Course Acronym:	CTEC
Course Number:	222
Descriptive Title:	Convenience Hardware
Division:	Industry and Technology
Department:	Construction Technology
Course Disciplines:	Construction Technology
Catalog Description:	In this course, students learn the selection, use and installation of convenience hardware such as recycling bins, lazy susans, hampers and closet organizers. Topics include correct dimensioning and proper installation techniques unique to selected hardware.
Prerequisite:	Construction Technology 200 or Construction Technology 201 or Construction Technology 202 or Construction Technology 203 with a minimum grade of C
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	1.5
Hours Laboratory (per week):	3
Outside Study Hours:	3
Total Course Hours:	81
Course Units:	2.5
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	1/20/2016
Transfer UC:	No
Effective Date:	
General Education: ECC	
Term:	
Other:	

CSU GE:	
Term:	
Other:	
IGETC:	
Term:	
Other:	
Student Learning Outcomes:	**SLO #1 Installation of Laundry Hamper** Student will select and install appropriate laundry hamper. **SLO #2 Installation of Valet Rod** Student will install and adjust valet rod using horizontal application. **SLO #3 Lazy Susan Assembly** Student will lay out and bore holes for installation of lazy susan.
Course Objectives:	1. Complete a written comprehensive woodshop safety test with 100% accuracy. 2. Bore holes for lazy susan installation using manufacturer's template. 3. Calculate opening and dimensions for pull-out ironing board 4. Install and adjust valet rod using horizontal application. 5. Select appropriate tray configuration for 45-degree upper cabinet.
Major Topics:	**I. OVERVIEW OF CONVENIENCE HARDWARE (1.5 hours, lecture)** A. Shop procedures B. Types of convenience hardware C. Convenience hardware manufacturers D. Installation and specification of convenience hardware E. Resources

II. OVERVIEW OF CONVENIENCE HARDWARE (3 hours, lab)

A. Cages and store rooms
B. Tool room
C. Clamping and gluing area
D. Finishing room
E. Proper shop organization
F. Clean-up procedure

III. SAFETY (1.5 hours, lecture)

A. Safety test
B. Performance test

IV. SAFETY (3 hours, lab)

A. Demonstration of proper operation of woodworking equipment
B. Discussing safety concerns
C. Reviewing safe shop practices

V. LAZY SUSANS - CONFIGURATION AND APPLICATION (9 hours, lecture)

A. Full circle
B. D-shape
C. Kidney-shape
D. Pie-shape
E. Half-moon

VI. LAZY SUSANS - FABRICATION AND INSTALLATION (18 hours, lab)

A. Calculating dimensions for 45-degree installation of D-shape
B. Constructing cabinet mock-up kidney-shape and pie-shape application
C. Installing hinging for bi-fold doors kidney-shape application incorporating correct overlay
D. Using the same mock-up install pie-shape allowing proper gap for swing clearance
E. Adjusting pie-shape for plumb and level
F. Installing full round upper cabinet application

VII. CLOSET ACCESSORIES - TYPE AND APPLICATION (7.5 hours, lecture)

A. Hampers
B. Pull-outs and pull-downs
C. Clothes racks
D. Baskets
E. Valet series

VIII. CLOSET ACCESSORIES - SELECTION AND INSTALLATION (15 hours, lab)

A. Selecting pull-down closet rod kit for available space install and adjust rod length
B. Choosing two from the Valet series: Rod, Tie Butler, Belt Butler or Jewelry Valet
C. Determining vertical or horizontal application; installing and adjusting
D. Selecting hamper size and configuration to maximize available space
E. Installing selected hamper
F. Applying either overlay or flush door and making appropriate adjustments

IX. SPECIALTY HARDWARE - SELECTION AND USE (7.5 hours, lecture)

A. Ironing board pullout and fold down
B. Stemware
C. Recycle

    1. Recycle center
    2. Single
    3. Double

D. Trash

    1. Soft-close
    2. Electrical assist
    3. Top mount
    4. Bottom mount
    5. Pivot out

X. SPECIALTY HARDWARE - INSTALLATION (15 hours, lab)

A. Using manufacturer's specifications to determine dimensions.
B. Constructing cabinet to accommodate model and style of chosen ironing board
C. Installing ironing board; adjusting and mounding drawer front or door
D. Reviewing specifications for recycle center to determine space requirements
E. Installing center adjust for travel and plumb
F. Mounting drawer front; checking for symmetrical reveal
G. Installing bottom-mount, double-recycle door mount
H. Participating in the installation and connection of electric-assist trash container

Total Lecture Hours:	27
Total Laboratory Hours:	54
Total Hours:	81
Primary Method of Evaluation:	3) Skills demonstration
Typical Assignment Using Primary Method of Evaluation:	Install and adjust a valet rod using horizontal application. Consult the instructor for evaluation.
Critical Thinking Assignment 1:	Given a shop drawing, reference the Rev-A-Shelf Specification Guide and calculate opening dimensions for a pull-out hamper. Write calculations on the shop drawing and submit to the instructor.
Critical Thinking Assignment 2:	Given a shop drawing, calculate rough opening dimensions for a built in drop down ironing board. Write calculations on the shop drawing and submit to the instructor.
Other Evaluation Methods:	Class Performance
Instructional Methods:	Demonstration Discussion Group Activities Laboratory Lecture
If other:	
Work Outside of Class:	Study Answer questions Skill practice Required reading Problem solving activities
If Other:	
Up-To-Date Representative Textbooks:	William Umstattd and Charles Davis. Modern Cabinetmaking. Goodheart WIllcox Publishers, 5th edition, 2016 Discipline Standard
Alternative Textbooks:	
Required Supplementary Readings:	Rev-A-Shelf Specification Guide Blum USA Specification Guide
Other Required Materials:	Safety glasses Ear plugs Dust mask
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 200 - Set-up table saw and rip plywood. CTEC 200 - Set-up panel saw and crosscut plywood. CTEC 203 - Set-up and use router to machine a rabbet cut. CTEC 202 - Demonstrate use of band saw to cut kick plates. CTEC 202 - Set-up and use line boring machine. CTEC 201 - Operate a nail gun on a face frame. **Ability to interpret manufacturer's specifications** 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 perform basic mathematical computations.** CTEC 201 - Set-up and calibrate a dado head. CTEC 200 - Set-up panel saw and crosscut plywood. CTEC 201 - Calculate the number of sheets of plywood required for a cabinet. CTEC 202 - Set-up and use line boring machine. CTEC 203 - Demonstrate ability to understand and interpret factory appliance cut out specifications.

	CTEC 202 - Join lumber to increase width and change grain direction. **Ability to read a standard tape measure.** CTEC 200 - Set-up table saw and rip plywood. CTEC 200 - Set-up panel saw and crosscut plywood. CTEC 203 - Set-up and use router to machine a rabbet cut. CTEC 203 - Square rough lumber into usable stock. CTEC 201 - Calculate the number of sheets of plywood required for a cabinet. CTEC 202 - Set-up and use line boring machine. CTEC 202 - Join lumber to increase width and change grain direction.
Requisite Skill:	
Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	
Requisite course:	
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Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Jack Selph
Date:	10/20/2015
Original Board Approval Date:	01/20/2016
Last Reviewed and/or Revised by:	Jack Selph

Date:	03/02/2022
Last Board Approval Date:	04/18/2022