Washtenaw Community College Comprehensive Report

ATT 140 Aluminum Welding for Transportation Applications
Effective Term: Fall 2025

Course Cover

College: Advanced Technologies and Public Service Careers
Division: Advanced Technologies and Public Service Careers
Department: Transportation Technologies
Discipline: Automotive & Transportation Tech (new)
Course Number: 140
Org Number: 14100
Full Course Title: Aluminum Welding for Transportation Applications
Transcript Title: Alum Weld for Transport Apps
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Course Change
Change Information:
Consultation with all departments affected by this course is required.
Rationale: Update the course for the new discipline.
Proposed Start Semester: Fall 2024
Course Description: In this course, students will 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 Inter-Industry Conference on Auto Collision Repair (I-CAR) and National Automotive Technicians Education Foundation (NATEF) rules will be covered. This course was previously ABR 140.

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
ATT 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: Outcome-related skills checklist
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   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: Departmental faculty

2. Perform weld bead parameters on aluminum panels and coupons.
   Assessment 1
   Assessment Tool: Outcome-related skills checklist
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   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: Departmental faculty

3. Perform proper panel fitment.
   Assessment 1
   Assessment Tool: Outcome-related skills checklist
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   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: Departmental faculty

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 original equipment manufacturer (OEM) recommended welding equipment.
5. Recognize and perform proper metal inert gas (MIG) welding process on aluminum and other metals.
6. Demonstrate proper welder setup 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

Reviewer	Action	Date
Faculty Preparer:		
Shawn Deron	*Faculty Preparer*	*Mar 27, 2024*
Department Chair/Area Director:		
Rocky Roberts	*Recommend Approval*	*Mar 27, 2024*
Dean:		
Eva Samulski	*Recommend Approval*	*Apr 03, 2024*
Curriculum Committee Chair:		
Randy Van Wagnen	*Recommend Approval*	*Mar 20, 2025*
Assessment Committee Chair:		
Jessica Hale	*Recommend Approval*	*Mar 20, 2025*
Vice President for Instruction:		
Brandon Tucker	*Approve*	*Mar 21, 2025*

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

3. Perform proper panel fitment.
   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.
   Who will score and analyze the data: Department chair and instructors.

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

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