



## Integrated Manufacturing Technology

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Course Title: <b>Intro to Welding</b>	No: <b>WELD-100</b>	Contact Hours: <b>60</b>
Credit Hours: <b>3</b>	LEC: <b>15 Hrs.</b>	LAB: <b>45 Hrs.</b>
Instructor: <b>Jim Kein</b>	EMAIL: <b>jkein@smccme.edu</b>	

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### COURSE SYLLABUS

#### **Course Description:**

This course is designed to provide the essentials of welding to the beginner. Students will learn the operation and safety of basic equipment associated with Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and Oxy-Acetylene Cutting (OFC-A). The course will benefit any student working toward a career in the welding field or a career in which welding skills are required. This course will be valuable to the home hobbyist or as a refresher for welders.

#### **Textbooks and Supplies:**

Required Textbook: Welding-Technologies-Fundamentals -Bowditch-Bowditch-Bowditch.

Required Supplies: Safety glasses, leather boots, and welder cap.

#### **Course Objectives:**

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

1. Safely set up and use Shielded Metal Arc Welding (SMAW) equipment.
2. Safely set up and use Oxy-fuel equipment.
3. Perform basic SMAW operations using E-6010 and 7018.
4. Perform basic GMAW operations.
5. Perform basic Oxy-Acetylene cutting, using safe and acceptable techniques.

#### **Topics of Instruction:**

Class topics will include, but are not limited to:

1. Lab/shop safety and work area hazards.
2. SMAW welding equipment set up and safety issues while in use.
3. Oxy-fuel equipment set up and safe use of cutting and welding processes.
4. Use and care of welding hoods.
5. SMAW electrode selection and classification types.
6. Weld joint design, welding positions, and welding variables.
7. Quality of welds, identifying weld defects, and welds acceptable to AWS D1.1 standards.
8. Basic metallurgical alterations caused by welding and cutting.
9. Correct and acceptable use of welding terminology.
10. American Welding Society procedures and standards.

#### **Teaching Procedure:**

- Two hour and fifty minute class each week, consisting of approximately 30 minute lecture followed by balance as lab time..
- Welding tests due as indicated and visually inspected per AWS D1.1

**Student Evaluation and Grading:**

Grades are based on lecture and lab performances, as well as, homework and quizzes.

Patterns of Professionalism	20%
Test	30%
Welded assignment quality	30%
Final written/practical	20%

Student welding performance is evaluated per AWS D.1.1, visual.  
Students must submit all work to receive a grade.

**Course Requirements:**

Students are expected to be on time and attend all labs, and lectures with homework completed by the beginning of class. Notification of absenteeism is mandatory.

**Attendance Policy:**

- Students are expected to attend scheduled lab classes.
- Exceeding 4 Days Absent , an (AF) Attendance Failure can be issued.
- (2) tardy days will = 1 Absent.
- Exceptions will be submitted in writing and considered on an individual basis.
- Late Start:

**In the event of a late start due to adverse weather, etc., classes scheduled to begin earlier than the late start time but which run past that time will start late but will meet. For example if the College has a 10:00 a.m. late start, a class scheduled to meet from 8 AM until noon will now meet from 10 AM to noon.**

**NOTE:**

- **IT IS THE STUDENTS RESPONSIBILITY TO MONITOR ALL ABSENTS.AND TARDIES.**

**Course Evaluation**

Students may evaluate the instructor online and anonymously by going to “Resources for Current Students” at the SMCC homepage and choosing “Evaluate Your Courses.”

**ADA Statement**

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