Course Outline

Course Title: SMAW Low Hydrogen Skills
Semester Course Prefix and Number: Weld 1223
Old Quarter Course Prefix and Number:
Number of Credits: 2
Semester(s) Offered: Fall
Class Size: 24
Number of Lecture Credits: 0
Number of Lab Credits: 2
Number of Lab Hours: 4
Number of Studio/Demonstration/Internship Credits:

Course Purpose Code:

0 – Developmental Courses
1 – Non-transferable
X – 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 build skills in welding mild steel using E7018 (Class F4) electrodes with the Shielded Metal Arc Welding Process. The student will become familiar with SMAW principles and techniques, practical safety standards, and 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 tests and bend 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.)
0. X 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:

- Demonstrate the proper set up and usage of SMAW equipment for E7018 electrode welding
- Demonstrate Butt, Lap, Tee, & Corner joint configurations in all positions with open root and with backing strip utilizing E7018(F4) 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 D1.1 Code; Destructive testing of completed welds

Use of Instructional Technology: (includes software, interactive video and other instructional technologies):
May use videos and Weld Lab CD-ROM

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:

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Distribution: Original – Instructional Services
Copies: Transfer Specialist, Originating Faculty Member, Records
Revised: December 2012