

MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

Course Outline

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|---------------------------------------|----------------------------|----------------|------------|
| Course Title: | SMAW Alloyed Metals Skills | Submitted By: | T. Baldwin |
| Semester Course Prefix and Number: | Weld1224 | Approval Date: | Oct 2013 |
| Old Quarter Course Prefix and Number: | | Revision Date: | Oct 2013 |

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|----------------------------------|------|--|---|----------------------|---|
| Number of Credits: | 2 | Number of Lecture Credits: | 0 | | |
| Semester(s) Offered: | Fall | Number of Lab Credits: | 2 | Number of Lab Hours: | 4 |
| Class Size: | 24 | Number of Studio/Demonstration/Internship Credits: | | | |
| Negotiated by AASC on: (date) | | | | | |

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 welding alloyed materials and dissimilar metals with the Shielded Metal Arc Welding Process. The student will become familiar with SMAW principles and techniques, practical safety standards, and Stainless Steel filler metals and how to apply them according to AWS D1.1 Code in 1F, 2F, 3F, 4F, 1G, 2G, 3G & 4G positions. Students will be evaluated on their performance in a series of visual and destructive tests conducted in a work-like environment.

Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s): Concurrent Enrollment in or successful completion (GPA 2.0) of Weld 1221

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 and usage of SMAW equipment for Stainless Steel (F6) electrode welding
- Demonstrate Butt & Tee joint configurations in all positions with backing strip utilizing Stainless Steel (F6) electrodes to a quality level acceptable to AWS D1.1 Structural Welding Code – Steel
- Demonstrate all applicable safety practices
- Exhibit professionalism

Student Assessment Methods:

Observation of practical skills; Visual Testing to AWS D1.6 Code; Destructive testing of completed welds

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

May use any or all of the following: Videos, Internet and/or Simulator

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