



El Camino College
COURSE OUTLINE OF RECORD – Official

Course Acronym:	ACRP
Course Number:	5A
Descriptive Title:	Beginning Automotive Painting I
Division:	Industry and Technology
Department:	Automotive Collision Repair/Painting
Course Disciplines:	Automotive Technology
Catalog Description:	This course provides instruction in personal safety, environmental laws, introduction to surface preparation, mixing ratios, spray booth use, spray gun adjustment, use and cleaning, priming and painting vehicle parts and panels, and color sanding and buffing. This course contains Inter-Industry Conference on Auto Collision Repair (I-CAR) Professional Development Program curriculum.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	2
Hours Laboratory (per week):	7
Outside Study Hours:	4
Total Course Hours:	162
Course Units:	4
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	3/18/2013
Transfer UC:	No
Effective Date:	
General Education: ECC	
Term:	
Other:	
CSU GE:	
Term:	

Other:	
IGETC:	
Term:	
Other:	
Student Learning Outcomes:	SLO #1 VOC Tracking Students will be able to monitor the type and amount of liquid material used for a job and record the data in the VOC (volatile organic compound) tracking log book. SLO #2 Spray Gun Adjustment & Cleaning Students will be able to thoroughly tear down a paint spray gun, clean all parts and surfaces using environmentally correct techniques and chemicals, and reassemble. SLO #3 Mix & Spray Primer Students will be able to mix and spray a given quantity of primer using the correct ratio and a locally compliant primer gun.
Course Objectives:	1. Complete a comprehensive automotive collision repair/painting safety test with 100% 2. Track Volatile Organic Compound (VOC) data, be aware of and obey federal, state and local environmental laws 3. Prepare various surfaces for refinishing including filler repairs, scratches and chips, primer and previously painted surfaces. 4. Mask a vehicle for primer, for jamb painting, and for exterior painting. Mask an area for spot refinishing. 5. Locate and identify the parts of a high volume, low pressure (HVLP) gravity feed spray gun. Adjust, properly use and clean the gun. 6. Correctly mix primer, sealer, paint and clear using each chemical's product information sheet (P-sheet) and mixing ratio. Explain how a catalyst/hardener affects the mixture and the difference between a reducer and a thinner. 7. De-nib and/or color sand a refinished vehicle panel, buff and polish the panel using the correct pads and compounds.
Major Topics:	I. PERSONAL SAFETY AND SAFE LAB PRACTICES (4 hours, lecture) A. Shop tour B. General safety practices and personal safety equipment C. [National Automotive Technicians Education Foundation (NATEF) Painting and Refinishing tasks: Section A, numbers 1-6] II. ENVIRONMENTAL LAWS (4 hours, lecture) A. Watchdog agencies: Environmental Protection Agency (EPA), Occupational Health and Safety Administration (OSHA), South Coast Air Quality Management District (SCAQMD) B. Local Rule 1151 (Southern California)

- C. VOC tracking and recordkeeping
- D. Permits and disposal of toxic paint waste

III. ENVIRONMENTAL LAWS (14 hours, lab)

- A. Watchdog agencies: EPA, OSHA, SCAQMD
- B. Local Rule 1151 (Southern California)
- C. VOC tracking and recordkeeping
- D. Permits and disposal of toxic paint waste

IV. SURFACE PREPARATION AND MASKING (8 hours, lecture)

- A. Safety practices
- B. Tools and abrasives
- C. Preparing a repaired panel for primer
- D. Preparing a scratched/chipped panel for primer
- E. Preparing an undamaged painted panel for refinishing
- F. Masking materials and techniques
- G. Masking for primer
- H. Masking jambs and exterior surfaces for painting
(NATEF Painting and Refinishing tasks: Section B, numbers 1-9, 11-17)

V. SURFACE PREPARATION AND MASKING (28 hours, lab)

- A. Safety practices
- B. Tools and abrasives
- C. Preparing a repaired panel for primer
- D. Preparing a scratched/chipped panel for primer
- E. Preparing an undamaged painted panel for refinishing
- F. Masking materials and techniques
- G. Masking for primer
- H. Masking jambs and exterior surfaces for painting
- I. (NATEF Painting and Refinishing tasks: Section B, numbers 1-9, 11-17)

VI. SPRAY GUNS AND MATERIALS (8 hours, lecture)

- A. Safety practices
- B. Spray gun types (gravity feed, siphon feed, pressure pot), parts and adjustment
- C. Spray gun use - distance, spray technique, overlap, cleaning
- D. Basic refinishing chemical types and uses including: primer, sealer, adhesion promoter, basecoat and clearcoat
- E. (NATEF Painting and Refinishing tasks: Section C, numbers 1-4)

