



# Automotive Collision Repair

## Program Information

The Automotive Collision Repair program is designed to educate and train persons to become qualified to repair damaged vehicles. Students enrolled in this program are provided with theory and hands-on experiences pertaining to personal safety rules and procedures, structural metal straightening, non-structural metal repair, paint and refinishing, welding, plastic repairs and vehicle estimating.

## Occupational Choices

Overall employment of automotive body and glass repairers is projected to grow 8 percent from 2016 to 2026, about as fast as the average for all occupations. Job opportunities are projected to be good for automotive body and glass repairers. The need to replace experienced automotive body and glass repairers who change occupations, retire, or stop working for other reasons will also provide many job opportunities. The best opportunities in automotive body repair will be available to those with industry certification and training in automotive body repair and refinishing, and in collision repair.

Source: Bureau of Labor and Statistics Occupational Outlook Handbook, 2016-2026 Edition, 2018 Survey

## Average Full-Time Wage

The median annual wage for automotive body and related repairers was \$42,730 in May 2018. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10 percent earned less than \$34,170, and the highest 10 percent earned more than \$70,670.

Bureau of Labor and Statistics Occupational Outlook Handbook, 2016-2026 Edition, May 2018

## Awards Available

Certificate  
Automotive Collision Repair

Short Term Certificate  
Automotive Collision Repair  
Refinishing Concentration

Short Term Certificate  
Automotive Collision Repair  
Structural Repair Concentration

## Program Contact

Jon Beckham  
Program Coordinator/Instructor  
334-420-4333  
Location: Patterson Site - Bldg. N

As part of ongoing planning and evaluation, the College regularly evaluates student learning outcomes for each program.

## Estimated Program Length & Cost \*

Award	Length	Credit Hours	Tuition/Fees	Books	Tools	Supplies
Certificate	5 Terms	53	\$8,427	\$750	\$1200	\$300
Short Term Certificate	2 Terms	28	\$4,452	\$255	\$700	\$300
Short Term Certificate	2 Terms	25	\$3,975	\$255	\$700	\$300

\* Tax not included. Prices are subject to change without prior notice; cost of books may vary considerably among suppliers. Cost of general education books is in addition to the total listed above. The length of the program is based on full-time status of 12-15 credit hours per term. Enrollment in transitional level general education courses will alter the length of the program.

## Certificate Automotive Collision Repair

### General Education Requirements (6 hours)

#### Area I - Written Composition (3 hours)

ENG-100	Vocational Technical English I	3
ENG-101	English Composition I	3
ENG-102	English Composition II	3
ENG-130	Technical Report Writing	3

#### Area II - Humanities & Fine Arts (0 hours)

(Humanities and Arts disciplines include but are not limited to: Area/Ethnic Studies, Art and Art History, Foreign Languages, Music and Music History, Philosophy, Ethics, Religious Studies, Theater and Dance.)

**Note:** If SPH-103, SPH-106, SPH-107, SPA-101 or SPA-102 has been taken an additional 3 semester hours in Humanities and Fine Arts must be taken to satisfy requirements in Area II.

#### Arts:

ART-100	Art Appreciation	3
MUS-101	Music Appreciation	3

#### Humanities:

PHL-106	Intro to Philosophy	3
PHL-206	Ethics & Society	3
REL-100	History of World Religions	3
REL-151	Survey of Old Testament	3
REL-152	Survey of New Testament	3
SPA-101	Intro Spanish I	3
SPA-102	Intro Spanish II	3
SPC-103	Oral Communication Skills	3
SPH-106	Fundamentals of Oral Comm	3
SPH-107	Fundamentals of Public Speaking	3

#### Literature:

ENG-251	American Literature I	3
ENG-252	American Literature II	3
ENG-261	English Literature I	3
ENG-262	English Literature II	3
ENG-271	World Literature I	3
ENG-272	World Literature II	3

#### Area III - Natural Science & Mathematics (3 hours)

(In addition to Mathematics, disciplines in the Natural Sciences include: Astronomy, Biological Sciences, Chemistry, Geology, Physical Geography, Earth Science, Physics, and Physical Science.)

