

College of the Redwoods Course Outline of Record Report 10/10/2020

CT135 : Woodworking Hand Tools and Technique

General Information	
Author (s):	Ralph HafarRiggs, Wendy
Course Code (CB01) :	СТ135
Course Title (CB02) :	Woodworking Hand Tools and Technique
Department:	Construction Technology
Proposal Start:	Fall 2021
TOP Code (CB03) :	(0952.10) Carpentry
CIP Code:	(46.0201) Carpentry/Carpenter
SAM Priority Code (CB09) :	Clearly Occupational
Distance Education Approved:	No
Course Control Number (CB00) :	CCC000542560
Curriculum Committee Approval Date:	02/08/2013
Board of Trustees Approval Date:	04/02/2013
External Review Approval Date:	09/29/2013
Course Description:	A course in the use and techniques of woodworking hand tools and hand tool joinery. Students will receive instruction in the making, tuning, and proper use of wooden hand planes and lay-out tools. Traditional woodworking joinery techniques will be studied and performed at the bench including: edge joining, dowelling, hand-cut dovetails, and mortise and tenon joinery.

Instructor Discipline(s)	
Master Discipline Preferred:	 Cabinet Making Construction Technology Furniture Making
Bachelors or Associates Discipline Preferred:	 Cabinet Making Construction Technology Furniture Making

Rationale & Consultation

Provide explanation of and justification for the creation of/changes to this course. Be sure to explain the reasons for any changes to class size, unit value, and pre/co-requisites.

This is a regular five-year update with the addition of distance education addenda for hybrid format.

Faculty consulted in developing or revising this COR, including their discipline.

Derek Glavich, Construction Technology

Course Development Options

Course Basic Skill Status (CB08) Course is not a basic skills course.	Course Special Class Status (CB13) Course is not a special class. Allowed Number of Retakes	Grade Options Letter Grade methods Course Prior to College Level (CB21)	
Exam/Challenge	0	Not applicable.	
NR-No Repeats			

Program Applicability

Course is part of a program (CB24)		
Associated Program	Award Type	Active
Cabinetmaking & Millwork	Certificate of Achievement	Summer 2018 to Fall 2018
Cabinetmaking & Millwork	Certificate of Achievement	Fall 2018

GE, Articulation, & C-ID Transferability Transferability Status Not transferable Not transferable

CR GE Rationale

ALL CR GE PROPOSALS & RENEWALS: Explain how the proposed course fulfills GE criteria for breadth and generality. GE courses should be broad and general in scope. Typically such courses are introductory—not advanced or specialized—and the content encompasses a broad spectrum of knowledge within a given field of study.

No Value

AREA A - NATURAL SCIENCES Explain how this course's outcomes map to each of the outcomes for Area A: 1) Communicate scientific ideas; 2) Apply scientific concepts to analyze natural relationships. (Note: one course outcome may satisfy multiple GE Area outcomes.) No Value

No Value

AREA B - SOCIAL SCIENCE Explain how this course's outcomes map to each of the outcomes for Area B: 1) Communicate intellectual ideas related to the social sciences; 2) Apply social science concepts to analyze social, historical, political, anthropological or psychological relationships. (Note: one course outcome may satisfy multiple GE Area outcomes.)

No Value

AREA C - HUMANITIES Explain how this course's outcomes map to each of the outcomes for Area C: 1) Communicate aesthetic and/or cultural ideas; 2) Analyze ideas or practices specific to the influence of culture on human expression. (Note: one course outcome may satisfy multiple GE Area outcomes.)

No Value

AREA D1 - WRITING Explain how this course's outcomes map to each of the outcomes for Area D1: 1) Generate, compose, revise, and communicate ideas clearly in writing; 2) Analyze ideas presented in writing, media, speech, or artistic representations. (Note: one course outcome may satisfy multiple GE Area outcomes.)

No Value

AREA D2 - ORAL COMMUNICATIONS Explain how this course's outcomes map to each of the outcomes for Area D2: 1) Generate, compose, revise, and communicate ideas clearly; 2) Analyze ideas presented in writing, media, speech or artistic representations. (Note: one course outcome may satisfy multiple GE Area outcomes.)

