NORTHEASTERN TECHNICAL COLLEGE
COURSE OUTLINE

COURSE: WLD 102  EFFECTIVE DATE: August 2010  NEXT REVIEW DATE: August 2012

TITLE: Introduction to Welding  CREDITS: 2  CONTACTS: CLASS - LAB - TOTAL: 1 3 2

PREREQUISITES: None

DESCRIPTION: This course covers the principles of welding, cutting, and basic procedures for safety in using welding equipment.

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

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

COLLATERAL READING:
General Welding - John Wiley & Sons
Welding Principles and Application - Delmar

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 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 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, inappropriate 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.

1. Shop Safety - 1 hour
2. Safety Requirements of Oxyacetylene - 1 hour
3. Safety Requirements of Arcwelding - 1 hour
4. Equipment Study - 1 hour
5. Stringer Beads - Flat; Vertical; Horizontal; Overhead
6. Fundamentals of Oxyacetylene Welding/Cutting in Various Positions - Flat; Vertical; Horizontal; Overhead - 11 hours
7. Fundamentals of Arc Welding in Various Positions - 11 hours Flat; Vertical; Horizontal; Overhead
8. Soldering - 2 hours  (Vertical)

9. Brazing - 2 hours  (Flat)

10. Cutting - Straight; 45 Bevel

**STUDENT LEARNING OUTCOMES/OBJECTIVES OF COURSE:**
1. Safe work habits in the welding lab
2. Safe work habits of Electric Arc and Oxyacetylene Welding

**INSTRUCTIONAL METHODS TO COMPLETE LEARNING OUTCOMES/OBJECTIVES:**
1. Audio-Visual instruction
2. Lab projects
3. Demonstrations
4. Small group discussions

**EVALUATIVE METHODS TO APPRAISE LEARNING OUTCOMES/OBJECTIVES:**
1. Quality of projects
2. Care of machines and equipment

**GRADING SCALE:**

- 93 - 100 = A
- 86 - 92 = B
- 78 - 85 = C
- 70 - 77 = D
- BELOW 70 = F

**PROJECTS TO BE GRADED:**  Academic dishonesty will not be tolerated.

**OXYACETYLENE**

Stringer Beads
1. Flat

2. Vertical

3. Horizontal

4. Overhead

Cutting
1. Straight

2. 45 Bevel
Brazing
1. Flat

Soldering
1. Vertical Position

**ELECTRIC ARC WELDING**

Stringer Beads
1. Flat
2. Vertical
3. Horizontal
4. Overhead
### GRADING RECORD FOR WELDING 102

**Student Name:** ______________________  **Term:** ____________

**INSTRUCTOR:** ________________________

<table>
<thead>
<tr>
<th>Project Name</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; attempt (Grade/date)</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; attempt (Grade/date)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oxyacetylene</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stringer Beads Flat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Horizontal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Horizontal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overhead</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cutting Straight</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>45 Bevel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazing Flat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soldering Vertical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Electric Arc</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stringer Beads Flat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Horizontal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overhead</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## MIDTERM REPORT ON WELDING PERFORMANCE -- WLD 102

Student Name: __________________________  Semester: __________________

The following is a progress report on your performance in WLD 102 for the objectives of the course:

<table>
<thead>
<tr>
<th>Safe Work Habits</th>
<th>E</th>
<th>S</th>
<th>N</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe Operation/Set-up of Oxyacetylene WLD</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>Stringer Beads (Flat, Vert., Hor., Overh)</td>
<td>E</td>
<td>S</td>
<td>N</td>
<td>U</td>
</tr>
<tr>
<td>Cutting (Straight, 45 Bevel)</td>
<td>E</td>
<td>S</td>
<td>N</td>
<td>U</td>
</tr>
<tr>
<td>Brazing (flat)</td>
<td>E</td>
<td>S</td>
<td>N</td>
<td>U</td>
</tr>
<tr>
<td>Soldering (Vertical)</td>
<td>E</td>
<td>S</td>
<td>N</td>
<td>U</td>
</tr>
</tbody>
</table>

Comments:

Instructor/Date:____________________________________________________