

# AUTOMOTIVE COLLISION REPAIR (AB)

## AB 58L 1.5 UNITS

### Collision Repair Lab

Class Hours: 5.0 Laboratory  
Total Contact Hours: 90 Laboratory

Prerequisite: AB 51 or equivalent with a grade of "C" or higher or "Pass" or concurrent enrollment.

This course allows students to perfect and hone skills obtained in prerequisite courses. In this course, students will select and repair a project vehicle of their choosing relevant to the subject material being taught. (Formerly AB 58)

Transfer Credit: CSU

## AB 59M 2.0 UNITS

### Computerized Measuring Training

Class Hours: 1.5 Lecture / 2.5 Laboratory  
Total Contact Hours: 27 Lecture / 45 Laboratory

Recommendation: AB 51 or equivalent with a grade of "C" or higher or "Pass".

This course develops the skills in the operation and use of computer measuring systems to measure structural automotive damage. Students will learn to properly identify vehicles, components and systems, select and install the appropriate scan targets and attachments onto various vehicles, and provide digital measuring with the electronic measuring systems. Topics include basic collision theory, damage analysis fundamentals, maintenance, and operation of electronic measuring systems. The processes and methods used within each measuring system will be discussed extensively. (Formerly AB 59A)

## AB 59P 2.0 UNITS

### Structural Repair Planning

Class Hours: 1.5 Lecture / 2.5 Laboratory  
Total Contact Hours: 27 Lecture / 45 Laboratory

Recommendation: AB 51 or AB 59M or equivalent with a grade of "C" or higher or "Pass" or appropriate work experience. Current or previous employment in a collision repair facility.

This entry-level course introduces students to the concepts of damage analysis and repair planning for structurally damaged vehicles. It is designed for collision repair technicians and students with little or no training in structural repair. The course presents case studies that give students the information needed to measure, analyze, and develop repair plans for damaged unitized and full-frame vehicles.

## AB 68L 1.5 UNITS

### Refinishing Lab

Class Hours: 5.0 Laboratory  
Total Contact Hours: 90 Laboratory

Prerequisite: AB 61

This course increases student skills in automotive refinishing. Students hone their skills and improve their speed by completing automotive refinishing projects. I-CAR curriculum may be included in course delivery. (Formerly AB 68)

## AB 80 2.0 UNITS

### Autobody Customer Service

Class Hours: 2.0 Lecture  
Total Contact Hours: 36 Lecture

This course focuses on effective customer service in an automotive collision repair facility. Students learn appropriate use of collision repair industry terminology, measuring and improving levels of customer service, interpreting body language, conflict resolution, telephone and in-person communication skills, personal conduct, time scheduling, business ethics, and the completion of paperwork related to autobody customer service positions. I-CAR training may be included in course delivery.

## AB 83A 1.5 UNITS

### Computerized Damage Estimating - Audatex

Class Hours: 1.5 Lecture / 0.5 Laboratory  
Total Contact Hours: 27 Lecture / 9 Laboratory

Recommendation: Proficient in MS Windows Software application. The focus of this course is for students to become proficient in Audatex collision damage estimating software. Students will learn to properly identify vehicles, components, and systems and how to select and input the appropriate replacement parts and labor costs into a computerized damage report. Topics include development of customer and insurance company profiles, maintenance of user accounts, the generation of supplemental damage reports, and the use of software-specific part codes, as currently used in the collision repair industry. The processes and methods used within the Audatex software program will be reviewed extensively.

## AB 86 2.0 UNITS

### Production Management

Class Hours: 2.0 Lecture  
Total Contact Hours: 36 Lecture

Recommendation: Work experience in the automotive collision repair industry.

This course focuses on production management and improving workflow in automotive repair facilities. The course includes job analysis, task prioritizing, job descriptions, flow-charting, capacity planning, parts and material procurement, production controls, cycle-time analysis, and development of key production controls for management. I-CAR live training modules may be included in course delivery.

