COURSE INFORMATION:

Course Prefix/No.: WLD 142
Course Title: Maintenance Welding
Lecture Hours/Week: 1.0
Lab Hours/Week: 6.0
Credit Hours/Semester: 3.0

Distance Learning Attendance/VA Statement
Textbook Information

COURSE DESCRIPTION:

This course covers gas and arc welding processes used in maintenance shops.

COURSE COMPETENCIES:

Upon successful completion of this course, the student should be able to perform the following tasks:

Module 1 – OxyFuel Cutting

- Demonstrate personal and shop safety at all times.
- Identify all components of an OxyFuel Cutting system.
- Demonstrate the proper startup procedures and pressure settings.
- Produce quality cuts on carbon steel plate and/or pipe.
- Demonstrate the proper shutdown procedures.
- Demonstrate the proper storage and maintenance of equipment.

Module 2 – OxyFuel Welding

- Demonstrate personal and shop safety at all times.
- Identify all components of an OxyFuel welding system.
- Demonstrate the proper startup procedures and pressure settings.
- Describe the proper configuration and characteristics of the following weld joints:
    - Butt Joint with Filler Rod
    - Lap Joint with Filler Rod
    - Tee Joint with Filler Rod
    - Corner Joint with Filler Rod
- Produce quality welds of each of the above types in the following positions:
    - Flat Position
    - Vertical Position
    - Horizontal Position
- Demonstrate the proper shutdown procedures.
- Demonstrate the proper storage and maintenance of equipment.
- Demonstrate personal and shop safety at all times.

- Identify all components of an electric arc welding system.
- Demonstrate the proper startup procedures.
- Select the correct polarity for the rod.
- Select the correct amperage setting for the size rod.
- Describe the proper configuration and characteristics of the following weld joints:
    - Butt Joint.
    - Lap Joint.
    - Tee Joint.
- Produce a quality pad of six passes.
- Produce quality welds of each of the above types in the following positions:
    - Flat Position
    - Vertical Position
    - Horizontal Position.
    - Overhead Position.
- Demonstrate the proper shutdown procedures.
- Demonstrate the proper storage and maintenance of equipment.

Module 3 – Shielded Metal Arc Welding (E6010)

- Demonstrate personal and shop safety at all times.
- Identify all components of an electric arc welding system.
- Demonstrate the proper startup procedures.
- Select the correct polarity for the rod.
- Select the correct amperage setting for the size rod.
- Describe the proper configuration and characteristics of the following weld joints:
    - Butt Joint.
    - Lap Joint.
    - Tee Joint.
- Produce a quality pad of six passes.
- Produce quality welds of each of the above types in the following positions:
    - Flat Position
    - Vertical Position
    - Horizontal Position.
    - Overhead Position.
- Demonstrate the proper shutdown procedures.
- Demonstrate the proper storage and maintenance of equipment.

Module 4 – Shielded Metal Arc Welding (E7018)

- Demonstrate personal and shop safety at all times.
- Identify all components of an electric arc welding system.
- Demonstrate the proper startup procedures.
- Select the correct polarity for the rod.

- Select the correct amperage setting for the size rod.
- Describe the proper configuration and characteristics of the following weld joints:
    - Butt Joint.
    - Lap Joint.
    - Tee Joint.
- Produce a quality pad of six passes.
- Produce quality welds of each of the above types in the following positions:
    - Flat Position
    - Vertical Position
    - Horizontal Position.
    - Overhead Position.
- Demonstrate the proper shutdown procedures.
- Demonstrate the proper storage and maintenance of equipment.

MINIMAL STANDARDS:

Assignments and attendance must be completed as designated in "Evaluation Strategies/Grading." Criteria for minimal acceptable performance will be provided by the instructor.

REQUIREMENTS:

Attendance Policy
The college attendance policy, stated in the college handbook, will be honored. The instructor will provide specific requirements for the course.

Academic Honesty
Students are expected to adhere to the college policy regarding student conduct as stated in the college handbook.

Assignments
Students are expected to complete all assignments and any supplementary exercises designated by the instructor.

EVALUATION STRATEGIES/GRADING:

Successful completion of the course requires the completion of each module with an average of 70 points. Grades will be calculated from work attitude, all tests/projects, homework assignments, and laboratory assignments.

Grading Scale:
A = 90.0 – 100
B = 80.0 – 89.9
C = 70.0 – 79.9
D = 60.0 – 69.9
F = 00.0 – 59.9

Evaluation Method:

Tests/Shop Projects	Module 1	27% of final grade average
	Module 2	4% of final grade average
	Module 3	22% of final grade average
	Module 4	22% of final grade average
Work Attitude		25% of final grade average

Work Attitude is defined as:

- Participation
- Cooperation
- Appearance
- Effort
- Safety
- Responsibility
- Professionalism
- Attendance
- Self Motivation
- Works Independently

ENTRY LEVEL SKILLS:

The student must be able to read and solve basic mathematical equations.

PREREQUISITES/CO-REQUISITES:

Prerequisites: RDG 031 or equivalent; MAT 032 or equivalent

Co-requisite: None

METHODS OF INSTRUCTION:

Lectures, reading assignments, projects, discussions, video presentations, multi-media presentations, and web content are the major teaching methods used in this course.

Disabilities Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Offices (SR) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.

Effective: 2009FA