

Imperial Valley College Course Syllabus – Flux Core Arc Welding -Weld 115

Basic Course Information

Semester	Fall 2017	Instructor Name	Frank Cervantes
Course Title & #	Weld 115	Email	frank.cervantes@imperial.edu
CRN #	11200	Webpage (optional)	
Room	3120/3111	Office	Part-Timers: Room 809
Class Dates	8/14/17 – 12/08/17	Office Hours	n/a for part-time faculty
Class Days	Monday/Wednesday	Office Phone #	Dept secretary 760-355-6262 Cel # 760-427-0999
Class Times	M 5:30 pm-9:45 pm: W 6:00 pm-8:05 pm	Office contact if student will be out or emergency	Department Secretary is an option
Units	3 Units		

Course Description

Complete study course in Flux Core Arc Welding process and safety. The course is created to prepare the student for entry welding performance test in manufacturing, fabrication, structural, and shipyard industries. Student will practice welding to build skills in FCAW process. Safety, equipment setup, trouble-shooting, and proper use of measuring tools will be complementing this course. (CSU) Safety and PPE (Proper Personal Equipment) is enforced throughout the course. (CSU)

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Discuss three (3) welding hazards specifically associated with the FCAW process and list potential abatement action for these hazards. (ILO1, ILO2, ILO3)
2. List the two most common shielding methods used in FCAW and define the advantages and disadvantages of the various shielding methods. (ILO1, ILO2)
3. Set up the equipment used in FCAW, set up all parameters associated with welding ¼ and 3/8 inch steel plate, and safely demonstrate the adjustment of essential variables per the given WPS. (ILO1, ILO2, ILO3)
4. Fabricate various assigned weld joints safely demonstrating and using the forehand and backhand welding techniques per the given WPS. (ILO1, ILO2, ILO3)

Explain the relationship between a Welding Code, a Welding Standard, a Procedure Qualification Record (PQR), and a Welding Procedure Specification (WPS). (ILO1, ILO4)

Course Objectives

1. COURSE GOALS

1.1 Develop understanding of safe practices associated with the set up and use of FCAW welding equipment as it relates to welding of steel plate.

1.2 Develop understanding of safe practices associated with use of related equipment for cutting, grinding and preparation of materials for plate welding.

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1.3 Develop skills in the use of FCAW (Flux Core Arc Welding) equipment for application in the welding of steel plate.

1.4 Develop understanding of qualification and certification under the requirements of the A.W.S. (American Welding Society) -D1.1 Structural Welding Code and other applicable welding standards.

2. COMPETENCIES

2.1 demonstrate safe work practices as they relate to use of equipment for materials preparation, performance of welding applications and participation in the classroom and laboratory environment

2.1 demonstrate understanding of methods used to select equipment, consumables, qualify weld procedures, certification of welders and the methods used to test and evaluate results of such test for open v-groove welds.

2.2 demonstrate understanding of the correct weld techniques necessary to complete weld test under the AWS.(American Welding Society) -D1.1 Structural Welding Code and other applicable welding standards.

Textbooks & Other Resources or Links

Hobart Institute of Welding Technology Flux Core Basics; Technical Guide and Lab Manual: Both available in the IVC Book Store. (Change Pending)

Required: Yes

Course Requirements and Instructional Methods

METHODS OF INSTRUCTION FOR LEARNING

Lecture

Instructional Technology Presentations

Group and Individual Discussions

Demonstration

Outside Assignments

LEARNING ACTIVITIES

Individual and Group Learning Activities

Individual and Group Discussions

Individual and Group Oral Presentations

Individual and Group Classroom/Lab Demonstrations

Other, as the instructor may determine appropriate i.e. out of class learning

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assignments, use of computer technology, writing assignments and library research assignments

As provided or required, all students and faculty will bring, make use of at each class such (PPE) personal protective equipment as to provide personal protection for the work being performed. All students will secure use of as provided or required an OSHA/ANSI approved:

- Welding Helmet or OFC/W welding and cutting face shield as instructed.
- A pair of OSHA/ANSI approved clear safety glasses with side shields
- A pair of welding gloves
- A pair of over the ankle leather work boots (Ideally with Safety Toe)
- A welding jacket with leather sleeves or other flame resisting material
- A welding cap
- A pair of ear/hearing protection type ear plugs or other OSHA/ANSI approved hearing protection
- Wear a denim type all cotton pant and sleeved shirt in good repair and tuck in the shirt tail for safety reasons.
- Such other personal safety equipment, materials, and supplies as needed and keep in a well maintained condition to contribute to the learning process and success in the course.

Additionally:

- A pair of pliers for handling hot metal and other such tools as will facilitate student learning activities
- If available secure a locker if so desired and provide a lock (contents must be removed at end of semester or lock will be removed and contents disposed of)
- A three ring binder, paper and such writing tools as needed.
- Purchase the required text book available in the IVC book store
- Follow all other IVC policies and guidelines etc...

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Course Grading Based on Course Objectives

EVALUATION

Class participation required

Written and practical test

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Quizzes/Exams

Group and individual projects

Assignments (written reports, class/lab exercises and homework)

Scale for Grades Based on cumulative points earned for the semester, the grade assigned will be as follows;

90-100% A and represents EXCELLENT work and outcomes

80%-89% B and represents GOOD work and outcomes

70%-79% C and represents SATISFACTORY work and outcomes

60%-69% D and represents LESS THAN SATISFACTORY work and outcomes

Below 59% F and represents UN-SATISFACTORY work and outcomes

Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.
- Under IVC policy, students are expected to attend every session of class in which they are enrolled.
- If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility of the student to withdraw from the course. The instructor will not drop him or her from the course. If the student does not withdraw from the course and fails to complete the requirements of the course, the student will receive a failing grade.

Classroom Etiquette

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class unless otherwise directed by the instructor. **Consider**: specifics for your class/program
- Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed.
- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

Academic Honesty

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- Plagiarism is to take and present as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to correctly 'cite a source', you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment or using or attempting to use materials, or assisting others in using materials, or assisting others in using materials, which are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment ;(c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment, (e) use of a commercial term paper service

Additional Help – Discretionary Section and Language

- Blackboard support center: <http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543>
- Learning Labs: There are several 'labs' on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Learning Services (library). Please speak to the instructor about labs unique to your specific program
- Library Services: There is more to our library than just books. You have access to tutors in the learning center, study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313 if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee. We now also have a fulltime mental health counselor. For information see <http://www.imperial.edu/students/student-health-center/>. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities please refer to the IVC General Catalog available online at http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

Information Literacy

Imperial Valley College is dedicated to help students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at

<http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/>