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San Bernardino Valley College

Course Outline for AUTOIN 013X3
ADVANCED CUSTOM AUTO INTERIORS LABORATORY

I. CATALOG DESCRIPTION:

Department: Automotive

AUTOIN 013X3: Advanced Custom Auto Interiors Laboratory

3 hours laboratory = 1 unit

Catalog Description: Practical experience in design, creation and installation of complex custom and hot rod automotive interiors. Instruction builds on prior basic skills in safe work practices, pattern making, using trimmers, working with hand and power tools, and applying common covering materials. Cut, sew and fit techniques on elaborate designs are stressed.

Schedule Description: Advanced level instruction in practical experience in creating custom automotive interiors. Safe work practices and the use of tools to design, cut, sew and fit complex interiors are emphasized.

Prerequisites: AUTOIN 010

AUTOIN 012

Corequisite: None

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: Three

III. EXPECTED OUTCOMES FOR STUDENTS:

Upon completion of this course, the student will be able to:

- A. Identify common chemical adhesive materials and discuss their safe use and storage.
- B. Identify and notify the instructor of potential safety hazards in the shop areas.
- C. Describe ten characteristics of award winning vehicle interiors.
- D. List and describe five current publications related to restoration and/or custom car upholstery.
- E. Compare and contrast the differences in using fabric, vinyl and leather covering materials for interior projects.
- F. Prepare a bill of materials, time estimate and labor cost for an elaborate custom interior replacement job.
- G. Identify components and demonstrate the proper use of the typical upholsters sewing machine in completing intricate assembly tasks.
- H. Identify and describe the use of twenty different interior fasteners.
- I. Perform preparation and application operations on typical hard look headliners project to industry standards.
- J. Construct, prepare and apply cover materials to a typical console project to industry standards.
- K. Prepare seat foundation and shape foam cushion materials from scratch using current methods and materials.

- L. Apply cover materials to a minimum of one seat and one door panel.
- M. Prepare pattern, cut, sew and fit the carpet for a minimum of one front or back seat area.

IV. CONTENT:

- A. Complex Interior Designs
 - 1. Planning
 - a. Overview of complete project
 - b. Preparation and planning
 - c. Written estimate
 - d. Meticulous work
 - 2. Production
 - a. Materials
 - b. Production methods
 - c. Costs
- B. Designing and Planning a Complex Custom Interior
 - 1. Ideas, drawings and patterns
 - a. Review of award winners
 - b. Sketch it out
 - c. Visualizing completed project
 - d. Pattern making
 - e. Chipboard method
 - 2. Materials
 - a. Choices
 - b. Sources
 - c. Cost and purchase
- C. Pattern Making
 - 1. Importance of accuracy
 - a. Chipboard single piece
 - b. Multiple piece
 - 2. Preparation of mounting surface
 - a. Mechanical of electrical components
 - b. Clip location
 - 3. Panels from patterns
 - a. Door
 - b. Kick
 - c. Custom
 - d. Compound curve
 - e. Existing
- D. Brief Review of Basic Fabrication
 - 1. Overall plan
 - a. Approved design
 - b. Completion schedule
 - 2. Insulation
 - a. Floor
 - b. Side panel

- c. Headliner
 - 3. Wood work
 - a. Types of wood
 - b. Hardware and fasteners
 - 4. Metal work
 - a. Cutting tools and methods
 - b. Shaping tools and techniques
- E. Advance Fabrication
 - 1. Full fabrication seats
 - a. Framework
 - b. Support and padding materials
 - c. Cut, sew and fit
 - d. Install
 - 2. Door panels
 - a. Base materials
 - b. Padding
 - c. Cut, sew and fit
 - d. Install
 - 3. Hard look headliner
 - a. Measurements
 - b. Cut, sew and fit
 - c. Install
 - 4. Console
 - a. Measurements
 - b. Cut, sew and fit
 - c. Install
- F. Carpet Making
 - 1. Full floor
 - a. Pattern, measurements
 - b. Cut, sew and fit
 - c. Install
 - 2. Multiple piece
 - a. Pattern, measurements
 - b. Cut, sew and fit
 - c. Install
 - 3. Floor, trunk mats
 - a. Pattern, measurements
 - b. Cut, sew and fit hold downs
 - c. Install
- G. Top Making
 - 1. Types
 - a. Convertible tops
 - b. Roadster, Carson
 - 2. Fabrication
 - a. Importance of accuracy of fit
 - b. Top well

- c. Top
- d. Top boot

V. METHODS OF INSTRUCTION:

The methods of instruction include, but not limited to:

- A. Laboratory demonstration by the instructor.
- B. Guided laboratory practice by the student.
- C. Presentations and demonstrations by field experts.

VI. TYPICAL ASSIGNMENTS:

- A. Working as a team with two other students, prepare a hard look headliner base using chipboard.
- B. Measure, cut, sew and fit headliner material.
- C. Measure, cut, sew and fit carpeting for one vehicle.
- D. Prepare a bill of material for a Carson type convertible top.

VII. EVALUATION(S):

- A. Methods of Evaluation:
 - 1. Oral and written tests;
 - 2. Demonstrate manipulative skills according to industry standards in the performance task;
 - 3. Active participation in discussion periods;
 - 4. A comprehensive written final exam.Typical Questions:
 - a. Describe the use of twenty different interior fasteners.
 - b. Describe components and the proper use of the typical upholsters sewing machine in completing intricate assembly tasks.
- B. Frequency of Evaluation:
 - 1. Weekly assignments
 - 2. One midterm exam
 - 3. One final exam

VIII. TYPICAL TEXT(S):

Don Taylor, Ron Mangus, Custom Auto Interiors, Fisher Books 1998

Don Taylor, Automotive Upholstery Handbook, Fisher Books 1993

- IX. OTHER SUPPLIES REQUIRED OF STUDENTS: Safety glasses, notebook