

AB R002: INTERMEDIATE AUTO BODY AND FENDER REPAIR

Originator

ptrujillo

Co-Contributor(s)
Name(s)

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College

Oxnard College

Discipline (CB01A)

AB - Automotive Body Repair&Paint

Course Number (CB01B)

R002

Course Title (CB02)

Intermediate Auto Body and Fender Repair

Banner/Short Title

Auto Body/Fender Repair II

Credit Type

Credit

Start Term

Fall 2021

Catalog Course Description

This course teaches students advanced auto body repair techniques using various materials such as steel, aluminum and plastics. Students are also taught special priming methods.

Taxonomy of Programs (TOP) Code (CB03)

0949.00 - *Automotive Collision Repair

Course Credit Status (CB04)

D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)

C (Not transferable)

Course Basic Skills Status (CB08)

N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)

C - Clearly Occupational

Course Cooperative Work Experience Education Status (CB10)

N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)

Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)

N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)

Y - Not Applicable

Course Noncredit Category (CB22)

Y - Credit Course

Funding Agency Category (CB23)

Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)

1 - Program Applicable

General Education Status (CB25)

Y - Not Applicable

Support Course Status (CB26)

N - Course is not a support course

Field trips

May be required

Grading method

Letter Graded

Alternate grading methods

Student Option- Letter/Pass
Pass/No Pass Grading

Does this course require an instructional materials fee?

No

Repeatable for Credit

No

Is this course part of a family?

No

Units and Hours

Carnegie Unit Override

No

In-Class

Lecture

Minimum Contact/In-Class Lecture Hours

35

Maximum Contact/In-Class Lecture Hours

35

Activity

Laboratory

Minimum Contact/In-Class Laboratory Hours

105

Maximum Contact/In-Class Laboratory Hours

105

Total in-Class

Total in-Class

Total Minimum Contact/In-Class Hours

140

Total Maximum Contact/In-Class Hours

140

Outside-of-Class

Internship/Cooperative Work Experience

Paid

Unpaid

Total Outside-of-Class

Total Outside-of-Class

Minimum Outside-of-Class Hours

70

Maximum Outside-of-Class Hours

70

Total Student Learning

Total Student Learning

Total Minimum Student Learning Hours

210

Total Maximum Student Learning Hours

210

Minimum Units (CB07)

4

Maximum Units (CB06)

4

Prerequisites

AB R001

Entrance Skills

Prerequisite Course Objectives

- AB R001-Execute the basic skills in metal bumping, metal shaping, and the use of body fillers.
- AB R001-Implementing the use of metal inert gas welding (Mig welding).
- AB R001-Complete an auto body repair job to the stage of readiness for priming.
- AB R001-Apply primer and demonstrate competence in the use and maintenance of spray equipment.

Entrance Skills

1. Show competency in metal bumping metal shaping and the use of body fillers.
2. Demonstrate proficiency in welding.
3. Complete an auto body repair job to the stage of readiness for priming.
4. Apply primer and show competence in the use and maintenance of spray equipment.

Prerequisite Course Objectives

- AB R001-Execute the basic skills in metal bumping, metal shaping, and the use of body fillers.
- AB R001-Implementing the use of metal inert gas welding (Mig welding).
- AB R001-Complete an auto body repair job to the stage of readiness for priming.
- AB R001-Apply primer and demonstrate competence in the use and maintenance of spray equipment.

Requisite Justification**Requisite Type**

Prerequisite

Requisite

AB R001

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Student Learning Outcomes (CSLOs)**Upon satisfactory completion of the course, students will be able to:**

- | | |
|---|---|
| 1 | Perform panel removal and installation on a vehicle. |
| 2 | Students demonstrate how to repair minor dents using plastic filler, fiberglass filler, and putty filler. |
| 3 | Describe vehicle construction technology, body and chassis types, unibody design factors and conventional body over frame construction. |
| 4 | Demonstrate proper use of all types of hand and power tools. Identify shop equipment and utilize all equipment safely and correctly. |

Course Objectives**Upon satisfactory completion of the course, students will be able to:**

