

# MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

## Course Outline

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Course Title:	Gas Metal Arc Welding I	Submitted By:	T. Baldwin
Semester Course Prefix and Number:	Weld1261	Approval Date:	Oct 2013
Old Quarter Course Prefix and Number:		Revision Date:	Oct 2013

Number of Credits:	1	Number of Lecture Credits:	.5		
Semester(s) Offered:	Fall	Number of Lab Credits:	.5	Number of Lab Hours:	1
Class Size:	24	Number of Studio/Demonstration/Internship Credits:			
Negotiated by AASC on: (date)					

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### Course Purpose Code:

- 0 – Developmental Courses
- 1 – Non-transferable
- 2 – Technical course related to career programs
- 3 – College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
- 4 – Other college course not considered a part of MNTC (e.g. computer science, health, physical education)
  
- 5 – Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements or intended for transfer.
- 9 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

### Catalog Description:

This course covers the AWS National Skills Standards related to the Gas Metal Arc Welding Process and the related safety practices. The student will become familiar with fundamentals, techniques, equipment, and shielding gases related to GMAW-S. Light to heavy ferrous materials will be welded in the 1F, 2F, 1G, & 2G positions in a work-like setting.

### Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s): None  
Reading Prerequisite:  
Composition Prerequisite:  
Mathematics Prerequisite:

### Career Programs and Transfer Majors Accessing this Course:

Welding, Welding Engineering, any trades/technical area utilizing welding

### Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable:

(Notes: No more than two goals may be met by any one course. Curriculum Committee review and the Chief Academic Officer's approval are required.)

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| 0. <input checked="" type="checkbox"/> None                                | 6. <input type="checkbox"/> The Humanities and Fine Arts     |
| 1. <input type="checkbox"/> Communications                                 | 7. <input type="checkbox"/> Human Diversity                  |
| 2. <input type="checkbox"/> Critical Thinking                              | 8. <input type="checkbox"/> Global Perspectives              |
| 3. <input type="checkbox"/> Natural Sciences                               | 9. <input type="checkbox"/> Ethical and Civic Responsibility |
| 4. <input type="checkbox"/> Mathematical/Logical Reasoning                 | 10. <input type="checkbox"/> People and the Environment      |
| 5. <input type="checkbox"/> History and the Social and Behavioral Sciences |  |

**Learning Outcomes:** (including any relevant competencies listed in the Minnesota Transfer Curriculum)

Upon completion of this course, the student will be able to:

- Demonstrate the proper set up of the GMAW equipment and accessories
- Select the proper filler metals and gases
- Troubleshoot equipment problems
- Successfully complete welds with GMAW – Short Circuit on gauge sheet metal in the following positions: 1G, 2G, 1F, 2F
- Successfully complete welds with GMAW – Spray on mild steel in the following positions: 1G, 1F, & 2F
- Exhibit professionalism

**Student Assessment Methods:**

Observation of practical skills; Visual Testing to AWS D1.1 Code; Destructive testing of completed welds

**Use of Instructional Technology:** (includes software, interactive video and other instructional technologies):

May use videos and internet

**Additional Special Information:** (special fees, directives on hazardous materials, etc.)

**Transfer Information:** (Please list colleges/majors that accept this course in transfer.)

**Affiliated Mesabi Range College Courses and Programs:**

**Approvals:**

Body	Representative Signatures	Date
Faculty Association		
Academic Affairs Standards Committee		
Chief Academic Officer		

**Distribution:** Original – Instructional Services

**Copies:** Transfer Specialist, Originating Faculty Member, Records

**Revised:** December 2012