No Value

AREA D3 - ANALYTICAL THINKING Explain how this course's outcomes map to each of the outcomes for Area D3: 1) Communicate analytical and/or computational ideas; 2) Apply analytical and/or computational concepts to analyze relationships. (Note: one course outcome may satisfy multiple GE Area outcomes.)

No Value

CSU GE-Breadth & IGETC Rationale

Rationale for inclusion in the proposed CSU GE category/ies:

No Value

Rationale for inclusion in the proposed CSU GE category/ies, if different from CR GE rationale.

No Value

Rationale for inclusion in the proposed IGETC catagory/ies:

No Value

Rationale for inclusion in the proposed IGETC category/ies, if different from CR GE rationale.

No Value

Units and Hours

Summary								
Minimum Credit Unit	s (CB07)	2	Total Course In-Class (Hours	Contact)	72	Total Stud	ent Learning Hours	108
Maximum Credit Uni	ts (CB06)	2	Total Course Out-of-Cl Hours	ass	36	Faculty Load -		-
Credit / Non-Cr	edit Optio	ns						
Course Credit Status	(CB04)		Course Non-Credit Cat	tegory (CB22)	Non-Cred	it Characteristics	
Credit - Degree Applic	able		Credit Course.			No value		
Course Classification	Code (CB11)		Funding Agency Category (CB23)			Сооре	rative Work Experience E	ducation
Credit Course.			Not Applicable.			Status	(CB10)	
Variable Credit Co	urse							
Weekly Student	t Hours			Course	Student	Hours		
	In Class		Out of Class	Course	Duration (W	/eeks)	18	
Lecture Hours	1		2	Hours per unit divisor			54	
Lab Hours	3		-	- Course In-Class (Contact) Hours				
Activity Hours	-		-	Lecture 18		18		
				Lab			54	
				Activity			-	
				Total			72	
			Course Out-Of-Class Hours					
				Lecture			36	
				Lab			-	
				Activity			-	
				Total			36	
Timo Commitm	ont Notos	for Stude	nte					
No value	ent NOLES		fillo					
Faculty Load								
Extra Duty: -				Faculty Lo	ad: -			

Units and Hours - Weekly Specialty Hours					
Activity Name	Туре	In Class	Out of Class		
No value	No value	No value	No value		
CR Course Options					
Default Maximum Class Size: 20					
Default Accounting Method:					
Is this course to be offered as part of the CR Ho No	onors Program?				
If this course is to be offered as part of the CR Honors Program, explain how Honors sections will be different from standard sections. No Value					
Requisites					
 Advisory CT21A - Survey of Wood Technology Digetime (LEC) 2. Analyze and evaluate successful woodworking methods for inclusion into personal projects. (LEC) 3. Develop ability to research woodworking techniques and industry standards. (LEC) 4. Organize and plan the sequence of operations required to produce woodworking projects. (LAB) 5. Create joinery using woodworking hand tools and machines. (LAB) 6. Demonstrate proper use of personal protective equipment and machinery safety devices. (LAB) 7. Safely operate woodworking machinery and tools. (LAB) 8. Analyze and prepare raw materials to meet job requirements. Detomem 1. Select and safely use appropriate hand and power tools to perform precise woodworking operations. 3. Use time efficiently. 					
Advisory					
CT57A - Cabinetmaking and Millwork	I				
<u>Objectives</u>					

- Safely operate machinery and tools.
- Analyze and prepare materials to meet job requirements.
- Generate a cutting list to determine material needs.
- Store and handle raw and finished products in a protected manner.
- Demonstrate proper use of personal protective equipment and machinery safety devices.

Outcomes

• Operate and use cabinetmaking tools and machinery.

Counseling & Advising Notes	
Counseling & Advising Notes	Content Review
Recommended Preparation: CT-21A, Survey of Wood Technology or CT-57A, Cabinetmaking and Millwork I.	Although hand tool manipulation and techniques are the primary focus of this class, students will be required to occasionally operate power tools and prepare materials for their manipulative assignments. CT-21A and CT-57A provide thorough instruction on power tool operation and safety. Successful completion of safety tests is required for this class.

Limitations on Enrollment/Non-Course Prerequisites Limitation Provide Rationale No value No value Specifications No value Methods of Instruction Methods of Instruction Rationale Lecture / Discussion Demonstration lectures will be presented face-to-face and via recorded videos. Lectures include sample models of manipulative

recorded videos. Lectures include sample models of manipulative assignments, diagrams, electronic photos, and demonstrations of tool use. Lectures are interactive and students are invited to discuss their observations, actively participate and ask questions. This approach builds problem-solving skills while developing knowledge.

