

AB R001: INTRODUCTION TO AUTOMOTIVE BODY AND FENDER REPAIR

Originator

ptrujillo

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College

Oxnard College

Discipline (CB01A)

AB - Automotive Body Repair&Paint

Course Number (CB01B)

R001

Course Title (CB02)

Introduction to Automotive Body and Fender Repair

Banner/Short Title

Auto Body/Fender Repair I

Credit Type

Credit

Start Term

Fall 2021

Catalog Course Description

This course covers the fundamentals of auto body repair including metal inert gas (MIG) welding, oxy-acetylene welding, metal finishing, use of body fillers, sanding, masking, and priming.

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

Credit by exam, license, etc.
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

Student Learning Outcomes (CSLOs)

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

- | | |
|---|---|
| 1 | Students will be able to safely utilize the oxyacetylene and/or MIG welding techniques to repair a sheet metal workpiece. (IID) |
| 2 | Students will demonstrate the ability to properly prepare and apply various industry standard plastic filler material to repair a wide variety of automotive substrates and exterior surfaces such as mild steel, light and heavy weight fiberglass, thermal set plastics and polyflex plastics. (optional) |
| 3 | Student will be able to choose the appropriate hammer and dolly to repair the imperfections (dent) in a particular work piece. (IIIB) |

Course Objectives

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

- | | |
|---|--|
| 1 | Execute the basic skills in metal bumping, metal shaping, and the use of body fillers. |
| 2 | Demonstrate the proper use of metal inert gas welding (MIG welding). |
| 3 | Complete an auto body repair job to the stage of readiness for priming. |
| 4 | Apply spray primer and demonstrate competence in the use and maintenance of spray equipment. |

Course Content

Lecture/Course Content

1. Introduction to Collision Repair
 - a. Collision repair industry
 - b. Body shop repair
 - c. Auto body careers
2. Shop Safety and Efficiency
 - a. Identifying and preventing potential shop accidents
 - b. Personal safety
 - c. General shop safety procedures
 - d. Tools and equipment safety
3. Basic Metal Straightening
 - a. Picking and filing techniques
 - b. Hammer and dolly techniques
 - c. Hammer off dolly techniques
 - d. Working metal to original contour
4. Working with Sheet Metal
 - a. Automotive sheet metal
 - b. Analyzing sheet metal damage
 - c. Classifying body damage
 - d. Metal straightening techniques
5. Welding Equipment and its Use
 - a. Basic welding techniques
 - b. Oxy-acetylene equipment
 - c. Oxy-acetylene welding
 - d. Oxy-acetylene brazing
 - e. Metal inert gas (MIG) welding equipment
 - f. Metal inert gas (MIG) welding
6. Basic Metal Shrinking
 - a. Familiarization with shrinking metal
 - b. Controlled cooling
 - c. Uncontrollable shrinking
7. Understanding Automobile Construction
 - a. Body shapes and parts
 - b. Construction types
 - c. The history of auto body repair
8. Using Body Fillers
 - a. Body fillers
 - b. Applying body fillers
 - c. Grading and sanding body fillers
9. Refinishing Equipment Use
 - a. Spray guns
 - b. Spray gun maintenance
 - c. Using a spray gun
10. Application of Primers
 - a. Preparing bare metal for primer
 - b. Undercoats selection
 - c. Applying primer coats

Laboratory or Activity Content

1. Introduction to Collision Repair
 - a. Collision repair industry
 - b. Body shop repair
 - c. Auto body careers
2. Shop Safety and Efficiency
 - a. Identifying and preventing potential shop accidents
 - b. Personal safety