**Note:** 3 semester hours in MTH must be completed.

#### Mathematics:

MAH-101	Introductory Mathematics I	3
MTH-100	Intermediate Algebra	3
MTH-103	Intro to Technical Mathematics	3
MTH-104	Plane Trigonometry	3
MTH-110	Finite Mathematics	3
MTH-112	Precalculus Algebra	3
MTH-116	Mathematical Applications	3

#### Natural Sciences:

BIO-101	Introduction to Biology I	4
BIO-102	Introduction to Biology II	4
BIO-103	Principles of Biology I	4
BIO-104	Principles of Biology II	4
PHS-111	Physical Science I	4
PHS-112	Physical Science II	4
PHY-120	Introduction to Physics	4

#### Area IV - History, Social & Behavioral Sciences (0 hours):

(Social and Behavioral Sciences include, but are not limited to: Anthropology, Economics, Geography, Political Science, Psychology, and Sociology.)

#### History:

HIS-101	Western Civilization I	3
HIS-102	Western Civilization II	3
HIS-121	World History I	3
HIS-122	World History II	3
HIS-201	United States History I	3
HIS-202	United States History II	3

#### Social and Behavioral Sciences:

PSY-200	General Psychology	3
PSY-210	Human Growth and Development	3
SOC-200	Introduction to Sociology	3
POL-200	Introduction to Political Science	3
POL-211	American National Government	3

#### Area V: Pre-Professional/College Requirements:

(Courses appropriate to the degree requirements and major of the individual student and electives.)

#### College Requirements:

ORI-101	Orientation to College	1
ABR-111	Non-Structural Repair	3
ABR-114	Non-Structural Panel Replacement	3
ABR-122	Surface Preparation	3
ABR-123	Paint Applications and Equipment	3
ABR-151	Safety and Environmental Practices	3
ABR-154	Auto Glass and Trim	3
ABR-156	Auto Cutting and Welding	3
ABR-157	Automotive Plastic Repairs	3
ABR-213	Structural Analysis	3
ABR-214	Structural Repair	3
ABR-223	# Automotive Mechanical Components	3
ABR-255	+ Steering and Suspension	3
ABR-258	* Heating and AC in Collision Repair	3
ABR-261	Restraint Systems	3
ABR-265	Paint Defects and Final Details	3
ABR-291	Auto Body Repair Co-op	1

#### Area V Credit Hours: 47 Total Credit Hours: 53

#### ABR Suitable Substitute Courses:

# ASE-121	Braking System	3
	OR ASE-130 Drive Train & Axels	
* ASE-133	Motor Vehicle Air Conditioning	3
+ ASE-122	Steering & Suspension	3

#### ABR Electives: (ABR Suitable Substitute Courses)

ABR-224	Automotive Electrical Components	3
	or ASE162 Electrical/Electronics System	
ABR-266	Aluminum Welding in Collision Repair	3
ABR-292	Auto Body Repair Co-op	2
ABR-293	Auto Body Repair Co-op	3
CIS-146	Microcomputer Applications	3
CIS-149	Introduction to Computers	3

**Short Term Certificate  
Automotive Collision Repair  
Refinishing Concentration**

**Area V: Pre-Professional/College Requirements:**  
(Courses appropriate to the degree requirements and major of the individual student and electives.)

**College Requirements:**

ORI-101	Orientation to College	1
ABR-111	Non-Structural Repair	3
ABR-114	Non-Structural Panel Replacement	3
ABR-122	Surface Preparation	3
ABR-123	Paint Applications and Equipment	3
ABR-151	Safety and Environmental Practices	3
ABR-154	Auto Glass and Trim	3
ABR-156	Auto Cutting and Welding	3
ABR-265	Paint Defects and Final Details	3
ABR	Elective	3

**ABR Electives: (Take one 3 hour course)**

ABR-157	Automotive Plastic Repairs	3
ABR-266	Aluminum Wldg in Collision Repair	3
ABR-293	Auto Body Repair Co-op	3

**Total Credit Hours: 28**

**Short Term Certificate  
Automotive Collision Repair  
Structural Repair Concentration**

**Area V: Pre-Professional/College Requirements:**  
(Courses appropriate to the degree requirements and major of the individual student and electives.)

