COURSE OUTLINE

DIVISION: Workforce Development
COURSE: WED 2211 Introduction to Fabrication

Date: Fall 2021
Credit Hours: 3
Prerequisite(s): Lower level WLD course, WLD 2208

Delivery Method:
- Lecture 1 Contact Hours (1 contact = 1 credit hour)
- Seminar 0 Contact Hours (1 contact = 1 credit hour)
- Lab 2 Contact Hours (2-3 contact = 1 credit hour)
- Clinical 0 Contact Hours (3 contact = 1 credit hour)
- Online
- Blended

Offered: Fall Spring Summer

IAI Equivalent – Only for Transfer Courses - go to http://www.itransfer.org:

CATALOG DESCRIPTION:
Theory and practice on the introduction to metal fabrication. Shop safety, Layout, basic Printreading, cutting, drilling, tapping, and grinding skills will be taught. Students will develop better welding skills through the theory and practice of fit up and fabrication. Basic math and formulas will be utilized.
GENERAL EDUCATION GOALS ADDRESSED

Upon completion of the course, the student will be able:

[Choose up to three goals that will be formally assessed in this course.]

☐ To apply analytical and problem solving skills to personal, social, and professional issues and situations.
☐ To communicate successfully, both orally and in writing, to a variety of audiences.
☐ To construct a critical awareness of and appreciation for diversity.
☒ To understand and use technology effectively and to understand its impact on the individual and society.
☐ To develop interpersonal capacity.
☒ To recognize what it means to act ethically and responsibly as an individual and as a member of society.
☐ To recognize what it means to develop and maintain a healthy lifestyle in terms of mind, body, and spirit.
☐ To connect learning to life.

EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:

[Outcomes related to course specific goals. See last page for more information.]

Upon completion of the course, the student will be able to:

1. Practice and explain proper shop safety 
2. Demonstrate basic layout skills 
3. Perform basic Printreading skills 
4. Demonstrate the ability to use different basic metalworking machinery, shears, drills, grinders 
5. Demonstrate the ability to bend flat stock into a variety of angles and curves utilizing basic metal forming equipment 
6. Demonstrate basic knowledge of a properly prepped and fitted joint. 
7. Demonstrate the basic use of math and mathematical formulas as they relate to metal work.

MAPPING LEARNING OUTCOMES TO GENERAL EDUCATION GOALS

[For each of the goals selected above, indicate which outcomes align with the goal.]

<table>
<thead>
<tr>
<th>Goals</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Goal</td>
<td>1,2,3,4,5,6,7</td>
</tr>
<tr>
<td>To apply analytical and problem solving skills to personal, social and professional issues and situations.</td>
<td>1,2,3,4,5,6,7</td>
</tr>
<tr>
<td>Second Goal</td>
<td></td>
</tr>
<tr>
<td>To understand and use technology effectively and to understand its impact</td>
<td>1,2,3,4,5,6,7</td>
</tr>
</tbody>
</table>
on the individual and society.

Third Goal

To recognize what it means to act ethically and responsibly as an individual and as a member of society. 1,3,6

COURSE TOPICS AND CONTENT REQUIREMENTS:
Shop safety
Machine usage and safety
Measurement and instrumentation
Layout methods
Cutting, shearing, bending
Drilling and Tapping
Joining methods
Fabrication techniques

INSTRUCTIONAL METHODS:
Classroom lecture.
Hands on laboratory exercises
Demonstration
Exams and quizzes

INSTRUCTIONAL MATERIALS:
Videos
Instructional handouts

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:
Students are required to purchase the assigned textbook. Students will be required to maintain a high level of attendance to lectures. Students will be evaluated on attendance, assignments, discussion participation, quizzes and exams. The following grading scale will be used to compute the grade.

A= 90-100
B= 80-89
C= 70-79
D= 60-69
F= 0-59

OTHER REFERENCES
Lincoln Electric Welding Technology Center
Hobart Institute of Welding Technology
## Course Competency/Assessment Methods Matrix

### (Dept/# Course Name) Assessment of Student Learning

|-------------------|----------------|--------------|----------------|---------|--------------------|---------------|---------|----------------|----------------------------------|------------------|-------------------------------|-------------------|----------------------|------------|----------------|-----------------------------|----------------|------------------------|---------------------|------------------|-----------------------------|---------------------|---------------------|------------|-------------|-------------|-----------|

For each competency/outcome place an “X” below the method of assessment to be used.

### Assessment Measures – Are direct or indirect as indicated. List competencies/outcomes below.

<table>
<thead>
<tr>
<th>Direct/Indirect</th>
<th>Practice and explain proper shop safety</th>
<th>Demonstrate basic layout skills</th>
<th>Perform basic Printreading skills</th>
<th>Demonstrate the ability to use different basic metalworking machinery, shears, drills, grinders</th>
<th>Demonstrate the ability to bend flat stock into a variety of angles and curves utilizing basic metal forming equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Indirect</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Curriculum Committee – Course Outline Form Revised 12/5/2016
<table>
<thead>
<tr>
<th>Demonstrate basic knowledge of a properly prepped and fitted joint</th>
<th></th>
<th></th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate the basic use of math and mathematical formulas as they relate to metal work.</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
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