



El Camino College
COURSE OUTLINE OF RECORD – Official

Course Acronym:	ACRP
Course Number:	1A
Descriptive Title:	Introduction to Automotive Collision Repair
Division:	Industry and Technology
Department:	Automotive Collision Repair/Painting
Course Disciplines:	Automotive Collision Repair/Painting
Catalog Description:	This course provides a full, hands-on introduction to all steps of auto collision repair from damage estimating, dent removal, Metal Inert Gas (MIG) welding and plastic repair to priming, painting and final detailing. Students will also learn basic safety, tool use, smart disassembly, vehicle parts nomenclature and career strategies. Successful students may be ready for entry-level employment by the end of this course. This course contains Inter-Industry Conference on Auto Collision Repair (I-CAR) curriculum for Non-Structural and Refinishing certification credit. Note: Automotive Collision Repair/Painting 1A is equivalent to Automotive Collision Repair/Painting 4A and 5A.
Prerequisite:	
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 MIG Welds Students will be able to set up and use a MIG welder properly and safely to perform three welds (lap, plug, reinforced butt) on automotive gauge steel in 'flat' position. SLO #2 Mix & Spray Primer Students will be able to mix and spray a given quantity of primer using the correct ratio and adjust, operate, and clean an HVLP primer gun. SLO #3 Mix, Apply & Shape Plastic Filler Students will be able to mix, apply and shape plastic filler for primer on a repaired automotive panel.	
Course Objectives:	1. Complete a comprehensive automotive collision repair/painting safety test with 100% accuracy. 2. Based upon industry standards, identify and explain various types of improper repairs and repair fraud. 3. Identify and safely use hand, pneumatic, electric and hydraulic tools used in industry. 4. Identify vehicle body styles, unibody/full frame construction, and major panels. 5. Set up and operate a MIG welding outfit. 6. Metal finish a damaged steel body panel back to its original condition using only hand tools and no fillers. 7. Grind a body panel surface for preparation for plastic filler. 8. Mix, apply and shape plastic filler. 9. Prepare multiple surfaces for refinishing including bare and pre-painted steel, and plastic. 10. Mask panels and jambs for primer. 11. Set up, operate and clean a primer spray gun 12. Be aware of and obey federal, state and local environmental laws including Volatile Organic Compound (VOC) limits.	
Major Topics:	I. SAFETY GEAR AND SAFE LAB PRACTICES (3 hours, lecture) A. Shop tour	

- B. General safety practices and personal safety equipment

II. INDUSTRY REPAIR STANDARDS/THEORY (6 hours, lecture)

- A. Improper repairs
- B. Repair fraud
- C. Careers in auto collision

III. INDUSTRY REPAIR STANDARDS/THEORY (30 hours, lab)

- A. Improper repairs
- B. Repair fraud
- C. Careers in auto collision

IV. VEHICLE CONSTRUCTION (3 hours, lecture)

- A. Vehicle body styles
- B. Major panels and non-structural parts
- C. Structural parts
- D. Full frame versus unibody vehicle construction

V. VEHICLE CONSTRUCTION (15 hours, lab)

- A. Vehicle body styles
- B. Major panels and non-structural parts
- C. Structural parts
- D. Full frame versus unibody vehicle construction

VI. TOOL IDENTIFICATION AND USE (6 hours, lecture)

- A. Safety practices
- B. Hand tools
- C. Pneumatic tools
- D. Electric tools
- E. Hydraulic tools
- F. Introduction to frame-straightening equipment and use

VII. TOOL IDENTIFICATION & USE (45 hours, lab)

- A. Safety practices
- B. Hand tools
- C. Pneumatic tools
- D. Electric tools
- E. Hydraulic tools
- F. Introduction to frame-straightening equipment and use

VIII.(MIG WELDING (3 hours, lecture)

- A. Safety practices
- B. Nomenclature and settings
- C. Operation/application
- D. Steel welding

- E. I-CAR qualification standards

IX. MIG WELDING (15 hours, lab)

- A. Safety practices
- B. Nomenclature and settings
- C. Operation/application
- D. Steel welding
- E. I-CAR qualification standards