## AB 98 1.0 UNITS

### Directed Studies

A course to provide opportunity for individual research and field projects under the direction of a faculty member in a given department. With the guidance of the faculty member, students prepare and carry out a written learning agreement describing the purposes and outcomes of the project. Students should expect to meet with the supervising faculty member one to two hours each week for conferences. Credit is based upon the number of hours in the semester expected to complete the project (1 unit for 54 hours). This course may be taken a maximum of 2 times.

<p><b>AB 99</b> <span style="float: right;"><b>2.0 UNITS</b></span>  <b>Directed Studies</b>  A course to provide opportunity for individual research and field projects under the direction of a faculty member in a given department. With the guidance of the faculty member, students prepare and carry out a written learning agreement describing the purposes and outcomes of the project. Students should expect to meet with the supervising faculty member one to two hours each week for conferences. Credit is based upon the number of hours in the semester expected to complete the project (2 units for 108 hours). This course may be taken a maximum of 2 times.</p>	<p><b>AB 154</b> <span style="float: right;"><b>4.5 UNITS</b></span>  <b>Advanced-Design Panel Repair</b>  Class Hours: 3.0 Lecture / 5.0 Laboratory  Total Contact Hours: 54 Lecture / 90 Laboratory    Recommendation: AB 151 or AB 156 or AB 157 or equivalent with a grade of "C" or higher or "Pass".  This course emphasizes repair and replacement of advanced-design automotive panels. Topics include the repair, replacement, and joining of High-Strength Steel (HSS), Ultra Lightweight Steel Auto Body (ULSAB) panels, Ultra High-Strength Steel, Advanced High-Strength Steel, aluminum, composites, plastics, and other innovative materials used in automotive construction. I-CAR Live curriculum may be included in course delivery. (Formerly AB54)  Transfer Credit: CSU</p>
<p><b>AB 151</b> <span style="float: right;"><b>4.5 UNITS</b></span>  <b>Non-Structural Repair</b>  Class Hours: 3.0 Lecture / 5.0 Laboratory  Total Contact Hours: 54 Lecture / 90 Laboratory    This course is an introduction to the collision repair trade. Emphasis is on safe removal and replacement of external panels, bumpers, lights, and trim. Discussion and demonstration of automotive welding will be introduced. Repair of minor body panel dents, finish preparation concepts, and the safe use of power and hand tools will be covered. This course may include I-CAR Live curriculum. (Formerly AB51) Transfer credit: CSU</p>	<p><b>AB 155</b> <span style="float: right;"><b>4.5 UNITS</b></span>  <b>Structural Panel Replacement</b>  Class Hours: 3.0 Lecture / 5.0 Laboratory  Total Contact Hours: 54 Lecture / 90 Laboratory    Recommendation: AB 151 or AB 152 or AB 156 or AB 157 or equivalent with a grade of "C" or higher or "Pass".  This course emphasizes repair and replacement of structural panels, removal, and replacement of power train and supports, gauging and analysis of major structural damage, and the measurement and alignment of strut towers. I-CAR Live curriculum may be included in course delivery. (Formerly AB55)  Transfer Credit: CSU</p>
