# MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

## Course Outline

<table>
<thead>
<tr>
<th>Course Title:</th>
<th>Flux Core Arc Welding II</th>
<th>Submitted By:</th>
<th>T. Baldwin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Course Prefix and Number:</td>
<td>Weld1282</td>
<td>Approval Date:</td>
<td>Oct 2013</td>
</tr>
<tr>
<td>Old Quarter Course Prefix and Number:</td>
<td></td>
<td>Revision Date:</td>
<td>Oct 2013</td>
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<table>
<thead>
<tr>
<th>Number of Credits:</th>
<th>2</th>
<th>Number of Lecture Credits:</th>
<th>0</th>
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<tbody>
<tr>
<td>Semester(s) Offered:</td>
<td>Fall</td>
<td>Number of Lab Credits:</td>
<td>2</td>
</tr>
<tr>
<td>Class Size:</td>
<td>24</td>
<td>Number of Lab Hours:</td>
<td>4</td>
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**Negotiated by AASC on:**
(date)

### Course Purpose Code:
- 0 – Developmental Courses
- 1 – Non-transferable
- X 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 Flux Core Arc Welding Process and the related safety practices. The student will become familiar with FCAW fundamentals, equipment, metal transfer processes and shielding gases related to FCAW. Mild steel will be welded in the 3F, 4F, 3G, & 4G positions.

### Prerequisites and/or recommended entry skills/knowledge:
- **Course Prerequisite(s):** Concurrent enrollment in or previous successful (GPA 2.0) of Weld 1281
- **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.)

- X 0 None
- 1 Communications
- 2 Critical Thinking
- 3 Natural Sciences
- 4 Mathematical/Logical Reasoning
- 5 History and the Social and Behavioral Sciences
- 6 The Humanities and Fine Arts
- 7 Human Diversity
- 8 Global Perspectives
- 9 Ethical and Civic Responsibility
- 10 People and the Environment
Learning Outcomes: (including any relevant competencies listed in the Minnesota Transfer Curriculum)
Upon completion of this course, the student will be able to:

- Inspect welding equipment for safe conditions
- Set-up equipment for use
- Prepare metals for welding
- Select the proper filler metals and gases
- Successfully complete FCAW and FCAW-G Tee, Lap Corner, and Butt welds in the following positions: 3G, 4G, 3F, 4F,
- Exhibit professionalism

Student Assessment Methods:
practical assignments, weld inspection

Use of Instructional Technology: (includes software, interactive video and other instructional technologies):
FCAW inverter power supply, FCAW accessories,

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:

<table>
<thead>
<tr>
<th>Body</th>
<th>Representative Signatures</th>
<th>Date</th>
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<tbody>
<tr>
<td>Faculty Association</td>
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<tr>
<td>Academic Affairs Standards Committee</td>
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<td>Chief Academic Officer</td>
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Distribution: Original – Instructional Services
Copies: Transfer Specialist, Originating Faculty Member, Records
Revised: December 2012