**College Requirements:**

ORI-101	Orientation to College	1
ABR-111	Non-Structural Repair	3
ABR-114	Non-Structural Panel Replacement	3
ABR-154	Auto Glass and Trim	3
ABR-156	Auto Cutting and Welding	3
ABR-213	Structural Analysis	3
ABR-214	Structural Repair	3
ABR-255	Steering and Suspension	3
ABR 261	Restraint Systems	3

**Total Credit Hours: 25**

## Course Descriptions Automotive Collision Repair

Course #	Course Title	Credit Hours
<b>ABR-111</b>	<b>NON-STRUCTURAL REPAIR</b> Prerequisite: None Students are introduced to basic principles of non-structural panel repairs. Topics include shop safety, identification and use of hand/power tools, panel preparation, sheet metal repairs, and materials. Upon completion, students should be able to perform basic sheet metal repairs. This is a CORE course.	<b>3</b>
<b>ABR-114</b>	<b>NON-STRUCTURAL PANEL REPLACEMENT</b> Prerequisite: None Students are introduced to the principles of non-structural panel replacement. Topics include replacement and alignment of bolt on panels, full and partial panel replacement procedures, and attachment methods. This is a CORE course.	<b>3</b>
<b>ABR-122</b>	<b>SURFACE PREPARATION</b> Prerequisite: None This course introduces students to methods of surface preparation for vehicular refinishing. Topics include sanding techniques, metal treatment, selection and use of undercoats, and proper masking procedures. This is a CORE course.	<b>3</b>
<b>ABR-123</b>	<b>PAINT APPLICATION AND EQUIPMENT</b> Prerequisite: None This course introduces students to methods of paint application and equipment for vehicular refinishing. Topics include spray gun and related equipment use, paint mixing, matching, and applying the final topcoat. This is a CORE course.	<b>3</b>
<b>ABR-151</b>	<b>SAFETY AND ENVIRONMENTAL PRACTICES</b> Prerequisite: None This course is designed to instruct the student in the safe use of tools, equipment, and appropriate work practices. Topics include OSHA requirements, the right to know laws, EPA regulations as well as state and local laws. This is a CORE course.	<b>3</b>
<b>ABR-154</b>	<b>AUTO GLASS AND TRIM</b> Prerequisite: None This course is a study of automotive glass and trim. Emphasis is placed on removal and replacement of structural and non-structural glass and automotive trim. Upon completion, students should be able to remove and replace automotive trim and glass. This is a CORE course.	<b>3</b>
<b>ABR-156</b>	<b>AUTOMOTIVE CUTTING AND WELDING</b> Prerequisite: None Students are introduced to the various automotive cutting and welding processes. Emphasis is placed on safety, plasma arc and oxy-acetylene cutting, resistance type spot welding, and Metal Inert Gas (MIG) welding. Upon completion, students should be able to safely perform automotive cutting and welding procedures. This is a CORE course.	<b>3</b>
<b>ABR-157</b>	<b>AUTOMOTIVE PLASTIC REPAIRS</b> Prerequisite: None This course provided instruction in automotive plastic repairs. Topics include plastic welding (airless, hot and chemical), use of flexible repair fillers, identification of types of plastics, and determining the correct repair procedures for each. Upon completion, students should be able to correctly identify and repair the different types of automotive plastics.	<b>3</b>
<b>ABR-213</b>	<b>AUTOMOTIVE STRUCTURAL ANALYSIS</b> Prerequisite: None Students learn methods of determining structural misalignment. Topics include methods of inspection, types of measuring equipment, data sheets, and identifying types of structural damage. This is a CORE course.	<b>3</b>
<b>ABR-214</b>	<b>AUTOMOTIVE STRUCTURAL REPAIR</b> Prerequisite: None This course provides instruction in the correction of structural damage. Topics include types and use of alignment equipment, anchoring and pulling methods, and repair/replacement of structural components. This is a CORE course.	<b>3</b>

