

# Course Syllabus

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**NOTE:** This syllabus is subject to change during the semester. Please check this syllabus on a regular basis for any updates.

**Department** : Welding Technology  
**Course Title** : Intro. to Welding Fundamentals  
**Section Name** : WLDG\_1421\_104, 11013, 6135, 6245  
**Start Date** : 01/18/2011  
**End Date** : 05/13/2011  
**Modality** : FACE-TO-FACE  
**Credits** : 4 (2-6)

## ***Instructor Information***

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**Name** : James Mosman  
**OC Email** : jmosman@odessa.edu  
**OC Phone #** : (432) 335-6474

## **Course Description**

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An introduction to the fundamentals of equipment used in the oxy-fuel and arc welding processes, including welding and cutting safety, basic oxy-fuel welding and cutting, basic arc welding processes, and basic metallurgy.

## **Prerequisites/Corequisites**

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Prerequisite: None.

## **Scans**

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5, 6, 8, 9, 10, 11

## **Course Objectives**

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The student will demonstrate safety procedures associated with the oxy-fuel and arc process; perform basic welds using oxy-fuel and arc welding equipment; and identify ferrous and nonferrous metals. The student will acquire and evaluate information pertaining to the use of torches and regulators, flame adjustment, and arc welding on

common metals and safe procedures for handling welding equipment. Emphasis is placed on student's ability to acquire and apply new knowledge and skills.

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### **ACADEMIC ETHICS:**

**Each student is expected to do their own work on the assignments, and take tests without outside assistance. If unethical behaviour is detected, by Odessa College Policy, all parties involved may either be denied credit for the project, or at the instructor's discretion, the student(s) may be dropped from the class. A report will be made to the department chairman for further action as deemed necessary by the department chair.**

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### **Required Readings/Materials**

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a) You must purchase the following **required** readings/materials:

1. Welding: Level One - Trainee Guide  
Pearson / Nccer Contren Learning Series – Edition 4  
ISBN-13: 978-0-13-610651-7
2. Welding Hood with shade 10 or darker lens or auto-dark lens
3. Welding Cap
4. Welding Gloves
5. Safety Glasses or Goggles or Face Shield
6. Cutting Goggles or Face Shield
7. Spark striker
8. Chipping hammer
9. Hand wire brush
10. Combination Square

All students must have equipment prior to 3<sup>rd</sup> class period or arrangements made with instructor.

b) You are encouraged to buy the following *optional* books/materials

1. Welding Leather sleeves
2. 25 foot tape measure
3. 2<sup>nd</sup> pair of Welding Gloves

### **Course Requirements (Lectures, Assignments and Assessments)**

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**1. Take all tests**

2. Complete all homework assignments
  3. Complete all welds in assigned order
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### Summary of Assignments & Activities

\* NOTE: The due dates are subject to change. Please check this syllabus on a regular basis for any updates.

Item(Name)	Type	Description
1. Class Introduction, Safety Orientation	Lecture/Video/Exam	Students will be introduced to welding program, lab safety, class requirements.
2. Oxy-fuel welding and cutting	Lecture/Lab/	Introduction to Oxy-fuel processes and safety.
3. Plasma Arc cutting	Lecture/Lab/	Introduction to PAC and safety.
4. Air Carbon Arc Cutting / Base Metal Prep	Lecture/Lab/Exam	Introduction to CAC-A process and safety, preparation of base metal for welding. Cutting Processes Exam.
5. SMAW Equipment & Set-up	Lecture/Lab/	Introduction of SMAW equipment and proper set-up / Begin Shielded Metal Arc Welding w/ E6010.
6. SMAW Electrodes	Lecture/Lab	Introduction of SMAW electrode classification / Welding Practice w/ E6010.
7. SMAW Beads	Lecture/Lab	Introduction to the proper methods for welding beads / Welding practice w / E7018.
8. SMAW Beads	Lab	Continuation of welding beads and overlapping beads w/ E7018 & E7024.
9. SMAW Fillet welds	Lecture/Lab	Introduction to Fillet welds w/ E7024 in 2F position.
10. SMAW Fillet welds	Lab	Complete Fillet welds w/ E6010 in 2F & 3F positions.
11. Weld Quality	Lecture/Lab/Exam	Lecture on Weld Quality, SMAW Exam.
12. SMAW Fillet Welds	Lab	Complete Fillet welds w/ E7018 in 2F & 3F positions.
13. Review Beads and Fillet welds	Lab	Practice all weld beads and fillet welds with E6010, E7018, & E7024 in all positions.
14. Lab Test	Practical Exam	Exam on weld beads and fillet welds.
15. Joint Fit-up and Alignment	Lecture/Lab	Lecture on Fit-up. Introduction to Track torch and V-groove welds.

16. SMAW open V-Groove welds	Lecture/Lab	Procedures for open V-Groove welds. Practice 1G position w/ E6010 & E7018.
17. 1G welds & Exam	Lab/Exam	Practice 1G position. Exam on Weld Quality, Fit-up, & V-Groove procedures.
18. 1G welds	Lab	Practice 1G position & Bend test.
19. 2G welds	Lecture/Lab	Introduction to 2G position .
20. 2G welds	Lab	Practice 2G position.
21. 2G welds	Lab	Practice 2G position & Bend test.
22. 3G welds	Lecture/Lab	Introduction to 3G position.
23. 3G welds	Lab	Practice 3G position.
24. 3G welds	Lab	Practice 3G position.
25. 3G welds	Lab	Practice 3G position & Bend test.
26. 4G welds	Lecture/Lab	Introduction to 4G position.
27. 4G welds	Lab	Practice 4G position.
28. 4G welds	Lab	Practice 4G position.
29. 4G welds	Lab	Practice 4G position & Bend test.
30. Final Review & Clean-up	Lecture /Lab	Final Review. Clean-up Lab.
31. Final Exam	Exam	Take final comprehensive written exam.

## Grading Policy

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### METHOD OF EVALUATION:

Homework Avg.	10%
Section Quiz Avg.	20%
Mid term Lab Test	10%
Lab Work	30%
Professionalism	10%
Final Exam	<u>20%</u>
Total Grade	100%

91 – 100 = A

81 – 90 = B

72 – 80 = C

65 – 71 = D

Below 65 = F

## Special Needs

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Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have any special needs or issues pertaining to your access to and participation in this or any other class at Odessa College, please feel free to contact me to discuss your concerns. You may also call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

## Learning Resource Center (Library)

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The Library, known as the [Learning Resources Center](#), provides research assistance via the [LRC's catalog \(print books, videos, e-books\)](#) and [databases \(journal and magazine articles\)](#). [Research guides](#) covering specific subject areas, [tutorials](#), and the "[Ask a Librarian](#) " service provide additional help.

## Student E-mail

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Please access your [Odessa College Student E-mail](#), by following the link to either set up or update your account: <http://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

## Student Portal

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Please access your [Odessa College Student E-mail](#), by following the link to either set up or update your account: <http://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

## Technical Support

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For Blackboard username and password help and for help accessing your online course availability and student email account contact the Student Success Center at 432-335-6878 or online at [https://www.odessa.edu/dept/ssc/helpdesk\\_form.htm](https://www.odessa.edu/dept/ssc/helpdesk_form.htm).

## **Important School Policies**

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For information regarding student support services, academic dishonesty, disciplinary actions, special accommodations, or student's and instructors' right to academic freedom can be found in the [Odessa College Student Handbook](#).