



Automotive Collision Repair (ABR)

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

The collision repair industry offers a wide range of occupational choices. Technicians may specialize in paint and refinishing, collision repair estimating, collision repair shop management, and glass and trim. Others may decide to open their own collision repair shops.

Source: Bureau of Labor and Statistics Occupational Outlook Handbook, 2016-2017 Edition, 2015 Survey

Average Full-Time Wage

The median annual wage for automotive body and related repairers was \$40,970 in May 2015. 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 \$25,030, and the highest 10 percent earned more than \$69,510.

Source: Bureau of Labor and Statistics Occupational Outlook Handbook, 2016-2017 Edition, 2015 Survey

Awards Available

Certificate
Automotive Collision Repair

Short Term Certificate
Automotive Collision Repair

Program Contact

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Program Coordinator/Instructor
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Location: Patterson Campus - 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	58	\$8,410	\$750	\$1200	\$300
Short Term Certificate	2 Terms	28	\$4,060	\$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

Required Technical Courses (45 credit hours)

Course	Title	Hrs
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-213	Structural Analysis	3
ABR-214	Structural Repair	3
ABR-223 #	Automotive Mechanical Components	3
ABR-224 ^	Automotive Electrical 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

Required General Education (13 credit hours)

Course	Title	Hrs
DPT-103	Introductory Computer Skill (or higher) OR CIS-149 Intro to Computers ++	3
ENG-100	Vocational Technical English (or higher)	3
MTH-101	Introductory Mathematics I (or higher)	3
ORI-101	Orientation to College	1
SPC-103	Oral Communication Skills (or higher) ++ OR PSY-200 General Psychology ++ OR ART-100 Art Appreciation ++ OR MUS-101 Music Appreciation++	3

++ Courses are available only to students who hold High School diploma or equivalent and have met appropriate prerequisites.

Total Hours: 58 Credit Hours; 1,648 Contact Hours

ABR Suitable Substitute Courses:

# ASE/AUM 121	Braking System	3
OR ASE/AUM 130	Drive Train & Axels	
^ ASE/AUM 162	Electrical & Electronic System	3
* ASE/AUM 133	Motor Vehicle Air Conditioning	3
+ ASE/AUM 122	Steering & Suspension	3

ABR Electives: (ABR Suitable Substitute Courses)

**ABR-157	Automotive Plastic Repairs	3
ABR-181	Special Topics in Auto Body	3
ABR-182	Special Topics in Auto Body	3
ABR-266	Aluminum Welding in Collision Repair	3
ABR-281	Special Topics in Auto Body	3
ABR-291	Auto Body Repair Co-op	3
ABR-292	Auto Body Repair Co-op	3
ABR-293	Auto Body Repair Co-op	3

Short Term Certificate Automotive Collision Repair

Required Technical Courses (27 credit hours)

Course	Title	Hrs
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

Required General Education (1 credit hours)

ORI-101	Orientation to College	1
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** ABR-291 – This course was used to calculate contact hours which may vary, depending on elective course selected.

ABR Electives:

**ABR-157	Automotive Plastic Repairs	3
ABR-181	Special Topics in Auto Body	3
ABR-182	Special Topics in Auto Body	3
ABR-266	Aluminum Wldg in Collision Repair	3
ABR-281	Special Topics in Auto Body	3
**ABR-291	Auto Body Repair Co-op	3
ABR-292	Auto Body Repair Co-op	3
ABR-293	Auto Body Repair Co-op	3

Total Hours: 28 Credit Hours; 1,024 Contact Hours

Course Descriptions for Automotive Collision Repair (ABR)

Course #	Course Title	Theory Contact Hours/Wk	Lab Contact Hours/Wk	Credit Hours
ABR-111	NON-STRUCTURAL REPAIR 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.	1	5	3
ABR-114	NON-STRUCTURAL PANEL REPLACEMENT 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.	1	5	3
ABR-122	SURFACE PREPARATION 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.	1	5	3
ABR-123	PAINT APPLICATION AND EQUIPMENT 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.	1	5	3
ABR-151	SAFETY AND ENVIRONMENTAL PRACTICES Prerequisite: None This course is designed to instruct the student in safe 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.	1	5	3
ABR-154	AUTO GLASS AND TRIM 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.	1	5	3
ABR-156	AUTOMOTIVE CUTTING AND WELDING 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.	1	5	3
ABR-157	AUTOMOTIVE PLASTIC REPAIRS 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.	1	5	3
ABR-181	SPECIAL TOPICS IN AUTO BODY 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.	1	5	3
ABR-182	SPECIAL TOPICS IN AUTO BODY 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.	1	5	3

Course #	Course Title	Theory Contact Hours/Wk	Lab Contact Hours/Wk	Credit Hours
ABR-213	AUTOMOTIVE STRUCTURAL ANALYSIS 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.	1	5	3
ABR-214	AUTOMOTIVE STRUCTURAL REPAIR 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.	1	5	3
ABR-223	AUTOMOTIVE MECHANICAL COMPONENTS 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.	1	5	3
ABR-224	AUTOMOTIVE ELECTRICAL COMPONENTS 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.	1	5	3
ABR-255	STEERING AND SUSPENSION 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.	1	5	3
ABR-258	HEATING AND AC IN COLLISION REPAIR 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.	1	5	3
ABR-261	RESTRAINT SYSTEMS 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.	1	5	3
ABR-265	PAINT DEFECTS AND FINAL REPAIR 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.	1	5	3
ABR-266	ALUMINUM WELDING IN COLLISION REPAIR 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.	1	5	3
ABR-281	SPECIAL TOPICS IN AUTO BODY Prerequisite: Permission of Instructor This course is guided independent study in special projects to give the student additional training in a specific area selected by the instructor. Emphasis is placed on individual student needs to improve or expand skills. Upon course completion, students should be able to demonstrate skills to meet specific needs.	1	5	3

Course #	Course Title	Theory Contact Hours/Wk	Lab Contact Hours/Wk	Credit Hours
ABR-291	AUTO BODY REPAIR CO-OP 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.	0	15	3
ABR-292	AUTO BODY REPAIR CO-OP 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.	0	15	3
ABR-293	AUTO BODY REPAIR CO-OP 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.	0	15	3