**DCTC WELD 1120 GAS METAL ARC WELDING I Course Outcomes**

1. **Course Description**
   * **Credits:** 2.00
   * **Lecture Hours/Week:** 0.00
   * **Lab Hours/Week:** 2.00
   * **OJT Hours/Week:** 0
   * **Prerequisites:** None
   * **Corequisites:** None
   * **MnTC Goals:** None

Students will receive instruction in equipment, technique, and will have opportunity to practice skill development with the Gas Metal Arc Welding Short Circuiting and Spray Arc transfer on mild steel plate and sheet metal. Flat position and horizontal welding will be emphasized. The goal is to be able to perform welds in the flat and horizontal position to an industry acceptable level of quality for entry-level employment. Practice to achieve the required skill level is conducted by supervised instruction. Prerequisites: To be taken at same time as Welding Safety and Theory I

1. **Course Effective Dates:**8/27/12 – Present
2. **Outline of Major Content Areas**

As noted on course syllabus

1. **Learning Outcomes**
   * 1F single pass weld using short circuiting metal transfer on sheet steel
   * 1F single pass weld using spray arc metal transfer on plate steel
   * 1G multi-pass weld using short circuiting metal transfer on plate steel
   * 1G single pass weld using short circuiting metal transfer on sheet steel
   * 2F single pass weld using short circuiting metal transfer on sheet steel
   * 2F single pass weld using spray arc metal transfer on plate steel
   * 2G multi-pass weld using short circuiting metal transfer on plate steel
   * 2G single pass weld using short circuiting metal transfer on sheet steel
   * Band saw setup and basic operation
   * Demonstrate and follow all safety practices
   * Flat Position Surfacing Welds with short circuit and spray metal transfers
   * GMAW equipment setup and basic operation
   * Horizontal Position Surfacing Welds with short circuit and spray metal transfers
   * Iron worker setup and basic operation
   * Master electrode manipulation control
   * Master travel and work angles control
   * Master travel speed control
   * Perform all work orders in accordance with shop standards
   * Perform proper arc striking, restart, and crater fill techniques
   * Set and use the correct amperage (wire feed speed/stick out),
   * Set the correct voltage
   * Stringer beads in the flat position with short circuit and spray metal transfers
   * Stringer beads in the horizontal position with short circuit and spray metal transfers
   * Visual inspection of welds and cuts per applicable code or standard
2. **Minnesota Transfer Curriculum Goal Area(s) and Competencies**
3. **Learner Outcomes Assessment**

As noted on course syllabus

1. **Special Information**

None noted