<b>Course #</b>	<b>Course Title</b>	<b>Credit Hours</b>
<b>ABR-223</b>	<b>AUTOMOTIVE MECHANICAL COMPONENTS</b> Prerequisite: None This course provides instruction in collision related mechanical repairs. Emphasis is placed on diagnosis and repairs to drive train, steering/suspension components, and various other mechanical repairs. ASE/AUM 130 Drive Train and Axels and ASE/AUM 121 Braking Systems are suitable substitutes for this course. This is a CORE course.	<b>3</b>
<b>ABR-224</b>	<b>AUTOMOTIVE ELECTRICAL COMPONENTS</b> Prerequisite: None This course provides instruction in collision related electrical repairs and various restraints systems, including seat belts, seat belt tensioners, and airbags. Topics include basic DC theory, types of diagnostic equipment, circuit protection, wire repair, use of wiring diagrams, airbag modules and impact sensors. ASE/AUM 110 Electrical and Electronic System is a suitable substitute for this course. This is a CORE course.	<b>3</b>
<b>ABR-255</b>	<b>STEERING AND SUSPENSION</b> Prerequisite: None This course introduces students to the various types of suspension and steering systems used in the automotive industry. Emphasis is placed on system components, suspension angles and effect of body/frame alignment on these components and angles. ASE/AUM 122 Steering and Suspension is a suitable substitute for this course. This is a CORE course.	<b>3</b>
<b>ABR-258</b>	<b>HEATING AND AC IN COLLISION REPAIR</b> Prerequisite: None This course is a study of automotive air conditioning, heating, and cooling systems. Topics include automotive air conditioning, heating and cooling systems theory, component replacement and system service. ASE/AUM 133 Motor Vehicle Air Conditioning is a suitable substitute for this course. This is a CORE course.	<b>3</b>
<b>ABR-261</b>	<b>RESTRAINT SYSTEMS</b> Prerequisite: None Both the function and design of various restraints and passive restraints systems, including seat belts, seat belt tensioners, and airbags, will be discussed. Topics include airbag modules and impact sensors for both front and side airbag systems. Students learn about using service manuals, flow charts, and wiring diagrams during the diagnosis and repair process. This is a CORE course.	<b>3</b>
<b>ABR-265</b>	<b>PAINT DEFECTS AND FINAL REPAIR</b> Prerequisite: None This course introduces students to methods of identifying paint defects, causes, cures, and final detailing. Students learn to troubleshoot and correct paint imperfections. This is a CORE course.	<b>3</b>
<b>ABR-266</b>	<b>ALUMINUM WELDING IN COLLISION REPAIR</b> Prerequisite: Permission of the Instructor This course covers the principles and techniques of aluminum GMA (MIG) welding. Students learn to set up and tune a welding machine, address safety issues, perform proper welding techniques, prepare metal surfaces, and identify and correct weld defects.	<b>3</b>
<b>ABR-291</b>	<b>AUTO BODY REPAIR CO-OP</b> Prerequisite: Permission of Instructor This course is designed to provide practical shop experience for advanced students through part-time employment in the collision repair industry. Emphasis is placed on techniques used in collision repair facilities. Upon completion, students should have gained skills necessary for entry-level employment.	<b>1</b>
<b>ABR-292</b>	<b>AUTO BODY REPAIR CO-OP</b> Prerequisite: Permission of Instructor This course is designed to provide practical shop experience for advanced students through part-time employment in the collision repair industry. Emphasis is placed on techniques used in collision repair facilities. Upon completion, students should have gained skills necessary for entry-level employment.	<b>2</b>
<b>ABR-293</b>	<b>AUTO BODY REPAIR CO-OP</b> Prerequisite: Permission of Instructor This course is designed to provide practical shop experience for advanced students through part-time employment in the collision repair industry. Emphasis is placed on techniques used in collision repair facilities. Upon completion, students should have gained skills necessary for entry-level employment.	<b>3</b>