Lab	Lab instruction provides multi-sensory learning which benefits kinesthetic, visual, and auditory learners. Hands-on instruction is vital to the success of hand tool woodworking. The lab provides opportunity to learn by doing and develop skill by practice.
Skills Demonstrations	Practical demonstration of skills allows learners to show they have met the learning outcomes and have improved their hand tool skills. It is and indicator of the quality of learning which is vital to CE and hands-on training. For example, students will demonstrate their ability to use a dovetail saw, hand plane, and create wood joinery.
In-class Activities	Interactive lessons and activities encourage students to engage with content rather than passively absorbing it. Activities will be presented in-class or online via the Canvas LMS. Students will be separated into small groups which encourages discussion, active participation and interaction.

Representative Learning Activities

In Class

- 1. Listening to and watching instructor presentations.
- 2. Participating in classroom discussions.
- 3. Presenting projects to classroom peers.
- 4. Producing wood Joinery.
- 5. Demonstrating proper hand tool use and care.

Out-of-Class

- 1. Participate in online class discussions.
- 2. Critically read woodworking literature.
- 3. Research historical woodworking techniques and tool use.
- 4. View recorded lectures and woodworking videos.

Assessment Tasks

Methods of Evaluation Rationale

Representative Assessment Task	1. Participation in class discussions and peer project critiques.
	2. Completion of final exam, midterm exam, and weekly
	participation quizzes.

3. Participation in online of 4. Research reports, oral a Required Assessment Task	discussions. Ind written. 1. Project evalua 2. Oral presenta 3. Plane iron sha 4. Wood joinery tenon, dowel.	 ssions. vritten. 1. Project evaluation of shop-made hand tool(s). 2. Oral presentation. 3. Plane iron sharpening and use. 4. Wood joinery construction; half-blind dovetail, mortise and tenon, dowel. 			
Equipment					
Safety glasses, tape measure,	pencils, dust particle masks, sł	nop apron.			
Appropriate Texts or Other Readi	ng (examples; not required)				
Author	Title	Publisher	Year of Publication	ISBN	
Garrett Hack	The Handplane Book	Taunton Press	1999	1561583170	
Jim Tolpin	The New Traditional WoodWorker: From Tool Set to Skill Set to Mind Set	Popular Woodworking Books	2011	978-1440304286	
Allen and Gill Bridgewater	Mastering Hand Tool Techniques	Popular Woodworking Books	1997	978-1558704572	
Other Instructional Materials No Value					
Instructional Materials Fee (IMF) \$40.00					
Instructional Materials Fee Detail					

General description of supplies to be purchased with IMF revenue:

1. Lumber, plywood, MDF.

- 2. Marquetry materials: Fretsaw blades, jewelry drill bits, tracing mylar, graphite paper, masking tape.
- 3. Abrasives; silicon carbide paper for iron hand tools, sandpaper for wood projects.
- 4. Wood finish.

Specific description of personal property each student will take from class that has been constructed from the IMF materials:

- 1. Handplane shooting board; enables precise planning of stock end grain.
- 2. Marquetry saw stand; portable sawing fixture for double-bevel marquetry.
- 3. Dovetail marking gauge; used for precise layout of hand cut dovetails.
- 4 Shop-made hand tools: Student choice may include, but is not limited to; wooden handplane,

spokeshave, tool handles, marking gauge, panel gauge, etc.

5. Moxon vise; specialized vise for hand-cut dovetails.

Cost breakdown of materials to be purchased (percentages or dollar amounts):

Plywood: \$10 Hardwood lumber: \$20 Hardware and materials (brass, steel, knobs, nuts, bolts, etc.) \$5 Marquetry materials: \$4 Abrasives: \$1

Source(s)/Vendor(s) of materials to be purchased:

Almquist Lumber Co. Arcata Ca. Pierson Building Center, Eureka Ca. Rio Grande Jewelry Supply, Albuquerque, NM online vendor

Learning Outcomes and Objectives

Course Objectives

1. Construct and properly use woodworking hand tools such as planes, spokeshaves, and layout tools.

2. Construct hand tool jigs and fixtures.

3. Construct important woodworking joints with hand tools.

4. Research historical tool design and use.	
5. Report on project development and skill improvement.	
6. Demonstrate safe hand tool use, care and manipulation.	
CLOs	
Name	Expected SLO Performance
1. Analyze wood and materials for appropriateness to the task of tool and project construction.	60.0
2. Construct woodworking tools and projects.	60.0
3. Display and report on project intervals and completion.	60.0

Outline

Course Outline: please continue to use the Concepts, Themes & Issues, and Skills framework.

