



MASTER COURSE OUTLINE

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COURSE TITLE

Arc/Gmaw Welding for Auto Technicians

GENERAL COURSE INFORMATION

Dept.: WLD

Course Num: 102

(Formerly:)

CIP Code: 48.0508

Intent Code: 21

Program Code: 814

Credits: 2

Total Contact Hrs Per Qtr.: 33

Lecture Hrs: 11

Lab Hrs:22

Other Hrs: 33-99

Distribution Designation: General Elective (GE)

COURSE DESCRIPTION (as it will appear in the catalog)

This course covers the fundamentals of the GMAW semi-automatic process for welding carbon steel, stainless steel and aluminum. Using these materials, the student will learn to run stringer beads, butt, lap and 'T' joints, in all positions with various modes of metal deposition and using different gasses.

PREREQUISITES

Enrollment in Automotive Technology

TEXTBOOK GUIDELINES

Text and materials as decided by Welding Faculty. (Example: Gas Metal Arc Welding Handbook by William H. Minnick)

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills.

1. Basic operation of each component of the system.
2. Safety practices specific to working with electricity, shielding gases, and other welding hazards.
3. Various types of welds and weld joints
4. Welding techniques and procedures for carbon steel, stainless steel and aluminum.
5. Weld defects and how to avoid them.
6. Special procedures and techniques for welding auto-bodies, trucks, and off-road vehicles.

INSTITUTIONAL OUTCOMES

COURSE CONTENT OUTLINE

1. Gas metal arc welding process.
2. GMAW process operation and safety.
3. Equipment set-up and control.
4. Shielding gases and regulation equipment.
5. Filler materials.
6. Weld joints and weld types
7. Welding procedures and techniques.

8. Welding the carbon steel.
9. Welding stainless steel.
10. Welding aluminum.
11. Weld defects and corrective action.
12. General welding procedures
13. Truck-trailer and off-road vehicles welding procedures.
14. Auto-body welding procedures.

DEPARTMENTAL GUIDELINES *(optional)*

1. 50% Lab performance grade. Productive workmanship.

On a daily basis, this includes quality of work and quantity of work, also completion of each lesson in a timely manner.

2. 20% follow safety rules, house keeping

3. 30% Mid-term, final test and several quizzes.

4. Attendance: Attendance is the most important factor of your progress. If you are absent, the grade will be affected as follows:

a. 10% of the total hours of absence will result in lowering your final grade one whole letter grade.

b. 20% of the total hours of absence will result in lowering your final grade two whole letter grades.

c. 30% of the total hours of absence will result in reverting to an incomplete.

d. Make up work: Make up work is not permitted.

e. Grading scale: The grading scale will be kept in percentages until the final letter grades are required at the end of the quarter. The grades will be calculated as follows:

93-100% A

85-92% B

77-84% C

69-76% D

DIVISION CHAIR APPROVAL

DATE