Modesto Junior College
Course Outline of Record
AUBDY 321

I. OVERVIEW
The following information will appear in the 2009 - 2010 catalog

AUBDY-321 Automotive Spray Refinishing 1
2 Units

Materials Fee Required

Introduction to automobile spray painting. Study of materials, supplies and equipment. Experience in feather edging and application of base coats; spray techniques in spot blending and panel refinishing with a base coat and clear coat. Field trips might be required. Course is applicable to the associate degree.

II. LEARNING CONTEXT
Given the following learning context, the student who satisfactorily completes this course should be able to achieve the goals specified in Section III, Desired Learning:

A. COURSE CONTENT

1. Required Content:

A. Safety Procedures
   1. Storing flammable materials
   2. Respirators and dust masks
   3. Ventilation
   4. Toxic materials

B. Automotive finishes
   1. Basecoats
      a. Primer
      b. Primer-surfacer
      c. Primer-sealer
      d. Sealers-clear and pigmented
   2. Color coats (top coats)
      a. Base coat
      b. Clear coat
      c. Synthetic (alkyd) enamel

C. Sanding and Compounding
   1. Sandpaper
      a. Wet-or-dry
      b. Dry non-fill
   2. Coat and grit abrasive designations
      a. Power sanders
      b. Disc sanders
c. Orbital disc sanders

d. Reciprocating air sanders

3. Compound

  a. Hand

  b. Machine

D. Polishing Compound Shop Equipment

  1. Compressed air supply

  2. Regulator and transformer

  3. Water traps

E. Spray Guns

  1. Types

  2. Cleaning and maintenance

  3. Adjustments

  4. Rebuilding

F. Surface Preparation

  1. Chemical strippers (paint remover)

  2. Metal conditioners (Metal etch)

  3. Featheredging Primer-surfacer build up

  4. Guide-cooling

  5. Taping and masking

G. Base Coat/Clear Coat

  1. Mixing

  2. Gun Adjustments

  3. Spray techniques

    a. Triggering

    b. Overlap

    c. Double coat and single coats

  4. Panel refinishing

  5. Spot painting and blending

2. Required Lab Content:

A. Safety

  1. Personal Safety

  2. General Shop Procedures

  3. Hazardous Material Precautions

B. Refinish Equipment

  1. Spray Guns

  2. Equipment and Material Preparation
3. Spray Booths
4. Air supplied Respirators

C. Surface Preparation
   1. Evaluate Surface Condition
   2. Paint Removal
   3. Primecoat Selection
   4. Final Sanding

D. Refinishing
   1. Color Choice
   2. Sealers
   3. Basecoats
   4. Clearcoats

E. Paint Problems and Final Detail
   1. Repairing Defects
   2. Compounding
   3. Final Detailing

B. HOURS AND UNITS

<table>
<thead>
<tr>
<th>INST METHOD</th>
<th>TERM HOURS</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lect</td>
<td>18.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Lab</td>
<td>54.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Disc</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

C. METHODS OF INSTRUCTION (TYPICAL)

Instructors of the course might conduct the course using the following method:

1. Related material will be presented in the classroom with the use of videotapes, slides, transparencies and information/procedure sheets

2. Students will demonstrate subject understanding by writing summaries outlines and sequential procedures obtained from text and data manuals

3. Students participate in class discussions, and present their own personal views on problem solving procedures

4. Required lab projects are completed by the student and graded

5. Students must analyze, and present their assessment of paint problems encountered in lab procedures, before correcting

6. Given an information sheet as a guide, the student must select materials, formulate a sequence and apply base coat and clear coat to meet trade standard

D. ASSIGNMENTS (TYPICAL)

1. EVIDENCE OF APPROPRIATE WORKLOAD FOR COURSE UNITS

Time spent on coursework in addition to hours of instruction (lecture hours)
a. Weekly reading assignments
b. Weekly homework chapter assignments
c. Weekly NATEF Auto Body Task Sheets
d. Content Review and Studying for Bi Monthly Quizzes
e. Content Review for Midterm and Final Exam

2. **EVIDENCE OF CRITICAL THINKING**
*Assignments require the appropriate level of critical thinking*

a. How do you evaluate the surface condition of a vehicle?
b. List some points to keep in mind when working with abrasives.
c. What are VOC's and how do we record usage?
d. Summarize the functions of a topcoat.
e. Describe some reasons for overall refinishing.
f. List the procedures for refinishing plastic parts.
g. What happens if a technician uses course of sand -paper before painting.
h. Name the types of topcoats.
i. Why do we blend base-coats?
j. What is the purpose of isocyanates and how do we avoid exposure to them?
k. Summarize the final detailing process.

E. **TEXTS AND OTHER READINGS (TYPICAL)**

1. Other: Complete Automotive Painting, Scharff; Delmar Publishers, Inc.

III. **DESIRED LEARNING**

A. **COURSE GOAL**
*As a result of satisfactory completion of this course, the student should be prepared to:*

List and explain the steps involved in the application of paint to a vehicle and demonstrate these techniques on a small project.

B. **STUDENT LEARNING GOALS**
*Mastery of the following learning goals will enable the student to achieve the overall course goal.*

1. **Required Learning Goals**
*Upon satisfactory completion of this course, the student will be able to:*

a. Research and practice all paint safety regulations
b. Calculate percentage for all paint additive and mixtures
c. Identify and rate different refinishing products

d. Reconstruct a metal repaired area by feather edging and primer-surfacer build up

e. Correctly mix paint, adjust the spray gun and apply base coat and clear coat

f. Select proper additive mix and apply paint using the spot and blend method

g. Adjust color hue and face by selecting the proper application techniques

h. Color sand, buff and polish clear coat

i. Tape and mask a single automobile panel for refinishing

2. **Lab Learning Goals**

   *Upon satisfactory completion of the lab portion of this course, the student will be able to:*

   a. understand the basics of painting a small project using water borne and solvent based paints.

### IV. METHODS OF ASSESSMENT (TYPICAL)

A. **FORMATIVE ASSESSMENT**

   1. Weekly Homework Assignments

   2. NATEF Task Sheets

   3. Instructor Observation

B. **SUMMATIVE ASSESSMENT**

   1. Mid Term Exam

   2. Final Exam