- | | |
|---|--|
| 1 | Perform basic metal shaping with proper techniques. |
| 2 | Prepare and apply solder and plastic fillers using the proper materials and equipment. |
| 3 | Demonstrate proficiency in welding and cutting procedures for auto body repair. |
| 4 | Prepare a body repair for priming using tools and shop equipment with proper techniques. Complete the repair by priming metal using spray equipment. |
| 5 | Perform body panel or section removal and installation using skills and tools demonstrated in the lab activity.. |

Course Content**Lecture/Course Content**

1. Career Opportunities in the Auto Body Industry
2. Body/Paint Shop Work and Safety Procedures
 - a. Body and paint shop operations
 - b. Shop safety practices
 - c. Power tools safety
 - d. Air bag safety
3. Vehicle Construction Technology
 - a. Body and chassis
 - b. Vehicle frame
 - c. Unibody panels
 - d. Conventional body-over-frame construction
 - e. Unibody design factors
4. Hand Tool Technology
 - a. General purpose tools
 - b. Auto body tools
 - c. Body surfacing tools
 - d. Hand tool safety
5. Power Tools Technology

- a. Air-powered tools
- b. Electric-power tools
- c. Hydraulically powered shop equipment
6. Body Shop Materials and Fasteners Technology
 - a. Refinishing materials
 - b. Fasteners
 - c. Abrasives
 - d. Adhesives and sealers
7. Compressed Air Supply Equipment
 - a. The air compressor
 - b. Air and fluid control equipment
 - c. Compressor accessories
 - d. Air system maintenance
 - e. Air system safety
8. Minor Auto Body Repairs
 - a. Body fillers
 - b. Applying plastic body filler
 - c. Applying lead filler
 - d. Repairing nicks
 - e. Repairing dings
 - f. Repairing rust damage
 - g. Repairing small rust outs
 - h. Repairing large rust outs
9. Welding Equipment and its Use
 - a. MIG operation methods
 - b. MIG welding
 - c. MIG welding equipment
 - d. MIG Weld defects
 - e. Resistance spot welding
 - f. Stud spot welding for dent removal
 - g. Plasma ARC cutting
10. Metal Preparation for Application of Primer Surfaces
 - a. Sanding techniques
 - b. Metal preparation
 - c. Primer surfaces
 - d. Spray gun application
11. Hood, Bumper, Fender, Lid, and Trim Service
 - a. How fastened parts are serviced
 - b. Hood service
 - c. Bumper service
 - d. Fender service
 - e. Grille service
 - f. Deck lid and hatch service

Laboratory or Activity Content

Lab activity will parallel lecture course and provide the hands on demonstrations for each section. Students will be using current industry techniques and tools to perform each activity. For each chapter there are specific task sheets for students to follow and document their training.

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 - a. Body and chassis
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Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

- Problem solving exercises
- Skills demonstrations

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Laboratory activities
 Objective exams
 Other (specify)
 Projects
 Problem-Solving Assignments
 Quizzes
 Skills demonstrations

Other

Textbook Assignments

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Audio-visual presentations
 Computer-aided presentations
 Class discussions
 Distance Education
 Demonstrations
 Instructor-guided interpretation and analysis
 Laboratory activities
 Lecture

Describe specific examples of the methods the instructor will use:

1. Instructor will enter discussion of previous textbook assignment followed by specific examples from textbook and automotive technical manual.
2. Instructor will utilize audio video presentations explaining and demonstrating tools, techniques, equipment and procedures best used in body repair.
3. Hands on instructor led demonstrations and lectures. Instructor will demonstrate how to analyze body damage and select the correct repair process.
4. Instructor will assess student work and assist in correction of work not properly completed. This will be ongoing in all lab operations.

Representative Course Assignments

Writing Assignments

1. Daily question answered in writing or on canvas about appropriate content of the day.
2. Students will be required to document work performed in class and in lab setting.
3. Students will record procedures used in certain types of body repair.

Critical Thinking Assignments

1. Students will be asked to describe body repair options for each repair attempted.
2. Students will analyze body damage for possible hidden damage.
3. Air bag safety must be researched
4. Welding protocols must be researched and followed.