- c. General shop safety procedures
- d. Tools and equipment safety
- 3. Basic Metal Straightening
 - a. Picking and filing techniques
 - b. Hammer and dolly techniques
 - c. Hammer off dolly techniques
 - d. Working metal to original contour
- 4. Working with Sheet Metal
 - a. Automotive sheet metal
 - b. Analyzing sheet metal damage
 - c. Classifying body damage
 - d. Metal straightening techniques
- 5. Welding Equipment and its Use
 - a. Basic welding techniques
 - b. Oxy-acetylene equipment
 - c. Oxy-acetylene welding
 - d. Oxy-acetylene brazing
 - e. Metal inert gas (MIG) welding equipment
 - f. Metal inert gas (MIG) welding
- 6. Basic Metal Shrinking
 - a. Familiarization with shrinking metal
 - b. Controlled cooling
 - c. Uncontrollable shrinking
- 7. Understanding Automobile Construction
 - a. Body shapes and parts
 - b. Construction types
 - c. The history of auto body repair
- 8. Using Body Fillers
 - a. Body fillers
 - b. Applying body fillers
 - c. Grading and sanding body fillers
- 9. Refinishing Equipment Use
 - a. Spray guns
 - b. Spray gun maintenance
 - c. Using a spray gun
- 10. Application of Primers
 - a. Preparing bare metal for primer
 - b. Undercoats selection
 - c. Applying primer coats

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):

Individual projects
Laboratory activities
Projects
Problem-Solving Assignments
Quizzes
Skills demonstrations
Skill tests or practical examinations

Instructional Methodology

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

Audio-visual presentations

Class activities
Class discussions
Distance Education
Demonstrations
Guest speakers
Instructor-guided interpretation and analysis
Instructor-guided use of technology
Internet research
Laboratory activities
Lecture

Describe specific examples of the methods the instructor will use:

1. Use textbook and chapter quizzes to introduce, explain and evaluate student learning. Students will be assigned chapter reading and will be tested with an end of chapter test.
2. Use audio and video aids to demonstrate proper techniques of auto body repairs. Students will be assigned video presentations and instructor will demonstrate techniques on a shop vehicle. Students will be required to participate in hands on activity related to the video presentation.
3. Lectures and demonstrations in the laboratory locating hidden body damage and the proper analysis of repair options. Students will be guided in discovery of hidden damage caused by a collision and be required to identify damaged components by name and location.
4. Supervision of student hands on practice and demonstrating proper body repairs and procedures and perform assessment of student work in the laboratory

Representative Course Assignments

Writing Assignments

1. Students will be required to take notes during lectures and submit them in writing.
2. The location and names of tools used in body repairs will be a written assignment weekly. A body tool will be introduced weekly and students must identify and write the names on paper or canvas.
3. Students will build a resume and submit for credit.
4. Repair descriptions will be documented on a service order.

Critical Thinking Assignments

1. Welding assignments are required, students must demonstrate safety protocols and safe use and handling of multiple welding techniques and types of equipment.
2. Students explain their understanding of Automobile Construction, identify materials used, describe body shapes and types of parts used in repairs.
3. Study the purpose of the order of operations process. Each task must be completed in a defined linear process for best results.

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 read descriptions of body damage and provide feedback online in canvas.
3. Safety data sheets are required reading, every chemical or paint used has precautions and proper handling instructions. Students must read the warnings about the use and handling by reading these important documents.

Skills Demonstrations

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.
5. A skills demonstration of the proper use and care of safety equipment is required. These include but are not limited to respirators, proper clothing construction for welding, material handling during prep, storage of hazardous materials, tool storage, equipment care.

Other assignments (if applicable)

1. Student will be working on projects repairing cars or trucks offsite
2. Students will research techniques and processes through online and physical practice.

Outside Assignments

Representative Outside Assignments

1. Students will be working on their own projects repairing their own cars or trucks off campus on their own time. They will document their time with photos.
2. In addition to the textbook assignments, students will be required to do outside classroom readings in professional journals and video presentations.
3. Students will be required to do online work in canvas.
4. Students will be required to visit websites and complete worksheets, an example would be to visit the <https://www.SP2.org> website and complete the Curriculum 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

Duffy, J.E. (2020). *Mind-Tap Automotive for Duffy's Auto Body Repair Technology* (7th). MindTap. 200 Pier 4 Boulevard Boston, MA 02210.

Resource Type

Textbook

Description

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

Resource Type

Other Instructional Materials

Description

Safety glasses.

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)	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 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

CCC000089607

DOE/accreditation approval date

MM/DD/YYYY