COURSE: Welding  PREFIX NO. WLD 113
EFFECTIVE DATE Fall 2014
NEXT REVIEW DATE Fall 2015

TITLE: ARC Welding II
CREDITS 4
CONTACTS CLASS - LAB - TOTAL 2 6 4

PREREQUISITES: WLD 111 or permission of instructor.

DESCRIPTION: This course is a study of ARC welding of ferrous and/or non-ferrous metals.

TEXTBOOK(S) OR ALTERNATIVE: Modern Welding: Goodheart-Wilcox Co., Inc. 2004 (Optional)
Pat Programmed Audio-Visual Training: Hobart School of Welding Technology.

MATERIALS (specifying those to be purchased by student):
- Welding shield
- Earplugs
- Safety glasses
- Welding gloves
- Cutting goggles

COLLATERAL READING:
- Practical Welding
- General Welding - John Wiley and Sons
- Welding Principles and Applications - Delmar
- Basic ARC Welding - 3rd Edition

CLASS MANAGEMENT ACTIVITIES (attendance, tardies, testing, etc.):
Attendance: Students must attend a minimum of 80% of the meetings of each class. If students miss more than 20% of a class, the student will be dropped automatically by the instructor, and assigned a grade of "F". If the student wishes to withdraw from the class he/she must complete a withdrawal form found in the Student Development Office. A grade of "W" will be assigned up to midterm. After midterm a grade of "WF" will be assigned if the student is not passing the course.

Tardy: Realizing that regular attendance in classes is a contributing factor toward academic success, it is also important that students arrive promptly for classes. Arriving late for a class not only disrupts a class in progress but interrupts the learning process. A tardy is defined as the arrival of the student to class after attendance has been taken. Three tardies will constitute one full absence. It is the student’s responsibility to notify the instructor after class that he/she arrived late for class. If a student leaves early from class it is also counted.
Academic Dishonesty: NETC honors the state TEC Student Code with regard to Academic Dishonesty. Students should read the Student Code and Grievance Procedure Book. Copies of the Student Code are available in Student Services. Academic Dishonesty will not be tolerated.

Classroom Etiquette: An integral part of an education is developing a sense of integrity and responsibility not only toward ourselves but also toward others. In the classroom, as on the job or in your home, exhibiting appropriate behavior reflects on your maturity. Arriving late to class, being unprepared, unappropriate talking while class is in session, etc., negatively reflect on you and your fellow students. Please be considerate.

Student ID: It is mandatory that students wear his or her student ID at all times. The instructor will dismiss students without ID from class. The student may get his/her ID and return to class before the midpoint of the class. If the student cannot get his/her ID and return to class by the midpoint, the instructor will record the absence.

**DISABILITIES STATEMENT:** Students with disabilities are encouraged to contact the Vice President for Student Services to discuss needs or concerns as they pursue an academic program and participate in campus life. The Vice President for Student Services will provide guidance regarding official documentation of disabilities and/or accommodation of needs. (See College Catalog)

**RESOURCES (A-V, persons, tools/equipment):**

**COURSE TOPICAL OUTLINE** (List topics and sub-topics of course) and Calendar or approximate length of time devoted to topic.

Approximately 6 hours are spent on each topic.

**Topic:**

IV. Pad of beads, Flat position.

V. Fillet lap joint, Horizontal position.

VI. Pad of beads, Surface weld, Flat position.

VIII. Fillet weld, tee joint, Horizontal position.

X. Pad of beads, Surface weld, Horizontal position.

XI. Square groove weld, butt joint, Horizontal position.

XIII. Fillet weld, lap joint, Vertical-Up position.
XIV. Fillet weld, tee joint, Vertical-Up position.

XVI. Square groove, butt joint, Vertical-Up position.

XVIII. Fillet weld, lap joint, Overhead position.

**STUDENT LEARNING OUTCOMES/OBJECTIVES OF COURSE:**

1. Safe work habits in welding lab.
2. Importance of safety in electric ARC welding.
3. Use and care of equipment.
4. Operation and setup of electric ARC welding.
5. Procedure for applying electric ARC welding.
6. Ability to select temperature range and electrodes for different metals.
7. Ability to distinguish between good and bad welds

**INSTRUCTIONAL METHODS TO COMPLETE LEARNING OUTCOMES/OBJECTIVES:**

1. Textbook
2. Audio-Visual Instruction
3. Lab Projects
4. Demonstrations
5. Small Group Discussions

**EVALUATIVE METHODS TO APPRAISE LEARNING OUTCOMES/OBJECTIVES:**

1. Quality of projects - Student selects example of each type and notifies instructor that it is being presented for grading. Instructor will grade as A, B, C, D, or F and inform student at that time. Student may present a second attempt only. All grades count equally.

2. Care of machines and equipment

3. Midterm report will be distributed.

**GRADING SCALE:**

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>93 - 100</td>
<td>A</td>
</tr>
<tr>
<td>86 - 92</td>
<td>B</td>
</tr>
<tr>
<td>78 - 85</td>
<td>C</td>
</tr>
<tr>
<td>70 - 77</td>
<td>D</td>
</tr>
<tr>
<td>BELOW 70</td>
<td>F</td>
</tr>
</tbody>
</table>
### GRADING RECORD FOR WELDING 113

<table>
<thead>
<tr>
<th>Project Name</th>
<th>1st attempt (Grade/date)</th>
<th>2nd attempt (Grade/date)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pad of Beads/Flat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fillet lap joint/Horiz.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pad of beads/Surface/flat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fillet weld/tee/Horiz.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pad of beads/surface/Horiz.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Square groove/butt/Horiz.</td>
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<tr>
<td>Fillet/lap/Vertical-up</td>
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<tr>
<td>Fillet/tee/Vertical-up</td>
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<tr>
<td>Square groove/butt/Vertical-up</td>
<td></td>
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</tr>
<tr>
<td>Fillet weld/lap/Overhead</td>
<td></td>
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<td></td>
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<tr>
<td>Safety/Work Habits for ARC Welding</td>
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</tbody>
</table>
Student Name: ___________________________  Semester: ______________________

The following is a progress report on your performance in WLD 113 for the objectives of the course:

<table>
<thead>
<tr>
<th>Objective</th>
<th>E</th>
<th>S</th>
<th>N</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe Work Habits</td>
<td>E</td>
<td>S</td>
<td>N</td>
<td>U</td>
</tr>
<tr>
<td>Safe Operation/Set-up of Electric ARC WLD</td>
<td>E</td>
<td>S</td>
<td>N</td>
<td>U</td>
</tr>
<tr>
<td>Procedure for applying Electric ARC WLD</td>
<td>E</td>
<td>S</td>
<td>N</td>
<td>U</td>
</tr>
<tr>
<td>Ability to select temperature/electrodes</td>
<td>E</td>
<td>S</td>
<td>N</td>
<td>U</td>
</tr>
<tr>
<td>Ability to determine quality of ARC welds</td>
<td>E</td>
<td>S</td>
<td>N</td>
<td>U</td>
</tr>
</tbody>
</table>

Instructor/Date: __________________________________________________________

Comments: