

ESABI RANGE COMMUNITY & TECHNICAL COLLEGE

Course Outline

Course Title: Intro to SMAW
Semester Course Prefix and Number: Weld1221
Old Quarter Course Prefix and Number:
Submitted By: T. Baldwin
Approval Date: Oct 2013
Revision Date: Oct 2013

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

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:

The purpose of this course is to introduce the student to the Shielded Metal Arc Welding Process and the related safety practices through National Skills Standards established by the federal government and the American Welding Society. These standards are referenced in AWS EG2.0, *Guide for Training and Qualification of Welding Personnel – Entry Level Welder*. The student will become familiar with SMAW principles and techniques, ANSI/AWS Z49.1 safety standards, metallurgy, electrical principles, and filler metals and how to apply them to all weld types in all welding positions. Welding terminology and typical job communications will be covered.

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:

- Explain how the American Welding Society Standards and the National Skills Standards are applied in theory and practice in this course
- List industry accepted safety procedures that will be utilized in preparation for and during their practical assignments
- Describe welding equipment with accessories set up and theory of welding processes
- Speak and understand the vocabulary used in industry
- Describe basic metallurgical effects occurring during the welding process and how they affect various metals and alloys

Student Assessment Methods:

Students will be assessed by class participation, quizzes and exams

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

The instructors will use texts, overheads, videos, "Arcworks CD-ROM" or appropriate updated *D1.1 Structural Welding Code – Steel* code book and the 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