# Course Outline

**Course Title:** Welding Mathematics  
**Submitted By:** T. Baldwin  
**Semester Course Prefix and Number:** Weld1255  
**Approval Date:** Oct 2013  
**Old Quarter Course Prefix and Number:**  
**Revision Date:** Oct 2013  
**Number of Credits:** 1  
**Number of Lecture Credits:** 1  
**Semester(s) Offered:** Fall  
**Class Size:** 24  
**Number of Lab Credits:** 0  
**Number of Lab Hours:** 0  
**Negotiated by AASC on:** (date)  
**Number of Studio/Demonstration/Internship Credits:**  

**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 mathematics involved in typical usage in the field of welding.  

**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 and 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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<tr>
<th>Goal</th>
<th>Description</th>
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<tr>
<td>0. X</td>
<td>None</td>
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<tr>
<td>1.</td>
<td>Communications</td>
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<tr>
<td>2.</td>
<td>Critical Thinking</td>
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<td>3.</td>
<td>Natural Sciences</td>
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<td>4.</td>
<td>Mathematical/Logical Reasoning</td>
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<td>5.</td>
<td>History and the Social and Behavioral Sciences</td>
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<td>6.</td>
<td>The Humanities and Fine Arts</td>
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<td>7.</td>
<td>Human Diversity</td>
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<td>8.</td>
<td>Global Perspectives</td>
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<td>9.</td>
<td>Ethical and Civic Responsibility</td>
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<td>10.</td>
<td>People and the Environment</td>
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**Learning Outcomes:** (including any relevant competencies listed in the Minnesota Transfer Curriculum)

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

- Demonstrate measurements using a ruler, tape measure, and protractor
- Demonstrate mathematical functions with numbers, fractions, decimals, and angles in both the US Standard System and the Metric System
- Compute perimeters, areas, and volumes of geometric figures and distances using geometric principles
- Calculate mass (weight) measurements
- Calculate economical layout

**Student Assessment Methods:**
Quizzes, exams, and observation of practical usage

**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:**

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<tr>
<th>Approvals:</th>
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<td><strong>Body</strong></td>
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<tr>
<td>Faculty Association</td>
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<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