and basic hand tools. CTEC 201 - Set-up and calibrate a dado head. CTEC 202 - Demonstrate use of band saw to cut kick plates. CTEC 203 - Set-up and use router to machine a rabbet cut. CTEC 202 - Set-up and use line boring machine. Ability to read shop drawings.

	CTEC 200 - Interpret perspective cabinet drawings. CTEC 203 - Interpret perspective cabinet drawings. CTEC 201 - Interpret perspective cabinet drawings. CTEC 202 - Interpret perspective cabinet drawings. Ability to do basic mathematical computations. CTEC 203 - Square rough lumber into usable stock. CTEC 200 - Interpret perspective cabinet drawings. CTEC 202 - Join lumber to increase width and change grain direction. CTEC 201 - Interpret perspective cabinet drawings. Ability to read a standard tape measure. CTEC 200 - Set-up table saw and rip plywood. CTEC 201 - Set-up and calibrate a dado head. CTEC 203 - Square rough lumber into usable stock. CTEC 202 - Machine a dado joint.
Requisite Skill:	or concurrent enrollment
Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	If students enroll in one of the basic cabinet making classes concurrently, Construction Technology 200, 201, 202 or 203, students will have the skills needed to succeed in this course.
Requisite course:	
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:	04/28/2025
Last Board Approval Date:	06/26/2025
Effective Term:	FA 2026