

## Washtenaw Community College Comprehensive Report

### ABR 140 Aluminum Welding for Automotive Applications Effective Term: Fall 2017

#### Course Cover

**Division:** Advanced Technologies and Public Service Careers

**Department:** Automotive Body

**Discipline:** Auto Body Repair

**Course Number:** 140

**Org Number:** 14110

**Full Course Title:** Aluminum Welding for Automotive Applications

**Transcript Title:** Aluminum Welding for Auto Apps

**Is Consultation with other department(s) required:** No

**Publish in the Following:** College Catalog , Time Schedule , Web Page

**Reason for Submission:** New Course

**Change Information:**

**Rationale:** This course is one of four new courses that will be offered to support the Auto Body Repair and Collision Repair Technician programs.

**Proposed Start Semester:** Fall 2017

**Course Description:** 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.

#### Course Credit Hours

**Variable hours:** No

**Credits:** 4

**Lecture Hours: Instructor:** 45 **Student:** 45

**Lab: Instructor:** 60 **Student:** 60

**Clinical: Instructor:** 0 **Student:** 0

**Total Contact Hours: Instructor:** 105 **Student:** 105

**Repeatable for Credit:** NO

**Grading Methods:** Letter Grades

Audit

**Are lectures, labs, or clinicals offered as separate sections?:** NO (same sections)

#### College-Level Reading and Writing

College-level Reading & Writing

#### College-Level Math

#### Requisites

**Prerequisite**

ABR 114 minimum grade "B-"

#### General Education

## **Request Course Transfer**

### **Proposed For:**

## **Student Learning Outcomes**

1. Recognize and apply shop rules, procedures and safety standards associated with composite materials.

### **Assessment 1**

Assessment Tool: Student Achievement Records

Assessment Date: Winter 2020

Assessment Cycle: Every Three Years

Course section(s)/other population: All Sections

Number students to be assessed: All students in all sections

How the assessment will be scored: Departmentally-developed rubric.

Standard of success to be used for this assessment: 75% of the students will score an average of 3.5 of 5 (70%) or higher on safety-related tasks.

Who will score and analyze the data: Department chair and instructors.

2. Perform weld bead parameters on aluminum panels and coupons.

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Assessment Tool: Student Achievement Records.

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How the assessment will be scored: Departmentally-developed rubric.

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3. Perform proper panel fitment.

### **Assessment 1**

Assessment Tool: Student Achievement Records.

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Number students to be assessed: All students in all sections.

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## **Course Objectives**

1. Identify and properly use welding gloves, welding jackets, respirators and welding helmets.
2. Recognize and use proper safety practices.
3. Evaluate vacuum capture and dust extraction systems according to safety requirements.
4. Identify and interpret OEM (Original Equipment Manufacturer) recommended welding equipment.
5. Recognize and perform proper MIG welding process on aluminum and other metals.
6. Demonstrate proper welder set up and adjustments.
7. Perform open butt weld in horizontal, vertical and overhead positions on aluminum and other metals.
8. Perform lap weld in horizontal, vertical and overhead positions on aluminum and other metals.
9. Perform butt weld with insert in horizontal, vertical and overhead positions on aluminum and other metals.
10. Demonstrate proper panel fitment and weld site preparation.

## New Resources for Course

### Course Textbooks/Resources

Textbooks  
Manuals  
Periodicals  
Software

### Equipment/Facilities

Level III classroom  
Computer workstations/lab

<b><u>Reviewer</u></b>	<b><u>Action</u></b>	<b><u>Date</u></b>
<b>Faculty Preparer:</b> <i>Timothy VanSchoick</i>	<i>Faculty Preparer</i>	<i>Feb 22, 2017</i>
<b>Department Chair/Area Director:</b> <i>Gary Sobbry</i>	<i>Recommend Approval</i>	<i>Feb 22, 2017</i>
<b>Dean:</b> <i>Brandon Tucker</i>	<i>Recommend Approval</i>	<i>Mar 01, 2017</i>
<b>Curriculum Committee Chair:</b> <i>David Wooten</i>	<i>Recommend Approval</i>	<i>Mar 26, 2017</i>
<b>Assessment Committee Chair:</b> <i>Ruth Walsh</i>	<i>Recommend Approval</i>	<i>Mar 26, 2017</i>
<b>Vice President for Instruction:</b> <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Mar 27, 2017</i>