

COURSE OUTLINE

Painting and Refinishing: Preparation and Safety Precautions

Course Description

AB 126. Painting and Refinishing: Preparation and Safety Precautions. 3 hours credit
Prerequisites: AB 101 with a C or better. This course will enable the student to apply techniques and methods of preparing the auto body surface for painting. The student will learn different methods of preparing a surface for painting to include chemical, mechanical and physical means. The student will apply safety practices throughout the training.

Course Relevance

The principles learned in this course will allow the student to perform the essential tasks of analyzing, preparing, and then performing damage repair and adjustments. These tasks are essential to those aspiring to work in the auto body repair 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. Apply personal and environmental safety practices
2. Inspect and identify substrate, type of finish and surface condition; develop a plan for refinishing using a total products system
3. Select a method using wet or dry sanding for refinishing

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. Critical Thinking
 - Through the visual inspection the student will be able to determine the method of sanding.
2. Problem Solving
 - Through the vehicle inspection the student will be able to properly select the correct products to refinish the vehicle.
3. Field-Related Training
 - Through "In lab" exercises, the student will be able to demonstrate their understanding of proper use refinishing materials.

Secondary skills (developed but not documented):

Health Management

Reading

Major Summative Assessment Task(s)

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

1. Completing a designated auto body repair projects in which the student evaluates the damage, prepares a plan for repair, and completes the repair using proper safety procedures

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. Quality of repair vs. cost to consumer
 - B. Proper usage of chemicals and equipment
- III. Concepts – Key concepts that must be understood to address the issues:
 - A. Proper planning techniques of repair
 - B. Proper preparation of material and equipment
 - C. Proper performance of repair functions
- IV. Skills/Competencies – Actions that are essential to achieve the course outcomes:
 - A. Inspect, remove, store, and replace exterior trim and components necessary for proper surface preparation. High Priority-1 (HP –I)
 - B. Soap and water wash entire vehicle; use appropriate cleaner to remove contaminants (HP – I)
 - C. Inspect and identify substrate, type of finish surface condition; develop and document a plan for refinishing using a total product system (HP –I)
 - D. Remove paint finish in accordance with manufacturer's recommendations (HP –I)
 - E. Dry or wet sand areas to be refinished (HP –I)
 - F. Featheredge damaged areas to be refinished (HP – I)
 - G. Apply suitable metal treatment or primer in accordance with total product systems (HP –I)
 - H. Mask and protect other areas that will not be refinished (HP –I)
 - I. Mix primer, primer-surfacer or primer-sealer (HP –I)
 - J. Apply primer onto surface of repaired area (HP –I)
 - K. Apply two-component finishing filler to minor surface imperfections (HP –I)
 - L. Dry or wet sand areas to which primer-surfacer has been applied (HP-I)
 - M. Dry sand area to which two-component finishing filler has been applied (HP –I)
 - N. Remove dust from area to be refinished, including cracks or molding of adjacent areas (HP –I)
 - O. Clean area to be refinished using a final cleaning solution (HP –I)
 - P. Remove, with a tack rag, any dust or lint particles from the area to be refinished (HP –I)

- Q. Apply suitable sealer to the area being refinished when sealing is needed or desirable (HP –I)
- R. Scuff sand to remove nibs or imperfections from a sealer (HP –I)
- S. Apply stone chip resistant coating (HP –I)
- T. Restore corrosion-resistant coating, caulking, and seam sealers to repaired areas (HP –I)
- U. Prepare adjacent panels for blending (HP –I)
- V. Prepare plastic panels for refinishing (HP –I)

Learning Units

- I. Body/paint shop work and safety procedures
- II. Preparation and priming of vehicle
- III. Body shop hand tools
- IV. Body shop power tools/spray tools
- V. Automotive refinishing materials
- VI. Minor auto body repairs

Learning Activities

Learning activities will include lectures, demonstration, and performance. Classroom lecture is designed to enable the student to understand the key principles in auto body repair.

Grade Determination

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