<p><b>AB 152</b> <span style="float: right;"><b>4.5 UNITS</b></span>  <b>Structural Damage Repair</b>  Class Hours: 3.0 Lecture / 5.0 Laboratory  Total Contact Hours: 54 Lecture / 90 Laboratory    Recommendation: AB 151 or AB 157 or equivalent with a grade of "C" or higher or "Pass".  This course introduces students to structural repair of collision-damaged vehicles. Major emphasis is placed on analysis, measuring, and repair of structural damage and welding of full-frame, space frame, and unitized vehicles. Various methods of measuring and repairing structural damage will be utilized including universal, electronic, and dedicated bench systems. This course may include I-CAR Live curriculum. (Formerly AB52)  Transfer Credit: CSU</p>	<p><b>AB 156</b> <span style="float: right;"><b>2.0 UNITS</b></span>  <b>Non-Structural Automotive Welding</b>  Class Hours: 1.5 Lecture / 2.5 Laboratory  Total Contact Hours: 27 Lecture / 45 Laboratory    This course introduces students to oxy-acetylene, Gas Metal Arc Welding (GMAW), stick arc, and pressure resistance welding. It is designed for students presently employed or soon to be employed in the automotive field. Related subjects include welding, safety, testing of weld joints, material design, and strength of materials, process selection, cutting methods, and metals identification. A major focus of this course is to prepare students to complete the I-CAR GMAW Certification Test. I-CAR Live curriculum may be presented during course delivery. (Formerly AB56)  Transfer Credit: CSU</p>
<p><b>AB 153</b> <span style="float: right;"><b>4.5 UNITS</b></span>  <b>Steering, Suspension and Powertrain Damage</b>  Class Hours: 3.0 Lecture / 5.0 Laboratory  Total Contact Hours: 54 Lecture / 90 Laboratory    Recommendation: AB 151 or equivalent with a grade of "C" or higher or "Pass".  This course introduces students to steering and suspension control point alignment, steering and suspension systems, and power train problems related to automotive collisions. Related topics include structural measuring and repair systems and methodology, welding, and metallurgical experience and an introduction to electrical and electronic systems. I-CAR Live curriculum may be included in course delivery. (Formerly AB53)  Transfer Credit: CSU</p>	<p><b>AB 157</b> <span style="float: right;"><b>2.0 UNITS</b></span>  <b>Structural Automotive Welding</b>  Class Hours: 1.5 Lecture / 2.5 Laboratory  Total Contact Hours: 27 Lecture / 45 Laboratory    Recommendation: AB 156 or equivalent with a grade "C" or higher or "Pass" or concurrent enrollment.  This course introduces students to oxy-acetylene, Gas Metal Arc Welding (GMAW), stick arc, and pressure resistance welding. It is designed for students presently employed or soon to be employed in the automotive field. Related subjects include welding, safety, testing of weld joints, material design, and strength of materials, process selection, cutting methods, and metals identification. A major focus of this course is to prepare students to complete the I-CAR GMAW Certification Test. I-CAR Live curriculum may be presented during course delivery. (Formerly AB56)  Transfer Credit: CSU</p>