Concepts:

1. Wood characteristics; grain, stability, workability.

2. Hand tool use.

- 3. Hand tool maintenance; sharpening, calibrating, fettling, etc.
- 4. Making wood joinery.

Themes and Issues:

- 1. Selection of materials.
- 2. The capricious nature of wood.
- 3. Working in an open shop setting with mutual regard for one another.
- 4. Analyze and select proper hand tools for wood working tasks.
- 5. Analyze and select stock appropriate for the task at hand.
- 6. Precision and detail are critical to woodworking success.
- 7. Organization and planning lead to woodworking success.
- 8. Aesthetic design is valuable to tool making and wood joinery.
- 9. Making critical decisions in the construction of wooden objects.

Skills:

1. Safely use hand tools.

2. Fettle and properly manipulate handplanes, spokeshaves, block planes and chisels.

3 Construct woodworking joinery with hand tools.

4. Precisely prepare stock for wood projects.

5. Select and use appropriate hand tools for the task at hand, i.e. hand saws, bench planes, and layout tools.

6. Read technical books and understand relevant terminology.

Lab Outline

The lab portion of this class provides a hands-on learning environment in which students will develop skills related to the safe and proper operation of woodworking hand tools. Lab activities may include, but are not limited to:

- 1. Demonstration of the safe and proper operation of measuring and layout tools.
- 2. Demonstration of the safe and proper operation of woodworking hand tools.
- 3. Identify and describe the proper maintenance of woodworking hand tools.
- 4. Plan, design and construct projects, hand tools, and wood joinery.
- 5. Apply appropriate wood finish to projects.
- 6. Manipulate tools and wood materials to produce interlocking wood joinery.
- 7. Construct jigs and fixtures to aid in the use of hand tools.
- 8. Practice common hand tool techniques to develop skill.

Addendum: Large Class Format

Maximum Class Size proposed for Large Format Sections:

No Value

Describe how the instructor(s) will maintain the academic quality of the course offered in large class format. What pedagogical methods will be used to ensure students satisfy learning outcomes?

No Value

Addendum: Distance Education

1. Proposal type (select one):

New DE proposal

2. What perceived need(s) will be addressed by offering this course through distance education?

The Covid-19 global pandemic has created a need to practice physical distancing and prevent proximity contact among students. Being able to offer this course in a hybrid, online format will ensure students can continue making progress toward their degree goals in the event of a crisis. This DE modality will also provide a flexible teaching environment that benefits working students and provides access to education for a broader population of our community members.

3a. The categories covered in this addendum are (select all that apply):

• Partially online

3b. Please identify any of the DE categories that you as a discipline representative do not recommend for delivery of this course. Briefly explain your reasoning.

It is not recommended that this class be taught fully online or via telepresence. Some of the course learning outcomes require students to construct woodworking projects, hand tools, or woodworking joints. In order to meet these learning outcomes, students must have regular access to woodworking machinery and hand tools. These skills may only be achieved through hands-on experience. For example, CLO #2, Construct woodworking tools and projects.

4. Distance delivery of this course must comply with local, state and federal requirements concerning regular effective contact and substantive interaction between and among the instructor and students (AP 4105; Title 5, § 55204; 34 C.F.R. §600.2). Please explain how these requirements will be met, while providing specific examples that are not instructor specific.

Regular effective contact between instructors and students will be achieved through some combination of the following:

- Introductory "Welcome" video and/or message.
- Regular announcements and personalized messaging from instructors.
- Participatory discussion forums with required responses from students.
- Provide timely, individualized, and in-depth feedback on student work.
- Clearly defined grading rubrics.
- Weekly participation assessments in the form of quizzes, discussions, or online communication.

