Course Syllabus
Department of Marine Science & Technology
Department Of Marine Engineering

**COURSE TITLE**  
Gas & Electric Welding

**COURSE NUMBER**  
MTE 1651C

**PREREQUISITES**  
NONE

**CREDIT HOURS**  
3.000 Credits

**CONTACT HOURS**  
60 Lecture

**CLASS MEETING TIMES**  
Mondays and Wednesdays 1800 to 2159  
Welding Building  
08/25/2014 to 10/15/2014

**CLASS METHOD**  
Traditional classroom course (class meets in person)  
Traditional classroom course / Technical Enhancement

**INSTRUCTOR**  
Capt. Nate Ferrara  
Nathaniel.ferrara@fkcc.edu  
Office #: (305) 296-9081 ext: 187  
Office Location: M 310

**COURSE DESCRIPTION**  
Students will study and practice basic welding principles involving shielded metal arc welding, oxyacetylene welding, and oxyacetylene cutting processes in the flat, horizontal, and vertical positions. Safe industry work practices will be taught with emphasis on eye and body protection. Basic units of measurement will be covered. This course will serve as an introduction to the welding field and additional course work will be necessary for students to become proficient with the welding processes.

**COURSE OBJECTIVES**  
Upon completion of this course, student will be able to:

1. Operate S.M.A.W welding machines safely.
2. Operate Oxy-Acetylene torches safely.
3. Understand basic blueprint reading for welders.
4. Understand all safety procedures related to specific labs in the Marine Engineering Department.
# Required Textbook

Publisher: The Goodheart-Willcox Company, Inc.
Author: Bowditch
ISBN: 978-1-60525-256-8

# Required Tools

- Tool Box or Bag
- Adjustable wrench
- Wire Cutters (diagonal cutters)
- Pocket Knife 3”
- Ball peen hammer 12 to 14oz.
- 1 “Striker”

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## Proposed Course Schedule

Please note: The course schedule is subject to change to meet the needs of the course and its students. If you miss a class, it is YOUR responsibility to stay current.

<table>
<thead>
<tr>
<th>Date</th>
<th>Textbook Chapters--Topics</th>
<th>Assignments—Points</th>
</tr>
</thead>
</table>
| Day 1 | **INTRODUCTION:** MATERIALS, CLASS PROCEDURES, SAFETY, REQUIRED EQUIPMENT.  
**READING:** CHAPTER 2 | Attendance (2 pts.) |
| Day 2 | **WELDING AND CUTTING PROCESSES**  
**READING:** CHAPTER 3  
**COMPLETE HOMEWORK 1** | Attendance (2 pts.)  
Homework (5 pts.) |
| Day 3 | **THE PHYSICS OF WELDING**  
**READING:** CHAPTER 4  
**COMPLETE HOMEWORK 2** | Attendance (2 pts.)  
Homework (5 pts.) |
| Day 4 | **WELD JOINTS AND POSITIONS**  
**READING:** CHAPTER 5 | Attendance (2 pts.) |
| Day 5 | **SMAW: EQUIPMENT & SUPPLIES**  
**READING:** CHAPTER 6  
**COMPLETE HOMEWORK 3** | Attendance (2 pts.)  
Homework (5 pts.) |
<table>
<thead>
<tr>
<th>Day</th>
<th>Subject</th>
<th>Reading</th>
<th>Assignment</th>
<th>Attendance</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>SMAW: Equipment Assembly and Adjustment</td>
<td>Reading: Chapter 7&lt;br&gt;Complete Homework 4</td>
<td></td>
<td>Attendance (2 pts.)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>SMAW: Electrodes</td>
<td>Reading: Chapter 8</td>
<td></td>
<td>Attendance (2 pts.)&lt;br&gt;Homework (5 pts.)</td>
<td></td>
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<tr>
<td>8</td>
<td>SMAW: Flat Welding Position</td>
<td>Reading: Chapter 9&lt;br&gt;Complete Homework 5</td>
<td></td>
<td>Midterm (10 pts.)&lt;br&gt;Attendance (2 pts.)</td>
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<tr>
<td>9</td>
<td>SMAW: Horizontal, Vertical, and Overhead Welding Positions</td>
<td>Reading: Chapter 10</td>
<td></td>
<td>Attendance (2 pts.)&lt;br&gt;Homework (5 pts.)</td>
<td></td>
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<tr>
<td>10</td>
<td>Surfacing</td>
<td>Reading: Chapter 11&lt;br&gt;Complete Homework 6</td>
<td></td>
<td>Attendance (2 pts.)</td>
<td></td>
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<tr>
<td>11</td>
<td>GMAW: Equipment and Supplies</td>
<td>Reading: Chapter 12</td>
<td></td>
<td>Attendance (2 pts.)&lt;br&gt;Homework (5 pts.)</td>
<td></td>
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<tr>
<td>12</td>
<td>GMAW: Equipment Assembly and Adjustment</td>
<td>Reading: Chapter 13&lt;br&gt;Complete Homework 7</td>
<td></td>
<td>Attendance (2 pts.)</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>GMAW: Flat Welding Position</td>
<td>Reading: Chapter 14</td>
<td></td>
<td>Attendance (2 pts.)&lt;br&gt;Homework (5 pts.)</td>
<td></td>
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<tr>
<td>14</td>
<td>GMAW: Horizontal, Vertical, and Overhead Welding Positions</td>
<td>Study for Final Exam</td>
<td></td>
<td>Attendance (2 pts.)</td>
<td></td>
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<tr>
<td>15</td>
<td>Lab Clean-Up&lt;br&gt;Final Exam</td>
<td></td>
<td></td>
<td>Attendance (2 pts.)&lt;br&gt;In class final exam (25 pts.)</td>
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### Exam Policy
- All exams will be closed book/notes. The use of electronic devices is strictly prohibited during exams.
- Makeup exams *may be* offered to students with emergencies, but only if they can provide acceptable documentation of the emergency (e.g., hospital admit slip, etc.). The instructor reserves the right to change the format of any makeup exams (e.g., to essay questions).
- The final exam cannot be made up for any reason.