VII. SPRAY GUNS AND MATERIALS (28 hours, lab)

- A. Safety practices
- B. Spray gun types (gravity feed, siphon feed, pressure pot), parts and adjustment
- C. Spray gun use - distance, spray technique, overlap, cleaning
- D. Basic refinishing chemical types and uses including: primer, sealer, adhesion promoter, basecoat and clearcoat

	E. (NATEF Painting and Refinishing tasks: Section C, numbers 1-4) VIII. SPRAY BOOTH USE AND CHEMICAL MIXING (28 hours, lab) A. Safety practices B. Chemical additives (hardener, reducer) and mixing ratios C. Using printed ratio mixing cups and sticks, calculating amount of mixed chemical needed D. Spray booth types, controls and use E. Spray booth maintenance, etiquette and housekeeping F. Positioning parts and stands for efficient spraying G. (NATEF Painting and Refinishing tasks: Section D, number 12) IX. SPRAY BOOTH USE AND CHEMICAL MIXING (8 hours, lecture) A. Safety practices B. Chemical additives (hardener, reducer) and mixing ratios C. Using printed ratio mixing cups and sticks, calculating amount of mixed chemical needed D. Spray booth types, controls and use E. Spray booth maintenance, etiquette and housekeeping F. Positioning parts and stands for efficient spraying G. (NATEF Painting and Refinishing tasks: Section D, number 12) X. COLOR SAND AND BUFF (4 hours, lecture) A. Safety practices B. Looking at paint imperfections, correctable/not correctable by buffing C. De-nibbing vs. color sanding, abrasives, techniques D. Equipment types and use including micro denibbing tool, 2" Dual Action (DA) sander, 6" DA sander, buffer and orbital polisher E. Buffing with wool pad and compound F. Polishing with foam pad and polish G. Customer service: cleaning/removing traces of buffing procedure H. (NATEF Painting and Refinishing tasks: Section F, numbers 1-6) XI. COLOR SAND AND BUFF (28 hours, lab) A. Safety practices B. Looking at paint imperfections, correctable/not correctable by buffing C. De-nibbing vs. color sanding, abrasives, techniques D. Equipment types and use including micro denibbing tool, 2" DA sander, 6" DA sander, buffer and orbital polisher E. Buffing with wool pad and compound F. Polishing with foam pad and polish G. Customer service: cleaning/removing traces of buffing procedure H. (NATEF Painting and Refinishing tasks: Section F, numbers 1-6)
Total Lecture Hours:	36

Total Laboratory Hours:	126
Total Hours:	162
Primary Method of Evaluation:	3) Skills demonstration
Typical Assignment Using Primary Method of Evaluation:	Mix a quantity of primer using the correct mixing ratio. Set up and adjust a primer spray gun, and spray the primer using the correct spray pattern overlap, distance and triggering. Properly clean the spray gun after use.
Critical Thinking Assignment 1:	Mask a vehicle's door jamb for exterior paint using the most financially and temporally economic method. Take into consideration the result of overspray in the door jamb and mask to prevent or conceal it. For an added challenge, this activity can be a timed race and students will be disqualified for unacceptable masking.
Critical Thinking Assignment 2:	Calculate the total VOC produced during all stages of a vehicle repair. Consider primer, sealer, adhesion promoter, in-booth cleaning chemicals, basecoat and clearcoat. Record the data and total on a VOC form.
Other Evaluation Methods:	Class Performance, Completion, Embedded Questions, Homework Problems, Multiple Choice, Objective Exam, Performance Exams, Quizzes, Written Homework
Instructional Methods:	Demonstration, Discussion, Group Activities, Guest Speakers, Lab, Lecture
If other:	
Work Outside of Class:	Answer questions, Observation of or participation in an activity related to course content (such as theatre event, museum, concert, debate, meeting), Required reading, Study
If Other:	
Up-To-Date Representative Textbooks:	Joe Baker. <u>Auto Collision Repair and Refinishing</u> . 4th ed. The Goodheart-Willcox Company, Inc., 2025.
Alternative Textbooks:	
Required Supplementary Readings:	
Other Required Materials:	Safety glasses Ear plugs/hearing protection Dust mask Paint respirator Rubber gloves
Requisite:	
Category:	
Requisite course(s): List both prerequisites and corequisites in this box.	
Requisite and Matching skill(s): Bold the requisite skill. List	

the corresponding course objective under each skill(s).	
Requisite Skill:	
Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	
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Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Patricia Fairchild
Date:	10/23/2012
Original Board Approval Date:	03/18/2013
Last Reviewed and/or Revised by:	Patricia Fairchild
Date:	12/01/2024
Last Board Approval Date:	01/21/2026 eff FA 2026