



Course Articulation Agreement Procedures and Provisions

WLD 111 - Welding Process I

1- 6 credits

Introduction to arc welding processes. Welding of E-6010 and various kinds and sizes of electrodes in all positions, manipulative skills including stringer beads and weave beads on plate and corner joints with AC and DC welding machines.

STUDENT PROCEDURES

1. Be enrolled in the required high school class.
2. Register for Tech Prep dual credit at www.bigbend.edu/techprep.
3. Register for the Tech Prep dual credit articulated course during the same academic year the high school class is completed. If a series of courses are involved in the articulation, students register for credit during the same academic year the last course in the series is completed. **Students cannot earn "retroactive credit" for courses taken in previous years.**
4. Earn a grade of 'B' (3.0) or better in all courses required under the articulation agreement.
5. Complete all required skills as identified on the competency profile.
6. If an exam or review of completed work is required under the terms of this agreement, students must receive a passing score (determined by college or industry certification) to earn college credit.

TEACHER PROCEDURES

1. Ensure all students receive a copy of the course syllabus outlining information about Tech Prep, the college course competencies, and the process required to earn college credit. See attached "College Tech Prep Notice to Students."
2. Hold students accountable for the same competency standard and course expectations as required by the college-equivalent course (*see competency list attached*).
3. If required for articulation, ensure students are prepared to take industry certification exams, complete a professional portfolio documenting their work, or take a final exam to measure their level of skill and competence in the coursework.
4. Submit final grades for all students registered to earn Tech Prep college credit **within 30 days** of high school course completion.
5. Attend scheduled meetings, workshops or in-service activities that enhance the high school/college partnership and support implementation of the Tech Prep articulated program.

ARTICULATION PROVISIONS

1. Teachers will arrange for testing with the BBCC welding instructor before awarding Tech Prep credits unless otherwise approved by the college.
2. Teachers approved by the college may test and award credit to students in the following competencies.
 - Part 1, Steps 4-12 SMAW Carbon Steel Flat Position 1F & 1G 1 Credit
 - Part 2, Steps 13-21 SMAW Carbon Steel Horizontal Position 2F & 2G 1 Credit
 - Part 3, Steps 22-30 SMAW Carbon Steel Vertical Position 3F & 3G 2 Credits
 - Part 4, Steps 31-39, SMAW Carbon Steel Overhead Position 4F & 4G 2 Credits
3. Credits in this course may be applied to degree requirements in the following program(s):
 - Welding Technology

- Agriculture Technology
- Maintenance Mechanics Technology

COURSE COMPETENCIES

Upon successful completion of the following competencies, students may earn Tech Prep credits.

General

1. Perform safety inspection of equipment and accessories
2. Make minor repairs to equipment and accessories
3. Set up a shielded metal arc welding operation on plain carbon steel

Part 1, Steps 4-12 SMAW Carbon Steel Flat Position 1F & 1G

1 Credit

1. Make stringer beads with E-6010 in the flat position
2. Make stringer beads with E-7018 in the flat position
3. Make pad of stringer beads with E-6010 flat position
4. Make pad of stringer beads with E-7018 flat position
5. Make single pass $\frac{1}{4}$ " fillet weld passing visual inspection and fillet break test using E-6010 in the 1F position
6. Make single pass $\frac{1}{4}$ " fillet weld passing visual inspection and fillet break test using E-7018 in the 1F position
7. Make multi pass $\frac{1}{2}$ " fillet weld passing visual inspection using E-6010 in the 1F position
8. Make multi pass $\frac{1}{2}$ " fillet weld passing visual inspection using E-7018 in the 1F position
9. Make 1G groove weld with backing using E-6010 & E-7018 passing visual inspection and guided bend test (Use $\frac{3}{8}$ " to 1" plate)

Part 2, Steps 13-21 SMAW Carbon Steel Horizontal Position 2F & 2G

1 Credit

1. Make stringer beads with E-6010 in the horizontal position
2. Make stringer beads with E-7018 in the horizontal position
3. Make pad of stringer beads with E-6010 horizontal position
4. Make pad of stringer beads with E-7018 horizontal position
5. Make single pass $\frac{1}{4}$ " fillet weld passing visual inspection and fillet break test using E-6010 in the 2F position
6. Make single pass $\frac{1}{4}$ " fillet weld passing visual inspection and fillet break test using E-7018 in the 2F position
7. Make multi pass $\frac{1}{2}$ " fillet weld passing visual inspection using E-6010 in the 2F position
8. Make multi pass $\frac{1}{2}$ " fillet weld passing visual inspection using E-7018 in the 2F position
9. Make 2G groove weld with backing using E-6010 & E-7018 passing visual inspection and guided bend test (Use $\frac{3}{8}$ " to 1" plate)

Part 3, Steps 22-30 SMAW Carbon Steel Vertical Position 3F & 3G

2 Credits

1. Make stringer beads with E-6010 in the vertical position
2. Make stringer beads with E-7018 in the vertical position
3. Make pad of stringer beads with E-6010 vertical position
4. Make pad of stringer beads with E-7018 vertical position
5. Make single pass ¼" fillet weld passing visual inspection and fillet break test using
6. E-6010 in the 3F position
7. Make single pass ¼" fillet weld passing visual inspection and fillet break test using
8. E-7018 in the 3F position
9. Make multi pass ½" fillet weld passing visual inspection using E-6010 in the 3F position
10. Make multi pass ½" fillet weld passing visual inspection using E-7018 in the 3F position
11. Make 3G groove weld with backing using E-6010 & E-7018 passing visual inspection and guided bend test (Use 3/8" to 1" plate)

Part 4, Steps 31-39, SMAW Carbon Steel Overhead Position 4F & 4G

2 Credits

1. Make stringer beads with E-6010 in the overhead position
2. Make stringer beads with E-7018 in the overhead position
3. Make pad of stringer beads with E-6010 overhead position
4. Make pad of stringer beads with E-7018 overhead position
5. Make single pass ¼" fillet weld passing visual inspection and fillet break test using
6. E-6010 in the 4F position
7. Make single pass ¼" fillet weld passing visual inspection and fillet break test using
8. E-7018 in the 4F position
9. Make multi pass ½" fillet weld passing visual inspection using E-6010 in the 4F position
10. Make multi pass ½" fillet weld passing visual inspection using E-7018 in the 4F position
11. Make 4G groove weld with backing using E-6010 & E-7018 passing visual inspection and guided bend test (Use 3/8" to 1"plate)

NOTE: For a list of detailed competency requirements visit the Tech Prep website:
www.bigbend.edu/techprep or call Barbara Collins 509-793-2057

College Tech Prep Notice to Students

The high school syllabus MUST include a notice to students indicating the course is Tech Prep approved and articulated with one or more colleges.

The following statement is a **sample** notice. You can use/modify the statement below to include in your syllabus:

Example:

This course is College Tech Prep approved and articulated with Big Bend Community College and the **Welding, Agriculture, and Maintenance Mechanics Technology Program** areas. Students, who demonstrate proficiency of the college course competencies with a 'B' (3.0) or better grade, may earn college credit through the Tech Prep dual credit registration process. The college competencies are attached to this syllabus. During the (semester/year) all competencies will be covered in class...some may require additional independent work by the student. To earn college credit students are required to pass a skill check/assessment with the high school instructor.

Students may earn credit for the following college course(s):

WLD111 _____ College Course Number **1-6** _____ credits

Welding Process I _____ College Course Name