I. REQUIRED TEXT:


   Supplemental Materials: Handouts

II. Course Description:

This course is designed for the beginning student. Student will develop manipulative skills, using the oxy-gas and Shielded Metal Arc Welding (SMAW) processes. Emphasis is placed on safety procedures, use of manual and semi-automatic welding equipment, welding techniques, electrodes and joints. Practical aspects of Flux Cored Arc Welding (FCAW), process will be introduced.

III. Course Prerequisites: None

IV. Course Objectives:

Upon complete of this course, all students, will be able to:

1. Weld flat and horizontal fillet
2. Identify basic weld symbols and read blueprint
3. Identify Constant Current machines from Constant Voltage machines
V. Student Learning Outcomes: Upon completion of the course, students should demonstrate the following skills:

1. Students will be able to demonstrate the safe set up and operation of welding equipment using all applicable personal protective equipment.
2. Safe operation of manual and semi-automatic base metal cutting tools.
3. Students will have a basic understanding how heat affects their weldment.

VI. Assessment Activities:

A. Student will demonstrate 100% proficiency
B. Student will demonstrate 100% proficiency
C. Student will demonstrate 100% proficiency

VII. Evaluation Criteria:

A. Lab Assignments – 40
B. Homework Assignments – 10
C. Quizzes – 20
D. Attendance - 5
E. Final Exam – 25

VII. Grading Scale:

90 – 100% = A
89 – 80 % = B
79 – 70 % = C
69 – 60 % = D
59 % and below = F

VIII. Student Requirements

1. Student is required to furnish his/her textbook, notebook, flashcards, pens, pencils, highlighters, and book tabs.
2. Student must provide his/her personal protective equipment.
3. Students are required to follow all policies outlined in the El Camino College/Compton Center Handbook.

IX. Attendance Requirements:

Please see Student Handbook and Planner (page 7)

X. Statement of Student Conduct: (Include College Policy) (page 15)

A. Instructor’s expectation of student’s conduct: Please see Student Handbook and Planner (page 15)
B. Policy regarding audio taping of lectures: Allowed unless exceptional circumstances.
C. If applicable, include policy regarding use of machinery or tools with safety regulations: See Welding Safety Test (Attached).
XI. Special Accommodations:
Any student who has a disability and/or special needs should alert the instructor by the second week of the semester so that special accommodations can be made.

XII. Disclaimer Statement:
Students will be notified ahead of time when and if any changes are made to course requirements or policies.

XIII. Semester schedule of topics and assignment

Course Content and Schedule

<table>
<thead>
<tr>
<th>WEEK</th>
<th>ASSIGNMENT</th>
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</thead>
</table>
| 1. Safety Test | 1. Quick review of Weld Symbols  
1. Handouts 1&2 |
| 1. SMAW- Flat Position | Chapter 12, Pg. 137  
Homework, Pg. 150 all |
| 2. SMAW – Horizontal Position | Chapter 13, Pg. 151  
Homework, Pg. 156 all |
| 2. Timed Quiz on Handout 1&2 (Monday) | |
| 2. Handout 3 | |
| 3. Flux Cored Arc Welding (FCAW) | Chapter 22, Pg.259  
Homework, Pg. 270 all |
| 3. Timed Quiz on Handouts 1,2&3 (Monday) | |
| 3. Handout 4 | |
| 4. Repair Welding | Chapter 26, Pg 325  
Homework, Pg344, all |
| 4. Timed Quiz on Handouts 1,2,3&4 (Monday) | |
| 4. Handout 5 | |
| 5. Timed Quiz on Handouts 1,2,3,&5 (Monday) | |
| 5. Handout 6 | |
| 6. Timed Quiz on Handouts 1,2,3,4,5&6 | |
| 7. Handout 7 | |
| 8. Midterm (Monday) | |
8. Timed Quiz on Handouts 1,2,3,4,5,6,&7 (Tuesday)

8. Handout 8

9. Timed Quiz on Handouts 1,2,3,4,5,6,7&8

9.-15 Practice Handouts Timed
16. FINAL EXAM
Lab Assignment List

The following is a list of Welding Lab Assignments, which are to be completed by all students. Each assignment will be evaluated by a visual inspection by the instructor. Evaluation criteria will consist of safety, workmanship, and overall weld quality. Verbal instructions and demonstration of all assignments will be given at the beginning of all assignments.

Remember Safety and Quality is Job 1

Oxy-Acetylene Cutting

1. Perform straight cuts 10
2. Piercing

Shielded Metal Arc Welding

20 Days
1. Flat Fillet in a Tee joint beads (1F) (SMAW) E 6010 15
2. Horizontal Fillet in a Tee joint beads (2F) (SMAW) E6010
3. Flat Fillet in a Tee joint beads (1F) (SMAW) E7018
4. Horizontal Fillet in a Tee joint beads (2F) (SMAW) E7018

Flux Cored Arc Welding (FCAW) NOTE: Some students will practice with MIG until a FCAW machine is available.

10 Days
1. Flat beads (1F) 15
2. Horizontal beads (2F)
## Equipment and Supplies list for Welding

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<thead>
<tr>
<th>Name</th>
<th>Price</th>
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<tbody>
<tr>
<td>1. Leather Gloves</td>
<td>$20.00</td>
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<td>2. Leather Jacket</td>
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<td>3. Safety Shoes</td>
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<tr>
<td>4. Book – Welding Skills by Moniz &amp; Miller</td>
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<tr>
<td>5. Chipping Hammer</td>
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<td>6. Wire Brush</td>
<td>$4.00</td>
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<tr>
<td>7. Striker</td>
<td>$3.00</td>
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<tr>
<td>8. Pliers</td>
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<tr>
<td>9. Safety Glasses</td>
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<tr>
<td>10. 4.5” Grinder</td>
<td>$200.00</td>
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<tr>
<td>11. Welding Helmet</td>
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<tr>
<td>12. Code Book (D1.1 Structural Welding Code – Steel America Welding Society)</td>
<td>$800.00</td>
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</tbody>
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### Complete Welding
401 W. Long Beach Blvd.
Compton, CA 90221
(310) 638 – 1234

### Airgus
8103 E. Alondra Blvd.
Paramount, CA 90723
(562) 633 – 5171