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San Bernardino Valley College

Course Outline for AUTOIN 012
ADVANCED CUSTOM AUTO INTERIORS

I. CATALOG DESCRIPTION:

Department: Automotive

AUTOIN 012: Advanced Custom Auto Interiors

3 hours lecture, 3 hours laboratory = 4 units

Catalog Description: Information and 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 theory and practical experience in creating custom automotive interiors. Safe work practices and the use of tools to design, cut, fit and sew complex interiors are emphasized.

Prerequisite(s): AUTOIN 010

Corequisite(s): None

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

III. EXPECTED OUTCOMES FOR STUDENTS:

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

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

- N. Prepare a pattern, cut, fit and sew the carpet for a minimum of one front or back seat area.

IV. CONTENT:

- A. Complex Interior Designs
 - 1. Basic vs. Complex
 - a. Materials
 - b. Production methods
 - c. Costs
 - 2. Custom
 - a. Overview of complete project
 - b. Preparation and planning
 - c. Written estimate
 - d. Meticulous work
- 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. 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, fit and sew
 - d. Install
 - 2. Door panels
 - a. Base materials
 - b. Padding
 - c. Cut fit and sew
 - d. Install
 - 3. Hard look headliner
 - a. Measurements
 - b. Cut, fit and sew
 - c. Install
 - 4. Console
 - a. Measurements
 - b. Cut, fit and sew
 - c. Install
 - F. Carpet Making
 - 1. Full floor
 - a. Pattern, measurements
 - b. Cut, fit, sew
 - c. Install
 - 2. Multiple piece
 - a. Pattern, measurements
 - b. Cut, fit, sew
 - c. Install
 - 3. Floor, trunk mats
 - a. Pattern, measurements
 - b. Cut, fit, sew, 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. Lecture and direct laboratory demonstration by the instructor.
- B. Guided laboratory practice by the student.
- C. Presentations and demonstrations by field experts.

VI. TYPICAL ASSIGNMENTS:

- A. After reading textbook material on carpet making, make a procedure outline of all steps discussed.
- B. Prepare two detailed job estimates on the same vehicle to current Bureau of Automotive Repair standards. Compare the differences using vinyl verses leather.
- C. Cut and assemble a plywood seat frame using provided plans.
- D. Apply cushion foam to a seat frame. Test for adhesion following glue set up.
- E. Piece together two vinyl materials using a straight line stitch at least 12 inches long with a tolerance of 1/16 inch.

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 ten characteristics of award winning vehicle interiors.
 - b. List and describe five current publications related to restoration and/or custom car upholstery.
 - c. Describe common chemical adhesive materials and their safe use and storage.
- 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