<p><b>AB 161</b>  <b>Preparation and Spot Refinishing</b>            Class Hours: 3.0 Lecture            Total Contact Hours: 54 Lecture</p> <p>Corequisite: AB 161L            This course introduces beginning techniques for automotive refinishing preparation and spot painting techniques. This course includes basic use of abrasives, primers, fillers, and sealers. Students are instructed in the use of solvents, pre-coats, and basic material problems encountered in today's refinishing market. I-CAR training modules may be included in course delivery. (Formerly AB 61)            Transfer Credit: CSU</p>	<p><b>3.0 UNITS</b></p>	<p><b>AB 164</b>  <b>Automotive Air Brush Painting</b>            Class Hours: 2.0 Lecture / 2.0 Laboratory            Total Contact Hours: 36 Lecture / 36 Laboratory</p> <p>Recommendation: AB 161 or equivalent with a grade of "C" or higher or "Pass", or related work experience.            This course introduces students to the art of air brush painting and related effects in automotive applications. Students work with various colors and techniques to create special effects on commercial and passenger vehicles using air brushes. Included are 3-D effects, mural painting, accenting other types of graphic art, and portrait painting on automotive surfaces. (Formerly AB64)            Transfer Credit: CSU</p>	<p><b>2.5 UNITS</b></p>
<p><b>AB 161L</b>  <b>Automotive Refinishing Lab</b>            Class Hours: 5.0 Laboratory            Total Contact Hours: 90 Laboratory</p> <p>Prerequisite: Prerequisite: AB161 or equivalent with a grade of "C" or higher or "Pass" or concurrent enrollment            This course allows students to develop and improve hands-on skills in preparation and spot refinishing by completing automotive refinishing projects. Students will identify and select specific automotive painting projects relevant to the subject matter. (Formerly AB61L)            Transfer Credit: CSU</p>	<p><b>1.5 UNITS</b></p>	<p><b>AB 165</b>  <b>Mix and Adjusting Color</b>            Class Hours: 1.5 Lecture / 2.5 Laboratory            Total Contact Hours: 27 Lecture / 45 Laboratory</p> <p>Recommendation: AB 161 or equivalent with a grade of "C" or higher or "Pass".            This course increases the marketable skills for the automotive refinisher in the trade. Emphasis is on color and texture duplication, the use of automotive toners to scratch paint mix, and to mix specific colors using formulas and tintometers. It also includes spray-blending techniques, compatibility, spray-out panels, let-down panels for multi-coat matches, troubleshooting of materials, and paint chemistry. I-CAR curriculum may be presented during course delivery. (Formerly AB 65)            Transfer Credit: CSU</p>	<p><b>2.0 UNITS</b></p>
<p><b>AB 162</b>  <b>Overall And Multi-Coat Refinishing</b>            Class Hours: 3.0 Lecture / 5.0 Laboratory            Total Contact Hours: 54 Lecture / 90 Laboratory</p> <p>Recommendation: AB 151 or AB 161 or equivalent with a grade of "C" or higher or "Pass".            This course develops the skills in multi-coat refinishing. Students will be instructed in the art of tinting colors, spot repair of factory and after-market multi-coat finishes, overall refinishing, interior/exterior care and maintenance, and the refinishing of plastic components. The course includes the testing, research and development of current refinishing materials. I-CAR live curriculum may be incorporated in the training and discussions. (Formerly AB62)            Transfer Credit: CSU</p>	<p><b>4.5 UNITS</b></p>	<p><b>AB 166</b>  <b>Lettering, Striping and Design</b>            Class Hours: 2.0 Lecture / 2.0 Laboratory            Total Contact Hours: 36 Lecture / 36 Laboratory</p> <p>Recommendation: AB 161 or equivalent with a grade of "C" or higher or "Pass" or appropriate work experience or concurrent enrollment.            This course trains students in the arts of automotive lettering, graphic design, and pin-striping. Students work with lines, colors, and harmonizing/contrasting concepts to create special effects on commercial and passenger vehicles using a wide range of materials and techniques. Included in this course are the use of computer-generated graphics, stencil making, and hand pin-striping, and lettering. I-CAR curriculum may be included in course delivery. (Formerly AB66)            Transfer Credit: CSU</p>	<p><b>2.5 UNITS</b></p>
<p><b>AB 163</b>  <b>Production Refinishing</b>            Class Hours: 3.0 Lecture / 5.0 Laboratory            Total Contact Hours: 54 Lecture / 90 Laboratory</p> <p>Recommendation: AB 161 or AB 162 or equivalent with a grade of "C" or higher or "Pass".            In this course, students learn to prepare and refinish several vehicles, simultaneously. Areas covered include repair of minor body dings, paint preparation, mixing of multiple colors, plus the masking and painting of up to three separate vehicles of varying models, colors, and types. This course provides students with hands-on techniques for increasing the volume of vehicles processed in the professional automotive refinishing environment. I-CAR Live curriculum may be presented during this course of study. (Formerly AB 63)            Transfer Credit: CSU</p>	<p><b>4.5 UNITS</b></p>	<p><b>AB 167</b>  <b>Automotive Custom Painting</b>            Class Hours: 1.0 Lecture / 3.0 Laboratory            Total Contact Hours: 18 Lecture / 54 Laboratory</p> <p>Recommendation: AB 161 or AB 162 or equivalent with a grade "C" or higher or "Pass".            This is a custom automotive painting course that focuses on building hands-on skills in creating special paint effects, including flames, scallops, checkerboards, shredding, murals, holographic effects, multi-coats, and pearl finishes on automobiles. Course includes theory and lab. (Formerly AB 67)            Transfer Credit: CSU</p>	<p><b>2.0 UNITS</b></p>