Regular substantive interactions between students may be facilitated by some combination of the following:

- Peer review and evaluation of assigned work.
- Group research assignments and projects.
- Capstone project review and discussion.
- Required online discussion responses to peer observations.

5. Please provide representative examples or descriptions that illustrate how the course learning outcomes will be achieved in the distance learning format (Title 5, §55206).

Theory based course learning outcomes will be acquired through video recordings of instructor-prepared lectures, textbook reading assignments, research-and-report assignments, and online discussion forums. Students and instructors will interact remotely via the Canvas LMS. Instructional materials such as publicly available internet resources, videos, narrated slideshows, and learn-by-doing activities will provide a virtual equivalent to face-to-face instruction. Online discussion forums will provide the opportunity for students and instructors to discuss learning content. Course learning outcomes will be assessed via online tests, discussion forums, and other online assignments.

For example, to fulfill CLO #1, Analyze wood and materials for appropriateness to the task of tool and project construction. Students will utilize internet resources to research and report on hand tool design, material selection, and historical significance of the related project. They will share their findings with their peers on the Canvas LMS and participate in discussion forums.

For CLO #3, *Display and report on project intervals and completion*, students will document and record their progress towards completing classroom projects. All manipulative assignments require an electronic plan, bill-of-materials, descriptive photos and sketches. Completed projects will be shared to classroom peers via Canvas LMS to allow for constructive discussion and critique.

6. What will students do in a typical unit of this course to meet the requirements identified in Item 5? (This is for example only and not instructor specific).

During a typical week, students will:

- Access the Canvas LMS weekly overview and to-do list.
- Watch a recorded lecture introducing the week's content and lab activities.
- Participate in the delivery of lecture content by reading assigned materials, watching videos, responding to discussion questions, and participating in group activities.
- Engage with classmates and the instructor via discussions and peer review of lab work.
- Take online LMS-based quizzes covering lecture and/or lab content.
- Complete an online safety test related to the equipment or tools being introduced that week.
- Occasionally take an exam.

7. Please indicate specific scheduling or proctoring requirements that students will be required to meet that will also be published in the schedule of classes and course syllabus. Some scheduling parameters will be coordinated with your area dean or director.

The schedule of required lab meetings will be published in the class schedule which is available via the Canvas LMS. To ensure equity of access to content, instructors will not require synchronous meetings with students. Any required meetings between students and instructors will either include multiple scheduling options or be at the student's discretion. During the face-to-face lab component all social distancing guidelines will be enforced. Limits have been placed on class enrollments to provide six-foot distancing between work spaces.

Proctoring is not required in this course. Assessment can occur with or without proctored exams. Instructors who decide to require proctoring will comply with the college's proctoring policy.

8. Federal and state regulations, as well as local policies, require faculty to use instructional design to ensure that students have equal access to this course. Specifically, our courses must comply with the Americans with Disabilities Act of 1990 (ADA), Section 508 of the Rehabilitation Act of 1973, California Government Code §11135, and Title 5, §55200, College of the Redwoods' policies, and any other applicable local, state and federal regulations. Please describe how this DE course will be designed to comply with the above-named regulations and requirements:

This course will be designed using Universal Design for Learning (UDL) to ensure accessibility. Additionally, each time it is taught it will be reviewed and improved. Accessibility checkers like Ally will provide continuous guided input toward design and improvement. Accessibility will be addressed in the following ways:

- Videos will include closed-captioning, images will include alt-tags, and audio files will include transcripts.
- Consistent heading styles and hierarchical heading levels will be used for written content.
- Tables will be formatted so screen readers can read the cells in the correct order.
- Course materials will be understandable without the use of color and sufficient color contrast will be used between foreground and background.
- Hyperlinks will use descriptive and meaningful phrases instead of URLs and underlining will only be used to denote active hyperlinks.
- Information about College of the Redwoods' Disability Services and Programs for Students (DSPS) department will be included in the syllabus.
- The syllabus will request that students needing accommodations for a disability contact the instructor, and all instructors will comply with DSPS student accommodations.

9. Finally, in submitting this document for Curriculum Committee review, you confirm you understand as a faculty member in the California Community College system that you are required to make all your instructional materials accessible for all students.

I understand and acknowledge that I am required to make all of my instructional materials accessible for all students.