



Division:	Industrial Technology	Area:	Automotive Engineering Technology
Course Number:	AUTO 109	Course Name:	Welding for Automotive Technicians
Prerequisite:	None		
Corequisite:	None		
Hours Required:	Class: 30	Lab: 30	Credits: 3

Course Description/Purpose (as displayed in the College Catalog)

This course is an in-depth introduction to the technical concepts pertaining to the more common automotive welding and cutting processes. Machine functions and filler metal chemistry will be emphasized as well as procedure requirements for stainless steel and aluminum. Welding/cutting processes covered (including laboratory applications) include: oxy-fuel cutting (OFC), plasma arc cutting (PAC), gas tungsten arc (GTAW) and gas metal arc (GMAW) welding.

Major Units

- Welding lab safety
- Cutting systems
- Constant current power sources
- Constant voltage power sources
- Inverter power sources
- Electrode selection
- Gas chemistry
- Aluminum welding
- Stainless steel welding

Educational/Course Outcomes

Student learning will be assessed by a variety of methods, including, but not limited to, quizzes and tests, journals, essays, papers, projects, laboratory/clinical exercises and examinations, presentations, simulations, portfolios, homework assignments, and instructor observations.

Educational/Course Outcomes

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| Cognitive: | Each student will be expected to Identify/Recognize: |
| | <ul style="list-style-type: none"> • Gases relevant to welding and cutting • Weld defects and solutions • Proper machine setup and adjustments • Modes of metal transfer • Arc cleaning and A.C. wave balance • Filler metal selections • Shielding gas chemistry and effects |
| Performance: | Each student will be expected to Demonstrate/Practice: |
| | <ul style="list-style-type: none"> • Safe welding habits with lab related equipment • Proficiency with cutting using oxy-fuel and plasma arc equipment • Proficiency in welding flat, horizontal and vertical positions • Proficiency in welding aluminum using GMAW and GTAW equipment • Proficiency in welding stainless steels using GTAW equipment |
| Attitudinal: | Each student will be expected to Demonstrate/Practice: |
| | <ul style="list-style-type: none"> • Safe working/welding habits • Good housekeeping in and around welding areas • Good fellowship while working with other students • Frugal use of college steels and filler metals |

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