Bossier Parish Community College
Master Syllabus

Course Prefix and Number: WELD 102 **Credit Hours:** 4-3-3

Course Title: Intermediate Welding II

Course Prerequisites: READ 099; MATH 097; Prior Welding experience and/or education is required; Instructor Permission required

Textbook: NONE

Course Description: This course is a continuation of WELD 100 and covers the knowledge, skills, and abilities required of an AWS Certified Level I Intermediate Welder including welding safety, industrial math, and welding principles for flux cored arc welding, and gas tungsten arc welding. (aligned with AWS Certified Level I Welder)

Learning Outcomes:
At the end of this course, the student will:

A. demonstrate knowledge of occupational orientation skills including: safe operation practices, preparation of job reports, and follow verbal and written instructions to complete work assignments;
B. demonstrate a fundamental knowledge of industrial math skills;
C. demonstrate the ability to use are welding principles and practices for flux cored arc welding (FCAW-G/GM, FCAW-S); and
D. demonstrate the ability to use are welding principles and practices for gas tungsten arc welding (GTAW).

To achieve the learning outcomes, the student will or will be able to:
(The letter designations at the end of each statement refer to the learning outcome(s).)

1. follow safe practices; (A)
2. follow verbal instructions to complete work assignments; (A)
3. follow written instructions to complete work assignments; (A)
4. demonstrate proper use and inspection of personal protection equipment (PPE); (A)
5. demonstrate proper safe operation practices in work area; (A)
6. demonstrate proper use and inspection of ventilation equipment; (A)
7. demonstrate fundamental skills of mathematical operations with addition, subtraction, multiplication and division; (B)
8. demonstrate fundamental skills of mathematical operations with fractions and whole numbers; (B)
9. demonstrate fundamental skills of basic trigonometric functions, specifically right triangles; (B)
10. demonstrate fundamental unit conversion (metric to standard and vice-versa); (B)
11. demonstrate fundamental unit conversion (fractions to decimals and vice-versa); (B)
12. demonstrate fundamental skills for circle calculations (radius, circumference, etc); (B)

13. perform safety inspections of FCAW equipment and accessories; (C)
14. make minor external repairs to FCAW equipment and accessories; (C)
15. set-up for FCAW-G/GM operations on carbon steel; (C)
16. operate for FCAW-G/GM equipment on carbon; (C)
17. make fillet welds in all positions on carbon steel; (C)
18. make groove welds in all positions on carbon steel; (C)
19. pass FCAW-G/GM welder performance qualification test on carbon steel; (C)
20. set-up for FCAW-S operations on carbon steel; (C)
21. operate for FCAW-S equipment on carbon; (C)
22. make fillet welds (FCAW-S) in all positions on carbon steel; (C)
23. make groove welds (FCAW-S) in all positions on carbon steel; (C)
24. pass FCAW-S welder performance qualification test on carbon steel; (C)
25. set-up for GTAW operations on carbon steel; (C)
26. operate GTAW equipment on carbon; (C)
27. make fillet welds (GTAW) in all positions on carbon steel; (C)
28. make groove welds (GTAW) in all positions on carbon steel; (C)
29. pass GTAW welder performance qualification test on carbon steel; (D)
30. perform safety inspections of GTAW equipment and accessories; (D)
31. make minor external repairs to GTAW equipment and accessories; (D)
32. set-up for GTAW operations on austenitic stainless steel; (D)
33. operate for GTAW equipment on austenitic stainless steel; (D)
34. make fillet welds in the 1F, 2F, and 3F positions on austenitic stainless steel; (D)
35. make groove welds in the 1G and 2G positions on austenitic stainless steel; (D)
36. pass GTAW welder performance qualification test on austenitic stainless steel; (D)
37. set up for GTAW operations on aluminum; (D)
38. operate GTAW equipment on aluminum; (D)
39. make fillet welds in the 1F and 2F positions on aluminum; (D)
40. make groove welds in the 1G position on aluminum; (D) and
41. pass GTAW welder performance qualification test on aluminum (D).

Course Requirements: Complete all homework assignments, in-class equipment exercises, in class tests, and final exam.

Course Grading Scale:

90 – 100 = A
80 – 89 = B
70 – 79 = C
60 – 69 = D
0 – 59 = F

Attendance Policy: The college attendance policy is available at http://www.bpcc.edu/catalog/current/academicpolicies.html

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams and/or clinical fees.

Nondiscrimination Statement: Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

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Reviewed by J. Whittemore/March 2016