Olney Central College

WEL 1260

Combination Welding I

Course Prerequisites- None

CRN- 60740

Semester/Year- Spring 2014

Class Meets- Tuesday- 9:30am – 12:20pm

Class Location- RMW

Instructor Name- Reno Bemont

Office Location- RMW

Office Hours- M- F 1:00pm 3:00pm

Email Address- bemontr@iecc.edu

Office Phone- 618-544-8352

**Course Description**:

A combination of introductory level lectures and laboratory activities in gas metal arc welding, shielded metal arc welding, fuel gas welding, brazing and cutting. One classroom hour per week. Two lab hours per week. Variable 0.5 to 2 semester hours credit. Repeatable 3 times.

**Student Learning Outcomes**:

Successful completers will:

1. Learn theory of welding applications and terminology.

2. Perform basic flat and horizontal welds with Gas Metal Arc Welding.

3. Perform basic flat and horizontal welds with Shielded Metal arc welding.

4. Perform basic flat and horizontal fusion welds with Fuel Gas Welding.

5. Perform basic flat and horizontal fusion welds with Fuel Gas Welding.

6. Perform basic metal operations with Fuel Gas.

7. Utilize emerging technology such as plasma cutters, CNC cutting system(s), and the computer technology that accompanies such equipment.

8. Identify safe welding practices and procedures conforming to American Welding Society (AWS) Z 49 standards.

9. Demonstrate practical knowledge of making welds with all types of mild steel electrodes, arc air gouging and the welding of mild steel in all positions in a safe manner.

10. Exhibit a basic understanding of metallurgy required of a competent welder.

11. Document advanced knowledge and techniques for the safe and successful operation of gas tungsten welding, shielded metal arc welding, gas metal arc welding, and oxy fuel gas welding.

12. Demonstrate knowledge of code practices and procedures in American Welding Society (AWS) D1.1.

**Required Course Materials**

Textbook-

WELDING SKILLS: Gianchino & Weeks. American Technical Society. Current edition.

Supplies or other materials

**Grading Criteria** (not all required)

Exams

Quizzes

Homework

Projects

Class Participation

Grading Scale

**Course Policies**

Attendance- Students are expected to be in class every class meeting date.

Late Work-

Academic Integrity- See IECC Plagiarism Policy in IECC Catalog

Expectations of Students- See Code of Student Conduct in IECC Catalog

**Important Dates**

Final Exam

Tentative Test Dates

Tentative Quiz Dates

Assignment Due Dates (if possible/if applicable)

Project Due Dates (if possible/if applicable)

**Tentative Course Outline**

Topical Outline:

Weeks 1- 5

I. Fuel Gas Welding

A. Safety regulations

1. American Welding Society (AWS) Z 49 standards

2. American Welding Society (AWS) D1.1

B. Operating equipment correctly

C. Begin to make stringer beads on thin sheet metal

D. Begin to make corner, lap, Tee-fillets and but welds

E. Test

F. Make flat position Butt, T-fillets and Lap welds

G. Do horizontal Butt, T-fillet and Lap welds

H. Weld test

I. Cutting attachments

J. Make cuts on steel plates

1. Plasma cutters

2. CNC cutters

3. Computer-aided design software

K. Layout

L. Do key hole technique Butt weld

M. Do punch thru technique Butt weld

N. Do non-fusing welding

O. Brazing

1. Braze welding cast iron

2. Soldering

3. Silver brazing

Weeks 6-10

II. Shielded Metal Arc Welding

A. Safety regulations

B. Operating equipment correctly

C. Begin to make stringer beads on thin sheet metal

D. Begin to make corner, lap, Tee-fillets and butt welds

E. Test

F. Made flat position Butt T-fillet and Lap welds

G. Do horizontal Butt, T-fillet and Lap welds

H. Weld test

Weeks 11-15

III. Gas Metal Arc Welding

A. Safety regulations

B. Operating equipment correctly

C. Begin to make stringer beads on thin sheet metal

D. Begin to make corner, lap, Tee-fillets and butt welds

E. Test

F. Make flat position Butt T-fillet and Lap welds

G. Do horizontal Butt, T-fillet and Lap welds

H. Weld test

**General Information**

Disclaimer “This Syllabus is subject to change at the discretion of the instructor. Due notice will be given to the student.”

Support Services: “It is IECC policy to provide reasonable accommodations to students with disabilities. If you would like to request academic support services please contact your instructor or the Learning Skills Center/Academic Assistance Center

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