

## **COURSE OUTLINE**

### **Painting and Refinishing: Problem Solving**

#### **Course Description**

AB 247. Painting and Refinishing: Problem Solving. 3 hours credit. Prerequisites: AB 246 with a C or better or instructor's consent. This course will enable the student to work with repainting and refinishing techniques and methods of correcting problems encountered during the painting process. The student will study the causes and cures of finish defects and learn procedures to correct them.

#### **Course Relevance**

The principles learned in this course will be to strengthen the student's knowledge in automotive refinishing materials and problems occurring in refinishing operations. Allow the student to perform the essential tasks of analyzing, preparing, repairing and refinishing the vehicle. These tasks are essential to those aspiring to work in the auto body refinish profession. This course and subsequent courses will be taught according to NATEF (National Automotive Technicians Education Foundation)/ASE (Automotive Service Excellence) standards.

#### **Required Materials**

Duffey, J., (2004). *Auto body repair technology* (4th ed.). Albany, NY: Delmar Publishing

#### **Learning Outcomes**

The intention is for the student to be able to:

1. Examine the finish for imperfections
2. Correct the imperfections
3. Finesse finish
4. Perform final detail work
5. Apply personal and environmental safety practices

#### **Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course**

Through the student's involvement in this course, he/she will develop his/her ability in the following primary PACT skill areas:

1. Field-Related Technology
  - Through shop exercises, the student will demonstrate his/her understanding of analysis, preparation, and refinishing all body panels and correcting problems involved in the refinishing process

Secondary skills (developed but not documented):

Health Management  
Reading

## Math

### Major Summative Assessment Task(s)

These learning outcomes and the primary Learning PACT skills will be demonstrated by:

1. Completing a project that requires identifying refinished defects and correcting them using proper techniques

### Course Content

- I. Themes - Key recurring concepts that run throughout this course:
  - A. Safety
  - B. Quality
- II. Issues - Key areas of conflict that must be understood in order to achieve the intended outcome:
  - A. Analyzing refinished defect
  - B. Repairing refinished defect
- III. Concepts – Key concepts that must be understood to address the issues:
  - A. Proper planning techniques for repair
  - B. Proper preparation of material and equipment and selection
  - C. Proper performance for repair functions
- IV. Skills/Competencies - Actions that are essential to achieve the course outcomes:
  - A. Identify dirt or dust in the paint surface; determine the cause(s) and correct the condition. High Priority-One (HP-1)
  - B. Identify buffing-related imperfections (swirl marks, wheel burns); correct condition. (HP-1)
  - C. Measuring mill thickness of refinish. (HP-1)
  - D. Buff and polish the finish to remove defects as required. (HP-1)
  - E. Clean interior, exterior, and glass. (HP-1)
  - F. Clean body openings, door jams, edges, etc. (HP-1)
  - G. Proper techniques for over spray removal. (HP-1)

### Learning Units

- I. Understanding different paint problems; causes and reparability
  - A. Causes of paint color mismatch and reparability
  - B. Causes of paint “orange peel” and reparability
  - C. Causes of paint runs/sags and reparability
  - D. Causes of paint “fish eyes” and reparability
  - E. Causes of “solvent popping”, prevention and correction
- II. Understanding different paint masking problems
  - A. Proper masking off of vehicle for refinish
  - B. Proper unmasking of vehicle for after refinish
- III. Understanding proper “final detailing” of paint surface
  - A. Proper procedure for wet sanding dirt in vehicle finish
  - B. Proper procedure for wet sanding “runs” in paint finish

IV. Proper procedure for using electric/or air powered polishers

- A. Determine correct types of polishing compounds and finish glazes

**Learning Activities**

Learning activities will include lectures, demonstration, and performance. Classroom lecture is designed to enable the students to understand the key principles of painting and refinishing problems.

**Grade Determination**

The student will be graded on completion of assessment tasks (learning activities), and written examination.