**AB 181****Non-Structural Damage Estimating**

Class Hours: 2.5 Lecture / 1.5 Laboratory

Total Contact Hours: 45 Lecture / 27 Laboratory

Recommendation: Proficient in MS Windows Software application. This is an entry-level course for students wanting to learn to estimate non-structural (minor) automotive damage. Emphasis is on vehicle construction and structural design, repair methodology, vehicle component and systems identification, and in developing appropriate judgment repair times. Students learn to write hand-written estimates identifying the cost of parts, labor materials, sublet, and other charges required to return damaged vehicles to factory specifications. Students use collision estimating guides to establish parts prices and industry standard labor times for replacement and refinishing of damaged parts. Additionally, students learn to use "Procedure Pages" in the estimating guides for processes not included in the standard times listed in the guide. I-CAR Live training may be included in course delivery.

Transfer Credit: CSU

**AB 182****Structural Damage Estimating**

Class Hours: 2.5 Lecture / 1.5 Laboratory

Total Contact Hours: 45 Lecture / 27 Laboratory

Recommendation: AB 181 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience. Proficient in MS Windows Software applications.

This course expands students' ability to estimate complex types of structural, mechanical, and electrical damage to vehicles. Areas of study include understanding collision theory, damage analysis fundamentals, visual inspection process, measuring and analyzing structural damage, suspension and mechanical systems damage, factory build tolerances, and safety systems of the severely damaged vehicles. Other topics include estimator job functions, customer satisfaction, regulatory compliance, and ethics within the collision repair industry. I-CAR Live curriculum may be presented during this course.

Transfer Credit: CSU

**AB 183P****Computerized Damage Estimating - Pathways**

Class Hours: 1.5 Lecture / 0.5 Laboratory

Total Contact Hours: 27 Lecture / 9 Laboratory

Recommendation: Proficient in MS Windows Software application. The focus of this course is for students to become proficient in Pathways collision damage estimating software. Students will use the application to properly identify vehicles, components, and systems, and how to select and input the appropriate replacement parts and labor costs into a computerized damage report. Topics include development of customer and insurance company profiles, maintenance of user accounts, the generation of supplemental damage reports, and the use of software-specific part codes, as currently used in the collision repair industry. The processes and methods used within the Pathways software program will be reviewed extensively. (Formerly AB 83P)

Transfer Credit: CSU

**3.0 UNITS****AB 183U****Computerized Damage Estimating-Ultramate**

Class Hours: 1.5 Lecture / 0.5 Laboratory

Total Contact Hours: 27 Lecture / 9 Laboratory

Recommendation: Proficient in MS Windows Software application. The focus of this course is for students to become proficient in Ultramate damage estimating software. Students will learn to properly identify vehicles, components and systems, and to select and input the appropriate replacement parts and labor costs into an Ultramate computerized damage report. Topics include development of customer and insurance company profiles, maintenance of user accounts, the generation of supplemental damage reports and the use of software-specific part codes, as currently used in the collision repair industry. The processes and methods used within the Ultramate software program will be reviewed extensively. (Formerly AB 83U)

Transfer Credit: CSU

**AB 188****Introduction to Automotive Claims Handling**

Class Hours: 2.0 Lecture

Total Contact Hours: 36 Lecture

Recommendation: AB 181 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience.

In this course, students are introduced to the automotive claims handling process. The course presents the knowledge and skills needed to begin processing automotive insurance claims. Topics include the vehicle inspection process, identification of pre-existing damage, industry repair standards, and completion of claims-processing paperwork. Students will identify and recommend appropriate repair methodology for vehicle repairs maintaining required coverage limitations and complete related paperwork. I-CAR Live curriculum may be included in course delivery.

