

ILLINOIS VALLEY COMMUNITY COLLEGE



COURSE OUTLINE

DIVISION: Workforce Development

COURSE: WLD 1212; GMAW (MIG) Non Ferrous Alloys

Date: Spring 2013

Credit Hours: 2

Prerequisite(s): WLD 1211 or consent of Instructor

Delivery Method:

<input checked="" type="checkbox"/> Lecture	1 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
<input checked="" type="checkbox"/> Lab	2 Contact Hours (2 contact = 1 credit hour)
<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)
<input type="checkbox"/> Online	
<input type="checkbox"/> Blended	

Offered: Fall Spring Summer

IAI Equivalent –**Only for Transfer Courses**–go to <http://www.itransfer.org>.

CATALOG DESCRIPTION:

In this course, the theory and practice in the preparation and welding of non ferrous (aluminum) plate, in all positions, using the Gas metal Arc Welding (MIG) process are explored. Safety, equipment components, nozzle set-up, travel direction, torch angles, weave and stringer techniques will be stressed. Joints are prepared and welded in accordance with AWS standards used in industry and construction. All position welds are accomplished on the appropriate plate and tests will be given according to AWS criteria. AWS testing procedures will be performed and completed according to ANSI / AWS D1.1 Structural Steel Welding Code.

GENERAL EDUCATION GOALS ADDRESSED

[See the last page of this form for more information.]

Upon completion of the course, the student will be able:

[Choose those goals that apply to this course.]

- To apply analytical and problem solving skills to personal, social and professional issues and situations.
- To communicate orally and in writing, socially and interpersonally.
- To develop an awareness of the contributions made to civilization by the diverse cultures of the world.
- To understand and use contemporary technology effectively and to understand its impact on the individual and society.
- To work and study effectively both individually and in collaboration with others.
- To understand what it means to act ethically and responsibly as an individual in one's career and as a member of society.
- To develop and maintain a healthy lifestyle physically, mentally, and spiritually.
- To appreciate the ongoing values of learning, self-improvement, and career planning.

EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:

[Outcomes related to course specific goals.]

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

1. Understand and demonstrate safe work practices in the welding shop in regards to working with the Gas Metal Arc Welding equipment.
2. Cut and prepare plate coupons.
3. Properly align and tack plate coupon assemblies.
4. Correctly position and weld out the plate coupon assemblies in all positions.
5. Visually inspect welded coupons.
6. Prepare welded coupons for AWS bend test.

COURSE TOPICS AND CONTENT REQUIREMENTS:

Shop Safety. Types of weld joints. Proper handling procedures of plate before and after welding. Visual inspection. AWS destructive testing.

INSTRUCTIONAL METHODS:

Classroom lecture and weld lab hands-on instruction.

INSTRUCTIONAL MATERIALS:

Video's, selected hand-out sheets, welded examples, welding textbook and workbook.

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:

Students would be required to furnish all proper protective equipment to safely perform in the welding lab environment. A Modern Welding Textbook and Workbook (by G-W publishers) would also be required. Student progress will be charted on the instructor's evaluation matrix chart which will include areas like project performed, date completed, grade and any specific notes that may relate to the students progress.

OTHER REFERENCES

Lincoln Electric Welding Technology Center
Hobart Institute of Welding Technology

“This workforce solution was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timelines, usefulness, adequacy, continued availability, or ownership. This solution is copyrighted by the institution that created it. Internal use, by an organization and/or personal use by an individual for non-commercial purposes, is permissible. All other uses require the prior authorization of the copyright holder.”

Course Competency/Assessment Methods Matrix

WLD 1212; GMAW (MIG) Non Ferrous Alloys	Assessment Options																																						
<p>For each competency/outcome place an "X" below the method of assessment to be used.</p>	Assessment of Student Learning	Article Review	Case Studies	Group Projects	Lab Work	Oral Presentations	Pre-Post Tests	Quizzes	Written Exams	Artifact Self Reflection of Growth	Capstone Projects	Comprehensive Written Exit Exam	Course Embedded Questions	Multi-Media Projects	Observation	Writing Samples	Portfolio Evaluation	Real World Projects	Reflective Journals	Applied Application (skills) Test	Oral Exit Interviews	Accreditation Reviews/Reports	Advisory Council Feedback	Employer Surveys	Graduate Surveys	Internship/Practicum /Site Supervisor Evaluation	Licensing Exam	In Class Feedback	Simulation	Interview	Written Report	Assignment							
	Direct/Indirect	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	I	I	I	I	D	D													
1. Understand and demonstrate safe work practices in the welding shop in regards to working with the Gas Metal Arc Welding equipment.				X				X							X			X																					
2. Cut and prepare plate coupons.				X				X							X			X																					
3. Properly align and tack plate coupon assemblies.				X				X							X			X																					
4. Correctly position and weld out the plate coupon assemblies in all positions.				X				X							X			X																					
5. Visually inspect welded coupons.				X				X							X			X																					
6. Prepare welded coupons for AWS bend test.				X				X							X			X																					