IMPERIAL VALLEY COLLEGE
Industrial Technology Division
Welding Technology Department

Course Title:	WELD 103 – Shield Metal Arc Welding on Pipe
Credits/Units:	3 (2 hours lecture, 4 hours lab.)
Semester:	Spring 2014 Jan 21 - May 16
Class Schedule:	Friday 8:05- 9:55am Lecture 1200 10:05 am – 2:20 pm Lab Room 1200
Location:	Lab 1200 Lecture 1200
Instructor:	Oscar Cervantes
Phone:	cell (760) 556-8492
E-mail	Oscar.cervantes@imperial.edu
Substitute Instructors:	Fred River, Gonzalo Huerta, Frank Cervantes
Secretary/Division Office	760 – 355-6361
Secretary/Dean's Office	760 – 355-6217
Division Coordinator	760 – 355-6361 (Jose Lopez)

SPRING CLASS SCHEDULE 2014
Spring SEMESTER 2014 IMPORTANT DATES AND DEADLINES

NOTE: The deadlines below are for full-term classes. Deadlines for short-term classes vary with the length of the class. Most
deadlines are mandated in the CA Code of Regulations and are a percentage of the length of the class.

January 20 Residency determination date.

January 21 Classes begin. Beginning on first day each class meets, add authorization code from instructor required to register for that class, filled or open
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January 21 – February 1 Late Registration. Beginning on first day each class meets, add authorization code from instructor required to register for that class, filled or open.

*****February 1***** Deadline to register for full-term courses Deadline to drop full-term classes without owing fees and/or be eligible for refund. Deadline to select P/NP grading option for courses with that option (see section on Change Grading Options). Does not pertain to Non-credit Program courses.

February 2 Deadline to drop without course appearing on transcript (without receiving W). Note: fees will be charged and no refunds given for courses dropped on February 2. See February 1.

January 20 Holiday – Martin Luther King Day. No classes

February 3 Census

February 3 Ticketing for parking violations in student spaces on main campus begins. Note: tickets are issued for reserved (faculty/staff), disabled, metered, 15-minute, and no-parking spaces year around

.

February 10 Financial Aid Enrollment Freeze Date

February 14-15 Holiday - Lincoln's Birthday. No classes.

February 17 Holiday – President's Day. No classes.

February 28 Deadline to make up incomplete grade (I) granted Fall 2013.

March 14 Deadline to submit Petition for Graduation for degree to be awarded for Spring and Summer 2014 and participate in Commencement. Completed petition must be received in Admissions & Records Office by this date. Students must meet with a Counselor and have an evaluation completed and petition signed before this date.

March 26 Financial Aid Return to Title IV drop deadline.

April 21-26 Spring Recess. No classes.

April 11 Deadline to drop full-term classes. (Note: This deadline date is not for short-term classes.)

May 12-16 Final Exams.

May 17, 2014 Commencement Ceremony

June 16 Summer Term 2014 classes begin.

A. **Course/Catalog Description**

Emphasis is on skill development for Shield Metal Arc Welding on carbon steel pipe (open root) with use of E6010 and E7018 electrodes. Proper use of filler metal and welding joint designs are emphasis throughout the course. Oxy/Acetylene cutting process is used for preparing welding coupons. Safety and PPE (Proper Personal Equipment) is enforced throughout the course.(CSU)
Recommended preparation: weld 100 and weld 102

B. Institutional Student Learning Outcomes

1. Communication Skills (Reading, Writing, and Speaking)
2. Critical Thinking (Problem Solving)
3. Personal Responsibility (Meeting Rules, Procedures, Employability skills, etc.)
4. Information Literacy (Understanding information sources such as internet, media, etc.)
5. Global Awareness (Understanding our position within a Global context.)

C. **Student Learning Outcomes (SLO"s)**

1. Explain a set of three existing hazards in the SMAW pipe welding environment and identify applicable standards.
2. Describe and demonstrate preparation of pipe sample for a "Bend Test" method of DT used to determine accept/reject status for SMAW pipe weld samples.
3. Safely perform pipe joint preparation by cutting, grinding, and layout per the parameter of the given WPS.
4. Safely perform appropriate SMAW welding procedures for a 5G open root on 6 inch pipe using E6010 per the parameters of the given WPS
5. Explain three welding details and procedures that are common to pipe welding with regard to AWS, ASME , and API standards.

D. **Measurable Course Objectives and Minimum standards for grade of "C"**

Upon satisfactory completion of the course, students will be able to:

1. **Demonstrate knowledge of safety protocols.**
2. **Demonstrate the preparation methods on pipe ends for open root welding.**
3. **Demonstrate and apply the preparation of welding pipe together.**

4. **Demonstrate proficiency in basic pipe-fitting skills.**
5. **Demonstrate and apply welding methods to cut and bevel pipe with Oxy/acetylene process.**

E. **Course Instructional Schedule**

Safety in Welding
Shield Metal Arc Welding setup, safe operation of equipment.
Shield Metal Arc Welding on pipe
Pipe and Tube Welding
Welding joint design, welding symbols, and fabrication
Welding codes, standards, and costs
Testing and inspections of welds
Procedure and Welding Qualifications
Oxy/fuel Gas Cutting
Plasma Arc Cutting

Instructional Methodology: Lecture, Lecture/Demonstration, Group Discussion,
Outside Class Assignments, Media Presentations.

F. **Grading Criteria**

1. **Attendance**: First day of class, regular attendance and withdrawal after exceeding the number of class hours per week.
2. **Tardiness**: Three times equals one absence (I.V.C. Gen. Catalog pg.24) 09-10
3. **Absences**: 3 absences = automatic drop. (I.V.C. Gen. Catalog pg.24) 09-10
4. **Student Conduct** (I.V.C Gen. Catalog pg. 22) 2009-10
5. **Grading System** (I.V.C. General Catalog pg. 17) 2009-10
   A = 90% - 100% of points = Excellent
   B = 80% - 89% of points = Good
   C* = 70% - 79% of points = Satisfactory
   D = 60% - 69% of points = Pass, Less than Satisfactory
   F = Less than 60% of points = Failing
   * Many programs require most or all courses to be completed with a " C " grade or better; not an average of " C."

6. Overall Regulations (I.V.C General Catalog, pgs. 19-29)

G. **Students with Disabilities**

Any student with a disability who may need accommodations should notify the instructor or the Disabled Student Programs & Services (DSPS) Office for assistance (Bldg. 2100)

H. **Equipment and Supplies**

1. **Personal Protective Equipment (PPE**)

Safety Glasses
Helmet/Hood
Welding Cap
Welding Gloves
Leather Work Boots
Ear plugs/Protection
100% cotton long sleeve shirt & pants
Leather jacket or sleeves
(NO CONTAC LENSES in the Lab)

I. **Welding Standards**

The learning activities for the Imperial Valley College Welding Technology Program are based on accepted practices, procedures, specifications and standards
of, but not limited to:

The American Welding Society (AWS)
The American Society for Testing and Materials (ASTM)
The American Petroleum Industry (API)
The American National Standards Institute (ANSI)
The American Society of Mechanical Engineers (ASME)
The American Society for Non-Destructive Testing (ASNT)