Transfer Credit: CSU

**AB 281****Structural Damage Analysis for Estimators**

Class Hours: 1.0 Lecture / 1.0 Laboratory

Total Contact Hours: 18 Lecture / 18 Laboratory

Recommendation: AB 59M or AB 181 or AB 182 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience.

This course is designed to help the collision damage estimator, appraiser, and autobody student better understand the process of analyzing structural and suspension damage. Collision theory, industry terminology, structural design, the visual inspection process, and measuring and repair equipment are covered in the course. Anchoring and pulling concepts are described in detail.

Transfer Credit: CSU

**AB 282****Steering, Suspension and Powertrain Analysis for Estimators**

Class Hours: 1.0 Lecture / 1.0 Laboratory

Total Contact Hours: 18 Lecture / 18 Laboratory

Recommendation: AB 59M or AB 181 or AB 281 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience.

This course is designed to assist the collision damage estimator, appraiser and student to better understand the process of analyzing steering and suspension damage from collisions. It builds on student knowledge gained from the prerequisite course and assists in mastery of steering and suspension damage analysis. Specialized procedures to verify steering and suspension alignment are practiced herein.

Transfer Credit: CSU

**3.0 UNITS****1.5 UNITS****2.0 UNITS****1.0 UNITS****1.5 UNITS****1.0 UNITS**

**AB 283** **1.0 UNITS****Advanced-Frame Analysis for Estimators**

Class Hours: 1.0 Lecture / 1.0 Laboratory

Total Contact Hours: 18 Lecture / 18 Laboratory

Recommendation: AB 59M or AB 281 or AB 181 or equivalent with a grade of "C" or higher or "Pass".

This course builds on student knowledge gained from the previous courses and assists in mastery of collision damage analysis of full-frame vehicles. The focus of this course is specific damage analysis of pickup trucks and sport utility vehicles (SUVs).

Transfer Credit: CSU

**AB 286** **3.0 UNITS****Computerized Shop Management**

Class Hours: 3.0 Lecture / 1.0 Laboratory

Total Contact Hours: 54 Lecture / 18 Laboratory

Prerequisite: AB 182 or AB 285

This is a theory and practical course centering on computerized collision repair shop management. A comparison of various management software applications, features, and functions, as well as available training tutorials are included in the course delivery. Additional content includes interface with estimating and accounting applications, embedding regulatory compliance, parts ordering and tracking, labor dispatching and tracking, payroll processing, administrative and accounting reports, individual work order reports tracking production cycle-time, customer service call-backs, and forecasting.

Transfer Credit: CSU

**AB 287** **2.0 UNITS****Advanced Collision Repair Management**

Class Hours: 2.0 Lecture

Total Contact Hours: 36 Lecture

This course includes presentation of the skills required to effectively direct, manage, and promote multi-shop organizations (MSOs). Areas of advanced training include rules and regulations, standard operating procedure (SOP), job costing, equipment and materials procurement, facility cost analysis, department operations, safety, employee and right-to-know issues, warranties, customer satisfaction, licensing and certification, insurance direct repair programs (DRPs) from the perspective of multi-shop organizations and/or franchise body shop operations.

Transfer Credit: CSU

**AB 288** **2.0 UNITS****Advanced Automotive Claims**

Class Hours: 2.0 Lecture

Total Contact Hours: 36 Lecture

Prerequisite: AB 181 or AB 188 or equivalent with a grade of Credit or "C" or higher, or appropriate work experience.

In this course students learn effective automotive claims handling. The course presents the skills needed to effectively process automotive insurance claims with differing coverage criteria. Topics include structural and cosmetic damage analysis, total loss evaluation, theft recoveries, comprehensive claims, vandalism, claims negotiation, vehicle re-inspection process, fraud detection, identification of pre-existing damage, appropriate repair standards, personal presentation, and image projection. I-CAR Live curriculum may be included in course delivery.

Transfer Credit: CSU