COURSE INFORMATION FORM

DISCIPLINE  Automotive Technology

COURSE TITLE  MIG and Structural Welding

CR.HR  3 LECT HR.  2 LAB HR.  3 CLIN/INTERN HR.  _____ CLOCK HR.  N/A

CATALOG DESCRIPTION
Welding of metal in modern automobiles including oxyacetylene and GMAW (MIG).

PREREQUISITES
Acceptance into the Articulation Program for Auto Collision Repair.

EXPECTED STUDENT OUTCOMES IN THE COURSE
Upon completion of this course, the student will be able to:

1. Demonstrate the ability to safely perform heating, cutting, and welding operations in accordance with industry standards.
2. Identify specific MIG welds required for I-CAR welding certification.
3. Perform specific MIG welds required for I-CAR welding certification.
CLASS-LEVEL ASSESSMENT MEASURES

Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Written tests. (2)
2. Observation of performance in laboratory. (1, 3)
3. Laboratory tests based on industry standards. (1, 3)

PROGRAM-LEVEL OUTCOMES ADDRESSED

General Education Outcomes
Specify which general education outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes and assessment measures.

Occupational Program Outcomes
Specify which occupational program outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes to assessment measures.
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Introduction to welding  
   A. Shop safety  
   B. Tools and equipment of the industry  
   C. Materials and disposal methods  
   D. Identification of welding processes

II. MIG Welding  
   A. Equipment  
   B. Specific welds as used in industry

III. Construction of Welds  
   A. Plug welds  
   B. Continuous welds  
   C. Stitch welds

IV. Welding performance  
   A. I-CAR weld test procedure

V. Oxyacetylene welding  
   A. Equipment  
   B. Safety

VI. Construction of typical auto body welds  
   A. With filler rods  
   B. Without filler rods

VII. Oxyacetylene cutting equipment  
   A. Setup  
   B. Cutting

VIII. Resistance spot welding  
   A. Equipment  
   B. Applications

IX. Aluminum welding equipment and use  
   A. Flux-core MIG method  
   B. TIG method

X. Automotive welding process using TIG method

XI. Destructive welding
A. Testing methods
B. Applications

XII. Testing and final performance analysis