

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

_____ Transfer Course X A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: CFT 105 Machine Woodworking/Furniture

UNIT VALUE: 2,3,4

MINIMUM NUMBER OF SEMESTER HOURS: 64,96,128 Lecture/laboratory

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills

ENTRANCE REQUIREMENTS

PREREQUISITE: CFT-100

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE:

Study, design, and development of practical applications for basic cabinet construction as utilized by the wood product industry. Includes partitions, face frame, carcass, and basic door and drawer construction. Operation of woodworking machines, tools and processes, techniques, and care and suitability of tools and machines.

SPECIFIC COURSE OBJECTIVES:

Students will be able to:

1. Design and construct a basic cabinet, compatible with current industrial standards.
2. Apply construction methods relevant to current industrial standards.
3. Compare and contrast joinery as used in the cabinet industry.
4. Utilize skills necessary to safely operate basic tools, machinery and other equipment necessary to solve basic joinery, milling and construction problems.
5. Identify and analyze wood and man-made materials as they are related to design and function problems inherent in construction of furniture.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Style and Function Considerations
 - A. Design
 - 1. Harmony
 - 2. Balance
 - 3. Rhythm
 - 4. Proportion
 - 5. Texture
 - B. Function
 - C. Styles and Periods
 - 1. Define
 - 2. Compare
 - 3. Contrast
- II. Sheet Materials
 - A. Hardboard
 - 1. Tempered
 - 2. Non-tempered
 - 3. Compare
 - 4. Contrast
 - B. Fiber board
 - C. Flake board
 - D. Particle board
 - E. Medium density fiberboard
 - F. Laminate materials
 - 1. Low density
 - 2. High density
 - G. Plywood
 - 1. Softwood
 - 2. Hardwood
 - a. lumber core
 - b. particle core
 - c. veneer core
- III. Construction Methods
 - A. Carcase
 - 1. Sides
 - 2. Partitions
 - 3. Frames
 - B. Face Frame
 - 1. Rails
 - 2. Stiles
 - 3. Mullions
 - C. Skeletal
 - D. Sub Bases
 - 1. Toe kick
 - 2. Molding
 - a. Built-up
 - b. Stack
 - c. Add-on
 - d. Relief
- IV. Adhesives

- A. Types
 - 1. Compare
 - 2. Contrast
 - B. Applications
 - 1. Compare
 - 2. Contrast
 - C. Waterproof
 - D. Water resistant
 - E. Non-Water resistant
- V. Assembly
- A. Clamps
 - 1. Bar
 - 2. Throat
 - 3. Parallel Screw
 - 4. Frame
 - 5. Band
 - B. Checking for square
 - C. Racking
 - D. Clamp pressure
- VI. Joinery
- A. Definition
 - 1. Interlocking
 - 2. Grain orientation
 - 3. Compare
 - 4. Contrast
 - B. Types
 - 1. Dado
 - a. Through
 - b. Stopped
 - 2. Rabbet
 - 3. Miter
 - a. Plain
 - b. Reinforced
 - 4. Dowel
 - 5. Drawer joinery
 - 6. Spline
 - 7. Plate
 - 8. Lap
 - a. Half
 - b. Full
 - c. Miter
- VII. Milling Procedures
- VIII. Abrasives
- A. Types
 - 1. Natural
 - a. Silica
 - b. Emery
 - c. Garnet
 - 2. Synthetic
 - a. Aluminum oxide
 - b. Silicon Carbide

- B. Forms
 - 1. Sheet
 - 2. Spindle
 - 3. Belt
 - 4. Cone
 - 5. Disc
 - 6. Mushroom disk
 - 7. Brush head
- C. Grit sizing
- D. Paper weight
- E. Bonding agent
 - 1. Water proof
 - 2. Non-water proof
- IX. Drawer Design and Construction
 - A. Types
 - 1. Lip (partial overlay)
 - 2. Overlay
 - 3. Flush (inset)
 - B. Allowances
 - C. Materials
 - D. Guide systems
 - 1. Wood
 - 2. Fabricated
 - 3. Types
 - a. Side
 - b. Bottom center
 - c. Bottom side
- X. Door Design and Construction
 - A. Types
 - 1. Lip (partial overlay)
 - 2. Overlay
 - 3. Flush (inset)
 - 4. Barrister
 - 5. Pocket
 - 6. Tambour
 - 7. Folding
 - 8. By-pass
 - B. Allowances
 - C. Materials
 - D. Hinge Considerations
- XI. Fasteners
 - A. Screws
 - 1. Types
 - 2. Applications
 - 3. Compare
 - 4. Contrast
 - B. Nails
 - 1. Types
 - 2. Applications
 - C. Other
- XII. Hardware

- A. Types
 - B. Materials
 - C. Suitability to style/period
 - D. Sources
 - E. Availability
 - F. Application
- XIII. Tool Maintenance
- A. Sharpening
 - 1. Stones
 - 2. Diamond plates
 - 3. Ceramic
 - 4. Wet & Dry Abrasives
 - B. Jigs & Accessories
 - C. Grinders
 - 1. High Speed
 - 2. Slow Speed (wet wheel)
 - D. Rust Prevention
 - E. Cleaning
 - F. Waxing
- XIV. Finishing
- A. Preparation
 - B. Stain/Dyes
 - C. Grain Fillers
 - D. Types of finishes
 - E. Brushing
 - F. Spray
 - G. Rubbing Out
 - H. Waxing

REQUIRED READING:

Selected published articles on furniture making provided by the instructor.

SUGGESTED READING:

Feirer, John L. Furniture and Cabinetmaking. Peoria, PA: Charles A. Bennett Company, Inc., 1983
Fine Woodworking. The Taunton Press, Inc., Newtown, CT.
The Woodworker's Journal. Madrigal Publishing Company. New Milford, CT.
Woodsmith. Woodsmith Publishing Company. Des Moines, IA.
Wood. Meredith Publishing Company. Des Moines, IA.

REQUIRED WRITING:

1. Student generated, 120 page, three ring binder notebook of class handouts and class notes. The student will within a period of one week, rewrite their class notes taken in class, supplementing and augmenting such class notes with information derived from lectures, laboratory exercises, required and suggested reading.
2. Ten page documentation paper, including self-generated drawings, describing in detail the processes required to build and finish the project they chose to make.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

Students are expected to complete their reading assignments, writing assignments, study for exams, complete take-home exams, and practice additional tool sharpening outside of class.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- Lecture
- Laboratory
- lecture-laboratory combination
- directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply:

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

Final grade will be based on the following factors:

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|----|--------------------------------|-----|
| 1. | Participation: | 20% |
| 2. | Tests/Examinations | 25% |
| 3. | Learning project: | 30% |
| 4. | Notebook/Project documentation | 25% |

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes No Number of times course may be taken for credit: 2

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable: 58161C2A

CONTACT PERSON: Russ Filbeck ext. 2812

SIGNATURES ON FILE