

Area: Technical Education  
 Dean: Gabriel Meehan  
 Phone: (916) 484-8354  
 Counseling: (916) 484-8572  
<http://wserver.arc.losrios.edu/~tech/>

Degree: A.S. - Automotive Collision Technology  
 Certificates: Automotive Collision Technology

## Automotive Collision Technology Degree and Certificate

The Automotive Collision Technology degree provides a combination of classroom and hands-on shop experience to prepare for careers in all phases of automotive collision technology. Topics include component repairs, structural and non-structural repairs, and refinishing. It also covers various automotive systems, such as heating and air-conditioning, suspension and steering, and electrical. The certificate prepares the student for employment as a multi-tasked technician (mechanical, frame, body, and refinish).

### Student Learning Outcomes

*Upon completion of this program, the student will be able to:*

- identify and estimate automotive collision damage.
- develop a repair plan.
- repair automotive collision mechanical damage.
- repair frame/unibody automotive collision structural damage.
- repair automotive collision body damage.
- refinish automotive collision damage.

### Career Opportunities

This program provides training and hands-on experience in high-demand skills that lead to promising careers with high wages. The U.S. Labor Department reports that job opportunities for auto collision specialists are excellent because of the large number of older workers who are expected to retire in the next 5 to 10 years. In addition, it points out that experienced technicians are rarely laid off and that employers prefer to hire graduates of a formal training program because it provides a foundation in the latest collision technology, including the techniques and equipment used on the job.

Requirements for Degree or Certificate		33.5 Units
ACT 110	Component Repairs .....	4
ACT 120	Non-Structural Repair .....	4
ACT 130	Structural Repair .....	4
ACT 140	Automotive Refinishing.....	4
ACT 161	Automotive Collision Software Systems, Estimating 1.....	4
AT 310	Heating and Air-Conditioning Systems.....	4
AT 311	Suspension and Steering Systems.....	4
AT 312	Automotive Electrical Systems.....	4
WELD 103	Gas Metal Arc Welding of Sheet Steel .....	1.5

**Associate Degree Requirements:** The Automotive Collision Technology Associate in Science (A.S.) Degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See ARC graduation requirements.

### ACT 110 Component Repairs 4 Units

*Hours: 54 hours LEC; 54 hours LAB*

This course provides the technical information and hands-on experience to perform repairs to collision damaged vehicles. Topics covered are to correctly and safely remove, inspect, replace and align, bolt-on body components. It also covers the protection of mechanical and electrical systems, removal of damaged parts, anchoring theory and techniques applicable to damaged vehicles. Interpretation of damage analysis reports and types of collision damage are covered. Students enrolled in the Collision Technology program at American River College (ARC) may be eligible to apply for Inter-Industry Conference on Automotive Collision Repairs (I-CAR) points. This ARC/I-CAR alliance course prepares students for Automotive Service Excellence (ASE) testing and National Automotive Technicians Education Foundation (NATEF) training standards.

### ACT 120 Non-Structural Repair 4 Units

*Hours: 54 hours LEC; 54 hours LAB*

This course provides the technical information and hands-on experience to perform limited and supervised repairs to collision damaged vehicles. It covers the principles and theory of automotive collision repair including procedures for replacement of door skins and quarter panels. Additionally, metal straightening theory, and techniques for steel and aluminum, and making repair versus replacement decisions are covered. Measuring systems techniques and their use in diagnosing and correcting collision damage are also presented. Students enrolled in the Collision Technology program at American River College (ARC) may be eligible to apply for Inter-Industry Conference on Automotive Collision Repair (I-CAR) points. This ARC/I-CAR alliance courses also prepares for Automotive Service Excellence (ASE) testing and National Automotive Technicians Educational Foundation (NATEF) training standards.

### ACT 130 Structural Repair 4 Units

*Hours: 54 hours LEC; 54 hours LAB*

This course covers principles and theory of automotive collision repair including component alignment, component replacement, structural panel repair or replacement, and chassis/frame alignment. Sectioning and full-panel replacement techniques and procedures are covered. Practical applications are emphasized. Students enrolled in the Collision Technology program at American River College (ARC) may be eligible to apply for Inter-Conference on Automotive Repair (I-CAR) points. This ARC/I-CAR alliance courses also prepares students for Automotive Service Excellence (ASE) testing and National Automotive Technicians Education Foundation (NATEF) training standards.

**ACT 140 Automotive Refinishing 4 Units***Hours: 54 hours LEC; 54 hours LAB*

This course covers the principles and theories of paint finish application, tinting and blending, color evaluation, color adjustments, and evaluating color mismatch problems. Topics include paint application techniques, restoration of corrosion protection, blending procedures, new and emerging paint technologies, color identification, and interpreting vehicle color codes. It also addresses compliance with rules and regulations as determined by Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Clean Air Act, and Volatile Organic Compound (VOC). Students enrolled in the Collision Technology program at American River College (ARC) may be eligible to apply for Inter-Industry Conference on Automotive Collision repair (I-CAR) points. This ARC/I-CAR alliance courses also prepares student for Automate Service Excellence (ASE) testing and National Automotive Technicians Education Foundation (NATEF) training standards.

**ACT 150 Hot Rod Fabrication and Customization: Hot Rod Frames 4 Units***Prerequisite: ACT 110, 120, 130, and 140 with grades of "C" or better  
Hours: 54 hours LEC; 54 hours LAB*

This course covers the principles and theories of hot rod chassis design, development, and construction. Extensive bracket and frame fabrication and welding are emphasized.

**ACT 152 Hot Rod Fabrication and Customization: Hot Rod Suspensions 4 Units***Prerequisite: ACT 110, 120, 130, and 140 with grades of "C" or better  
Hours: 54 hours LEC; 54 hours LAB*

This course covers the principles and theories of hot rod suspension design, development, and construction. Topics include big brakes and air suspensions.

**ACT 154 Hot Rod Fabrication and Customization: Hot Rod Engine/Transmissions 4 Units***Prerequisite: ACT 110, 120, 130, and 140 with grades of "C" or better  
Hours: 54 hours LEC; 54 hours LAB*

This course covers the principles and theories of hot rod engines and transmissions. Topics include engine performance tuning and transmission selection.

**ACT 156 Hot Rod Fabrication and Customization: Hot Rod Refinish 4 Units***Prerequisite: ACT 110, 120, 130, and 140 with grades of "C" or better  
Hours: 54 hours LEC; 54 hours LAB*

This course covers the principles and theories of hot rod custom show-quality automotive finishes. Topics include primers, color coats, special effects, clear coats, and polishing.

**ACT 161 Automotive Collision Software Systems, Estimating I 4 Units***Hours: 54 hours LEC; 54 hours LAB*

This course provides the technical and practical skills necessary to properly diagnose collision-damaged vehicles and to document the cost and time necessary to repair collision-damaged vehicles. The use of state-of-the-art computer generated estimating programs and video imaging are used to prepare itemized estimates on collision-damaged vehicles. The procedures to prepare itemized estimates detailing the required procedures and parts necessary to correctly repair the vehicle are also covered.