### Reading Assignments and Homework
- To succeed in this course, you should do all assigned textbook readings and review class notes *frequently*.
- Homework is due within the first 10 minutes of the *start of class* on the due date. Students who must miss class on a due date can email the assignment *by the start of class* for full credit.
- Late homework is not accepted.

### Communications:
The online format of this class puts a premium on communications. The prime responsibility for timely communications rests with you - the student. This course will utilize the following methods:

**EMAIL:** The email utility within D2L should not be used for personal items that are not appropriate to share with the entire class. This e-mail uses the student’s FKCC e-mail account.

**What can the student expect from your instructor?**
The instructor will log into D2L and check for messages at least once per day, including weekends and holidays. If the student has an urgent message for the instructor, do not post the same message both on a Discussion Forum and in an email. Doing both will waste the students time and will not result in the instructor getting the message any faster. If the instructor expects to be out of contact for more than a couple of days, they will inform the class via the Announcement section...

**Important Note:** If the instructor has not responded to a student email or voicemail message by the end of the day after the student left the message, the student should assume that the instructor did not receive it and leave another message.

### Logging Off From D2L
In order to better serve our faculty and students, all D2L users should click the “Logout” link when completing online course work. By logging off instead of just closing the internet browser window, D2L

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### STUDENT GRADE DETERMINATION

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Component</th>
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</thead>
<tbody>
<tr>
<td>30%</td>
<td>Attendance &amp; Participation</td>
</tr>
<tr>
<td>35%</td>
<td>Online Homework</td>
</tr>
<tr>
<td>10%</td>
<td>Mid-Term</td>
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<tr>
<td>25%</td>
<td>Final Exam</td>
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<tr>
<td></td>
<td>TOTAL 100 pts</td>
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</tbody>
</table>

### FKCC GRADING SCALE

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td>Below 60%</td>
<td>F</td>
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</table>
server space is freed and system performance is optimized. In addition, logging off will more accurately record each student’s time logged into the online course?

**Class Participation**

Class participation is a combination of discussions and in-lab assignments. The quality of work and amount of effort put into the labs will affect participation grades. The online discussion component is defined as posting a minimum number of substantial, separate, and distinct messages to the various Discussion Forums.

**For the purposes of this class, a substantial online posting must:**

1. Provide a good explanation of a concept or concepts related to the material discussed in the forum, or give a good example of how a concept can be applied, or provide an insightful response to a previous post.

2. Be factually correct. The post should help your classmates, and yourself, learn the material.

3. Have acceptable spelling and grammar. Although this is not a writing class, this is College. Students should get into the habit of writing complete sentences that are grammatically correct. Take advantage of the spell check feature in D2L.

4. Do your own work. Do not plagiarize from any source (internet, textbook, etc) as the body of your post. Study the concept, and then express it in the student’s own words. Make certain to cite and document references.

**Other key points:**

1. It is acceptable (and encouraged!) for more than one student to respond to the same message. The best way to be sure you understand a topic is to try to explain it to someone else.

2. Please use the discussion forums to ask all of the questions you have about the class material. The instructor wants students to ask a lot of questions.

3. Off-topic messages are not allowed on the D2L.

4. If the final average is on the borderline between two letter grades, active participation (posting several messages to each forum, on average) will work to the student’s advantage as the instructor decides which of the two letter grades the student has earned.

5. Messages must have content that contributes to the discussion.

6. Copying and pasting from any source, even if the student cites the source, is not acceptable. They should study the source document and paraphrase what they learned when typing a message.

**Copyright Notice**

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**Students are expected to familiarize themselves with FKCC Policies, which can be found in the current Student Handbook.**