



El Camino College
COURSE OUTLINE OF RECORD – Official

Course Acronym:	ACRP
Course Number:	2A
Descriptive Title:	Basic Automotive Painting - Refinishing
Division:	Industry and Technology
Department:	Automotive Collision Repair/Painting
Course Disciplines:	Automotive Collision Repair/Painting
Catalog Description:	In this course, students will build skills in surface preparation and masking for primer and paint, and spray a variety of materials including solvent base, waterbase, waterborne basecoat, clearcoat and single stage paints. Spray gun selection, adjustment, and maintenance are covered, as well as paint mixing, troubleshooting and volatile organic compound (VOC) recordkeeping. This course contains Inter-Industry Conference on Auto Collision Repair (I-CAR) curriculum for Non-Structural and Refinishing certification credit, and may include CA Rule 40 Subpart HHHHHH certification.
Prerequisite:	Automotive Collision Repair/Painting 1A or Automotive Collision Repair/Painting 5A with a minimum grade of C or equivalent
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	3
Hours Laboratory (per week):	15
Outside Study Hours:	6
Total Course Hours:	324
Course Units:	8
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	
Transfer UC:	No
Effective Date:	
General Education:	ECC
Term:	

	Other:	
	CSU GE:	
	Term:	
	Other:	
	IGETC:	
	Term:	
	Other:	
	CalGETC:	
	Term:	
	Other:	
Student Learning Outcomes:	SLO #1 Mixing Primer Students will be able to mix a given quantity of primer using the correct ratio and will be able to adjust, operate, and clean an HVLP primer gun. SLO #2 Panel Prep and Painting Students will be able to differentiate between full panel repairs, spot repairs, and blend panels and be able to prepare each for refinishing using the correct tools and procedures. SLO #3 Gun Cleaning & VOC Tracking 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. Students will also be able to monitor the type and amount of liquid material used and record the data in the VOC (volatile organic compound) tracking log book.	
Course Objectives:	1. Complete a safety test with 100% accuracy. 2. Differentiate between single-stage, 2-stage and 3-stage paint finishes. 3. Analyze and identify the difference between metallic and solid color finishes. 4. Assess the condition of a vehicle and set up correct preparation operations for sanding a vehicle. 5. Analyze the condition of a vehicle and set up correct preparation operations for masking the vehicle. 6. Set up, operate, and clean a gravity feed spray gun. 7. Use feather and block sanding techniques to prepare a primed surface for paint.	
Major Topics:	I. PERSONAL SAFETY AND SAFE LAB PRACTICES (3 hours, Lecture) A. Shop tour - equipment available, location and use of emergency equipment, exits B. Personal safety gear - federal, state and local requirements, options and safety checks	

- C. National Institute for Occupational Safety and Health (NIOSH) standards, respirator fit test
- D. Occupational Safety and Health Administration (OSHA) personal health hazards, "Right to Know" law

II. LAWS & PERMITS (3 hours, Lecture)

- A. VOCs - calculation and recording
- B. SoCal Rule 1151 (Los Angeles and Orange Counties)
- C. Spray booth use permits
- D. Proper disposal of toxic paint waste

III. LAWS & PERMITS (12 hours, Lab)

- A. VOCs - calculation and recording
- B. SoCal Rule 1151 (Los Angeles and Orange Counties)
- C. Spray booth use permits
- D. Proper disposal of toxic paint waste

IV. SPRAY EQUIPMENT (6 hours, Lecture)

- A. Spray gun types and adjustment
- B. Spray gun use, spraying techniques
- C. Spray gun cleaning and care
- D. Spray booth types and operation
- E. Supplied air respirator systems and use

V. SPRAY EQUIPMENT (30 hours, Lab)

- A. Spray gun types and adjustment
- B. Spray gun use, spraying techniques
- C. Spray gun cleaning and care
- D. Spray booth types and operation
- E. Supplied air respirator systems and use

VI. SURFACE PREPARATION & ABRASIVES (9 hours, Lecture)

- A. Removal and proper storage of unpainted pieces and trim
- B. Pre-wash, vehicle inspection, repair planning
- C. Prep for steel - chemicals, abrasives and tools, coatings
- D. Prep for aluminum
- E. Prep for plastics
- F. Prep for painted surfaces

VII. SURFACE PREPARATION & ABRASIVES (54 hours, Lab)

- A. Removal and proper storage of unpainted pieces and trim
- B. Pre-wash, vehicle inspection, repair planning
- C. Prep for steel - chemicals, abrasives and tools, coatings
- D. Prep for aluminum
- E. Prep for plastics

- F. Prep for painted surfaces

VIII. PRIMERS & UNDERCOATS (9 hours, Lecture)

- A. Wash primers and conversion coatings
- B. Epoxy and self-etching primers
- C. Primer filler, finishing filler
- D. Primer sealer
- E. Adhesion promoter

IX. PRIMERS & UNDERCOATS (54 hours, Lab)

- A. Wash primers and conversion coatings
- B. Epoxy and self-etching primers
- C. Primer filler, finishing filler
- D. Primer sealer
- E. Adhesion promoter