X. METALWORKING AND FINISHING (9 hours, lecture)

- A. Safety practices
- B. Theory of metal finishing, history
- C. Nomenclature of tools
- D. Procedures and techniques - bumping, dinging, hammer-on-dolly, hammer-off-dolly
- E. Stud welder/slide hammer use
- F. Pneumatic grinders
- G. Abrasive materials
- H. (NATEF Non-Structural Damage Analysis and Repair tasks: Section B, number 10; Section C, numbers 1-10)

XI. METALWORKING AND FINISHING (45 hours, lab)

- A. Safety practices
- B. Theory and history of metal finishing
- C. Nomenclature of tools
- D. Procedures and techniques - bumping, dinging, hammer-on-dolly, hammer-off-dolly
- E. Stud welder/slide hammer use
- F. Pneumatic grinders
- G. Abrasive materials
- H. Non-Structural Damage Analysis and Repair tasks: Section B, Number 10; Section C, Numbers 1-10

XII. PLASTIC BODY FILLER (9 hours, lecture)

- A. Safety practices
- B. Theory, history, composition
- C. Nomenclature of tools/equipment
- D. Surface preparation
- E. Procedures/techniques of application
- F. Finishing techniques
- G. Fiberglass repairs
- H. Plastic repairs

XII. PLASTIC BODY FILLER (45 hours, lab)

- A. Safety practices
- B. Theory, history, composition
- C. Nomenclature of tools/equipment

	D. Surface preparation E. Procedures/techniques of application F. Finishing techniques G. Fiberglass repairs H. Plastic repairs XIV. PRIMERS AND SPRAY GUNS (9 hours, lecture) A. Safety practices and equipment B. Volatile Organic Compound (VOC) tracking C. Parts and use of a primer spray gun D. Spray booth use and controls E. Primers, sealers and adhesion promoter F. Mixing ratios G. Primer application H. Proper gun cleaning, disassembly and reassembly XV. PRIMERS AND SPRAY GUNS (45 hours, lab) A. Safety practices and equipment B. Volatile Organic Compound (VOC) tracking C. Parts and use of a primer spray gun D. Spray booth use and controls E. Primers, sealers and adhesion promoter F. Mixing ratios G. Primer application H. Proper gun cleaning, disassembly and reassembly XVI. PAINTING (6 hours, lecture) A. Safety practices B. Paint types: single stage, two-stage, tri-coat C. Spray gun adjustment D. Paint application E. Spray gun types, cleanup and care XVII. PAINTING (30 hours, lab) A. Safety practices B. Paint types: single stage, two-stage, tri-coat C. Spray gun adjustment D. Paint application E. Spray gun types, cleanup and care
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:	Analyze and repair a 3" diameter dent in a steel body panel using hammer and dolly and plastic filler according to I-CAR standards. Finish the repair by shaping the filler and abrading the surrounding area for primer application, according to 3M's Standard Operating Procedures. Consult instructor for evaluation.
Critical Thinking Assignment 1:	Pretend you are an estimator at a shop that values the same two of three qualities you do (speed, quality, price). Write an estimate on the damaged vehicle provided that takes these qualities into consideration when it comes to repairing or replacing parts, blending panels, and removing and installing trim and small parts. When finished, decide if the vehicle is a good candidate for your repair plan based on age, mileage, current overall condition and Kelley Blue Book value, and explain why or why not. Submit the estimate to the instructor.
Critical Thinking Assignment 2:	Appraise the damage to the fender on the vehicle assigned to you. Prepare an informal estimate listing the steps needed to repair the damage, the tools and materials needed, and the estimated number of hours to complete the repair. Submit the estimate to your instructor.
Other Evaluation Methods:	Class Performance, Completion, Homework Problems, Matching Items, Multiple Choice, Other Exams, Performance Exams, Quizzes
Instructional Methods:	Demonstration, Group Activities, Guest Speakers, Lab, Lecture
If other:	Online videos, digital slide presentations
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:	Eye protection Ear protection Organic Vapor Respirator Dust mask Latex or nitrile 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).	
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Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Kenneth Zion
Date:	09/01/1984
Original Board Approval Date:	
Last Reviewed and/or Revised by:	Patricia Fairchild
Date:	11/08/2025
Last Board Approval Date:	01/21/2026
Effective Term:	FA 2026