Course Title: Properties of Welding II
Submitted By: D. Mroz

Semester Course Prefix and Number: Weld 2250
Old Quarter Course Prefix and Number: Weld 2250

Number of Credits: 1
Number of Lecture Credits: 1
Number of Lab Credits: Number of Lab Hours:
Class Size: 24

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 equipment setup, electrical principle, electrodes, gasses and methods used in the Gas Metal Arc Welding, Self-Shielding Metal Arc, and Gas Tungsten Arc Welding processes as it applies to sheet, plate, tube and pipe.

Prerequisites and/or recommended entry skills/knowledge:
Course Prerequisite(s): A 2.0 average or better in Weld 2240, or consent of instructor.
Reading Prerequisite:
Mathematics Prerequisite:

Career Programs and Transfer Majors Accessing this Course:
Any career program utilizing welding: IT degree, IT Management, Welding Management, Non Destructive Testing.

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. 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:

- Identify filler metals by their AWS classifications
- Show an understanding and application of gasses in welding procedures.
- Show understanding of base metals and filler metals by choosing the correct filler metal for certain basic applications
- Understand and describe electrical concepts applicable to procedures used.
- Demonstrate knowledge of welding accessories
- Demonstrate knowledge of welding safety equipment and clothing
- Understand and use basic welding terminology
- Describe general weld joint configurations
- Describe rod angles & rod manipulation techniques
- Understand the Heat Affected Zone and accompanying characteristics
- Understand problems encountered during the welding process
- Discuss applicable techniques to resolve problems encountered during the welding process
- Familiarization with codes and standards used for acceptance criteria.

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, or appropriate updated D1.1 Structural Welding Code – Steel code book

Additional Special Information: (special fees, directives on hazardous materials, etc.)

Transfer Information: (Please list colleges/majors that accept this course in transfer.)

Course Outline Revision History:
Last revised May 2005. Course title changed from Into to Welding Processes II.

Approvals:

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Distribution: Original – Instructional Services
Copies: Transfer Specialist, Originating Faculty Member, Records
Revised: March 2010