X. VEHICLE MASKING (6 hours, Lecture)

- A. Masking adhesives and paper
- B. Application techniques and procedures
- C. Pre-paint cleaning and dust removal

XI. VEHICLE MASKING (30 hours, Lab)

- A. Masking adhesives and paper
- B. Application techniques and procedures
- C. Pre-paint cleaning and dust removal

XII. SURFACE IDENTIFICATION (6 hours, Lecture)

- A. History of automotive paints
- B. Single stage vs. basecoat/clearcoat paints
- C. Solid, metallic, and tri-coat finishes
- D. Sprayout cards and letdown panels

XII. SURFACE IDENTIFICATION (30 hours, Lab)

- A. History of automotive paints
- B. Single stage vs. basecoat/clearcoat paints
- C. Solid, metallic, and tri-coat finishes
- D. Sprayout cards and letdown panels

XIV. COLOR MIXING & MATCHING (6 hours, Lecture)

- A. Color codes, locations
- B. Color formula lookup, pouring toners, color variants
- C. Color matching and adjusting

XV. COLOR MIXING & MATCHING (30 hours, Lab)

	A. Color codes, locations B. Color formula lookup, pouring toners, color variants C. Color matching and adjusting XVI. PAINT FLAWS, CAUSES & CURES (6 hours, Lecture) A. Flaws due to poor prep B. Flaws due to poor paint spraying technique C. Flaws due to chemical reaction or contamination D. Flaws due to poor drying conditions XVII. PAINT FLAWS, CAUSES & CURES (30 hours, Lab) A. Flaws due to poor prep B. Flaws due to poor paint spraying technique C. Flaws due to chemical reaction or contamination D. Flaws due to poor drying conditions
Total Lecture Hours:	54
Total Laboratory Hours:	270
Total Hours:	324
A.1. Primary Methods of Evaluation (Part 1 - CCN courses only):	
A.2. Primary Method of Evaluation (Part 2 - all courses; choose one):	3) Skills demonstration
Typical Assignment Using Primary Method of Evaluation:	Obtain and read a brand of primer's technical data sheet (TDS), spray a vehicle fender with the activated primer according to directions. Upon completion of the application of the primer base coat, disassemble and clean the spray gun and record volatile organic compound (VOC) data. Consult the instructor for evaluation.
Critical Thinking Assignment 1:	The body shop manager has directed you to prepare a 2021 four-door sedan for partial repaint with a two-stage metallic paint. The hood, front bumper cover and left fender are new. The right fender and left front door are blend panels. In a one-page lab report, provide a detailed sequence of preparatory steps you would take to complete the assignment. Cite all materials needed and proper abrasive grits. Submit lab report to the instructor.
Critical Thinking Assignment 2:	Locate a vehicle's color code. Use visual and color code information to determine if the vehicle has two-stage or three-stage paint. Write a repair plan proposal for a small dent in the left front door that includes your strategy to spot repair or paint the panel and include any adjacent blend panels. Present your proposal to the class including technical recommendation data for justification.
Other Evaluation Methods:	Class Performance, Multiple Choice, Performance Exams, Quizzes, True/False
Instructional Methods:	Demonstration, Discussion, Group Activities, Guest Speakers, Lab, Lecture, Multimedia presentations

If other:	
Work Outside of Class:	Answer questions, Problem solving activity, Required reading, Study
If Other:	
Up-To-Date Representative Texts:	Joe Baker. <u>Auto Collision Repair and Refinishing</u> . 4th edition. Goodheart-Willcox. 2025.
Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	1. Safety glasses 2. Organic vapor respirator 3. Nitrile or latex gloves 4. Ear plugs 5. Dust mask 6. High Volume, Low Pressure (HVLP) or High Transfer Efficiency (HTE) gravity feed spray gun (1.3 or 1.4 tip size) 7. Sprayout cards 8. Degreaser spray
Requisite:	Prerequisite
Category:	sequential
Requisite course(s): List both prerequisites and corequisites in this box.	Automotive Collision Repair/Painting-1A Automotive Collision Repair/Painting-5A
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	Set up, operate and clean a gravity feed spray gun. ACRP 1A - Set up, operate and clean a primer spray gun ACRP 5A - Locate and identify the parts of an HVLP gravity feed spray gun. Adjust, properly use and clean the gun. Prepare steel, plastic and painted surfaces for refinishing. ACRP 1A - Identify and use hand, pneumatic, electric and hydraulic tools used in industry ACRP 5A - Prepare a repaired, a scratched/chipped, a primed and a painted surface for refinishing.
Requisite Skill:	or equivalent
Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	If students have taken an equivalent course at another college or have experience in automotive collision repair and painting, students will be prepared to enroll in this course. Students need automotive collision painting experience to succeed in this course.
Requisite course:	

Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
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Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	John Harper
Date:	09/01/1982
Original Board Approval Date:	
Last Reviewed and/or Revised by:	Pati Fairchild
Date:	11/08/2025
Last Board Approval Date:	01/21/2026
Effective Term:	FA 2026