

AUTO BODY REPAIR (ABR)

ABR 111 Introduction to Auto Body Repair (4 Credits)

60 lecture, 45 lab, 4 total contact hours

This entry level, self-paced course will focus on preparing students for a career in the automotive collision repair industry. Through the use of training modules, students will learn industry standard repair procedures, damage assessment, and proper tool selection to aid in the repair of collision damaged automobiles. Additionally, students will be introduced to the automotive finishing process and provided with hands-on training for body panel repair and alignment, plastic welding and MIG welding. Level I Prerequisite: Academic Reading and Writing Levels of 6

ABR 112 Introduction to Automotive Refinishing (4 Credits)

60 lecture, 45 lab, 4 total contact hours

In this course, students will build their knowledge for a career in the automotive refinishing industry. Students will be exposed to today's industry standard methods, such as learning how to apply base and clear systems, single stage coatings, primers, and sealers. This is an entry level, hands-on, self-paced course where students will learn panel preparation, proper mixing of sprayable materials, proper spray gun techniques and industry safety procedures.

ABR 114 Applied Auto Body Welding (2 Credits)

30 lecture, 22.5 lab, 2 total contact hours

In this course, students will develop and apply basic welding and MIG brazing skills associated with crash damaged panel replacement as related to the collision repair industry. Areas of study will include proper equipment selection and set up, fitment of panels to be welded, and plasma cutting procedures. Emphasis will be placed on producing I-CAR acceptable MIG welding of steel and aluminum butt, lap, and plug welds completed in various welding positions. Students will also be introduced to MIG brazing using various grades of steel. Level I Prerequisite: Academic Reading and Writing Levels of 6

ABR 116 The Evolution of the Automobile (2 Credits)

30 lecture, 15 lab, 2 total contact hours

Level I Prerequisite: Academic Reading and Writing Levels of 6

ABR 119 The Art of Metal Shaping (2 Credits)

30 lecture, 22.5 lab, 2 total contact hours

This course will introduce the student to the working of sheet metals by hand. In addition to skillful handling of tools, it is necessary for the students to possess a thorough knowledge of the properties and behavior of materials in order to ensure that they move in the desired direction when worked. Areas of study will include sheet metal shaping using hand tools over wood forms, anvils, and sand/shot bags. Students will create several handmade parts using a variety of sheet metal materials with varied thickness and hardness. Level I Prerequisite: Academic Reading and Writing Levels of 6

ABR 121 Automotive Estimating (2 Credits)

30 lecture, 22.5 lab, 2 total contact hours

In this course, students develop skills in repair estimation associated with collision damaged vehicles. Skills acquired will include handwritten estimation along with the use of software specifically developed for the auto body repair industry. Damage assessment, parts compilation, calculation of repair costs, and refinishing information are some of the topics that will be covered. The title of this course was previously Estimating and Shop Operations and this course contains material previously taught in ABR 113. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 123 or ABR 124, minimum grade "C"

ABR 123 Technical Auto Body Repair (4 Credits)

60 lecture, 45 lab, 4 total contact hours

In this course, students will explore all aspects of body panel modification including fender sectioning, door skinning and outer panel replacement. In addition, students will use specialty equipment such as a hydraulic ram to demonstrate basic bumping techniques. Students will learn sheet metal welding and cutting processes as well as how to correctly set up and use a frame straightening machine. Emphasis is placed on quality, craftsmanship and excellent work habits. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 111 minimum grade "C"

ABR 124 Technical Automotive Refinishing (4 Credits)

60 lecture, 45 lab, 4 total contact hours

This course provides students the opportunity to advance fundamental skills. Lab assignments will include the proper surface preparation of a vehicle's front clip. Operations such as proper spraying techniques for the application of metallic colors, spot repairs, color blending, single stage, base-coat clear-coat systems, tri-coat finishes, and specialty products will be covered. Basic custom paint, detailing, and advanced color mixing and matching will also be covered. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 112 minimum grade "C"

ABR 130 Custom Painting (4 Credits)

45 lecture, 60 lab, 4 total contact hours

This course is designed for creative students with an interest in the art of custom painting. Participants in this course learn techniques such as air brushing, pin striping, and lettering, along with the creation of custom graphics, murals and etching. Students will use special effect colors such as pearls and candies on lab assignments that were expertly developed to help participants succeed in the field of custom painting. Students must purchase their own air brush. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 112 minimum grade "B"

ABR 140 Aluminum Welding for Automotive Applications (4 Credits)

45 lecture, 60 lab, 4 total contact hours

In this course, students develop skills and techniques associated with the cosmetic and structural repair of modern collision-damaged vehicles. Students are introduced to the welding process and equipment used to weld aluminum panels and coupons of varying thickness. Safe welding techniques, site preparation, tool choice and other I-CAR (Inter-Industry Conference on Auto Collision Repair) and NATEF rules will be covered. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 114 minimum grade "B"

ABR 174 ABR Co-op Education I (1-3 Credits)

120 to 360 clinical/other, 1 to 3 total contact hours

In this course, students gain skills from a new experience in an approved, compensated position in the field of auto body repair. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two possible co-op experiences. Students with equivalent experience may contact the instructor for permission to waive the prerequisite. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 112 and ABR 121; consent required

ABR 201 Lightweighting Composite Repair (4 Credits)

45 lecture, 60 lab, 4 total contact hours

In this course, students learn about composite materials and their uses in modern vehicles. Students are introduced to material types (such as resins with reinforcing carbon fiber) and their construction uses, specialty equipment, and the importance of vacuum bagging. Additionally, students will develop and execute project plans to build composite parts such as a composite laminate and a 3D laminate utilizing a core material. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 111 or ASV 131, minimum grade "C"

ABR 209 Advanced Metal Shaping (2 Credits)

30 lecture, 22.5 lab, 2 total contact hours

In this course, students will work individually and as a team to complete projects made from various types of metal. Areas of study will include: sheet metal shaping with hand and power tools over wooden "bucks," and layout of multi-piece projects through the use of cardboard templates, then transferred to metal. Procedures used in this class will consist of riveting, bell flanging, welding, English wheel and many others. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 119 minimum grade "B."

ABR 231 Project Management and Implementation in Auto Body (4 Credits)

45 lecture, 60 lab, 4 total contact hours

Students will develop and implement a project plan for specific auto body applications. They will practice identifying project tasks, skills levels required, costs, necessary materials and the time needed to complete the project. Following the development of the project plan, students will track their progress as they apply their skills and abilities to complete these tasks in a real world atmosphere. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 123 and ABR 124, minimum grade "C"

ABR 274 ABR Co-op Education II (1-3 Credits)

120 to 360 clinical/other, 1 to 3 total contact hours

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two co-op courses. Level I Prerequisite: Academic Reading and Writing Levels of 6; ABR 174; consent required