SYLLABUS

DATE OF LAST REVIEW: 02/2013
CIP CODE: 48.0508
SEMESTER: Departmental Syllabus
COURSE TITLE: Pipe Welding
COURSE NUMBER: WELD0275
CREDIT HOURS: 4
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: KCKCC issued email accounts are the official means for electronically communicating with our students.

PREREQUISITES: WELD0100

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com, for the required texts for your particular class.

COURSE DESCRIPTION:
Through a variety of classroom and/or shop/lab learning and assessment activities, the students in this course will: Set up, weld and test weld coupons in various pipe positions and materials.

METHOD OF INSTRUCTION:
A variety of instructional methods may be used depending on content area. These may include but are not limited to lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:
I. Pipe welding intro
   A. Pipe positions
   B. Electrode angles
   C. Test pipe preparation
D. Tacking and placement of pipe

II. Root pass
   A. SMAW (ER6010)
   B. GTAW

III. Fill and capping passes
   A. SMAW (ER7018)
   B. GTAW

IV. Testing
   A. Visual inspection
      1. Face
      2. Root
   B. Weld coupon prep and testing

EXPECTED LEARNER OUTCOMES:
Upon successful completion of this course:
A. The student will be able to properly prepare test weldment for welding.
B. The student will be able to properly weld root of test pipes in various positions.
C. The student will be able to properly weld fill and cap of test pipes in various positions.
D. The student will be able to inspect pipe welds as determined by given specification.
E. The student will be able to prepare and test coupons from pipe test weldment.

COURSE COMPETENCIES:
The student will be able to properly prepare test weldment for welding.
1. The student will be able to identify joint geometry as given in a code or WPS.
2. The student will be able to prepare ends of pipe to conform with joint geometry given.
3. The student will be able to tack pieces of pipe together with proper alignment and gap to conform with WPS.
4. The student will be able to identify pipe welding positions.
5. The student will be able to tack test weldment in proper position for test according to WPS.

The student will be able to properly weld root of test pipes in various positions.
6. The student will be able to perform root weld of test pipe in the 2G position with GTAW process.
7. The student will be able to perform root weld of test pipe in the 2G position with SMAW process.
8. The student will be able to perform root weld of test pipe in the 5G position with GTAW process.
9. The student will be able to perform root weld of test pipe in the 5G position with SMAW process.
10. The student will be able to perform root weld of test pipe in the 6G position with GTAW process.
11. The student will be able to perform root weld of test pipe in the 6G position with SMAW process.

The student will be able to properly weld fill and cap of test pipes in various positions.
12. The student will be able to perform fill and cap welds of test pipe in the 2G position with GTAW process.
13. The student will be able to perform fill and cap welds of test pipe in the 2G position with SMAW process.
14. The student will be able to perform fill and cap welds of test pipe in the 5G position with GTAW process.
15. The student will be able to perform fill and cap welds of test pipe in the 5G position with SMAW process.
16. The student will be able to perform fill and cap welds of test pipe in the 6G position with GTAW process.
17. The student will be able to perform fill and cap welds of test pipe in the 6G position with SMAW process.

*The student will be able to inspect pipe welds as determined by given specification.*
18. The student will be able to inspect face of weld for proper weld profile in accordance with given specification.
19. The student will be able to inspect root of weld for proper penetration in accordance with given specification.
20. The student will be able to inspect root of weld for proper weld profile in accordance with given specification.
21. The student will be able to perform DPT weld inspection to assure that weld is in accordance with given specification.
22. The student will be able to perform MT weld inspection to assure that weld is in accordance with given specification.

*The student will be able to prepare and test coupons from pipe test weldment.*
23. The student will be able to find proper location of test specimens on a test weldment.
24. The student will be able to cut properly sized test specimens from a test weldment.
25. The student will be able to prepare test specimens in accordance with given specification.
26. The student will be able to bend and inspect test specimens to determine qualification in accordance with given specification.

**ASSESSMENT OF LEARNER OUTCOMES:**
Student progress is evaluated by means that include, but are not limited to, exams, written assignments and class participation.

**SPECIAL NOTES:**
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome at any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty and staff that is free of bigotry and discrimination. KCKCC is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title
IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center in Rm. 3354 or call (913) 288-7670.