Reading Assignments

1. In addition to the textbook assignments, students will be required to do outside of classroom reading of professional journals.
2. Students will be required to do online work in canvas.

Skills Demonstrations

1. The students must demonstrate the skills in using body shop materials and fasteners in various areas of the vehicles.
2. Prepare and apply solder and plastic fillers.
3. Demonstrate proficiency in welding and cutting procedures for auto body repair.
4. Prepare a repair job for priming and prime metal; use spray equipment.
5. Perform panel removal and installation.

Outside Assignments

Representative Outside Assignments

1. In addition to the textbook assignment, students will be required to do outside readings in professional journals.
2. Students will be required to do online work in canvas.
3. Students will be required to take test and answer the review questions at the end of each assigned textbook chapter.
4. Students will be required to visit websites and complete worksheets, an example would be to visit the <https://www.SP2.org> Autobodyshopsafety website and complete the Test on Body Shop Safety.

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

Area F: Ethnic Studies

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Resource Type

Textbook

Description

James E. Duffy, and Jonathan Beaty (2020). *Text book and mind-Tap. Auto Body Repair Technology* (7th). Cengage Learning. 200 Pier 4 Boulevard Boston, MA 02210.

Resource Type

Textbook

Description

James E. Duffy and Jonathan Beaty (2020). *Mind Tap Cengage Learning Auto Body Repair Technology (7th)*. Cengage Learning. 200 Pier 4 Boulevard Boston, MA 02210.

Distance Education Addendum

Definitions

Distance Education Modalities

Hybrid (1%–50% online)

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.

Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.

Yes

Regular Effective/Substantive Contact

Hybrid (1%–50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Other DE (e.g., recorded lectures)	Other DE (e.g., recorded lectures) Faculty may use a variety of tools and media along with the learning management system to insure ADA compliance. Not limited to but inclusive of a broad range of options online and on campus, such as library resources, websites and multimedia suppliers. Asynchronous Dialog (e.g., discussion board) Regular use of asynchronous discussion boards will be used for online activities. Questions and topics will be posted for meaningful discussion between faculty and required between students. E-mail Email communication is available at any time. Announcements and messages will be used regularly to update and clarify assignments. Video Conferencing Recordings of proper techniques and processes will be available. Real time video available scheduled and unscheduled. Face to Face (by student request; cannot be required) Students will have hands on face contact with projects and skill instruction on campus and instructor lead. Many skills developed through this course can not be performed online. Welding, metal grinding, metal repair, sanding, structural repairs, painting and many hands on activities must be observed and demonstrated by instructor. Telephone Will be available when on ground labs are available. Synchronous Dialog (e.g., online chat) Students may be notified of special instances of synchronous contact through online means.
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards will be used for online activities. Questions and topics will be posted for meaningful discussion between faculty and required between students.
E-mail	Email communication is available at any time. Announcements and messages will be used regularly to update and clarify assignments.

Video Conferencing	Recordings of proper techniques and processes will be available. Real time video available scheduled and unscheduled.
Face to Face (by student request; cannot be required)	Students will have hands on face to face contact with projects and skill instruction on campus and instructor lead. Many skills developed through this course can not be performed online. Welding, metal grinding, metal repair, sanding, structural repairs, painting and many hands on activities must be observed and demonstrated by instructor.
Telephone	Will be available when on ground labs are available.
Synchronous Dialog (e.g., online chat)	Students may be notified of special instances of synchronous contact through online means.

Examinations

Hybrid (1%–50% online) Modality

Online
On campus

Primary Minimum Qualification

AUTO BODY TECHNOLOGY

Review and Approval Dates

Department Chair

09/16/2020

Dean

09/16/2020

Technical Review

10/28/2020

Curriculum Committee

10/28/2020

DTRW-I

MM/DD/YYYY

Curriculum Committee

12/09/2020

Board

MM/DD/YYYY

CCCCO

MM/DD/YYYY

Control Number

CCC000319470

DOE/accreditation approval date

MM/DD/YYYY