Intermediate Arc Welding is a continuing career course stressing safety and equipment familiarization with lab exercises for skill development in the fundamentals of electric arc welding processes. It includes technical information lectures in related subjects. The processes included in this course will be GMAW, FCAW, and GTAW.

1. **Required items:** (Furnished by the student)
   - Textbook: “Modern Welding Technology” (Sixth Edition) by Howard B. Cary
   - Safety glasses with sideshields
   - Stainless steel (“toothbrush” style) wire brushes for use with GTAW on aluminum (one or more as needed)
   - 1 pair welding gloves for GTAW use
   - 1 pair long-gauntlet-sleeve leather welding gloves for SMAW, GMAW, and FCAW use
   - High top boots or shoes (no tennis shoes)
   - Suitable clothing that is nonflammable
   - Notebook or folder with paper for taking notes
   - Ear plugs (recommended)
   - 1 pair of side-cutters or needle-nose pliers capable of cutting 1/8” diameter stainless steel filler rod

2. **Lectures**
   Information on welding and related subjects will be presented in classroom sessions.

3. **Lab Exercises**
   Stress skill development (principles and techniques) through skill building exercises designed to prepare the student for industrial applications, including preparing the student for the A.W.S. Welder Qualification tests. I.T.S. Welding is a co-curriculum club embedded into this course. Meeting days / times will be announced.

4. **Grading**
   Grading is based on:
   - Evaluation of skill competency on and completion of all Lab Assignments (Progress Card): 50%.
   - Attendance and proper use of class time: 40%.
   - Homework Assignments and closed-book closed-note written Final Exam: 10%.

   **NOTE:** The instructor reserves the right to change areas that will better enhance the learning of the student.

5. **Homework**
   Please note that completing all Homework Assignments is required; this is not the option of the student. The instructor will hand out the Homework Assignment(s) to the class each week through Week 9. Fully complete each assignment per the instructions on the assignment and turn it in at the start of class on Thursday of the week that it is due. If you are not finished with the assignment by the start of class on the Thursday that it is due, retain it and turn it in on the following Thursday at the start of class. Credit may be deducted from late assignments based on the reason(s) for the assignment not being turned in when it was originally due. The assignment turned in must be in your own handwriting. Typed, photocopied, or computer-printer-generated assignments will not receive credit. Homework Assignments will not be returned. All Homework must be turned in no later than the start of class Thursday Week 10 (the week prior to Finals Week); if this is not possible due to absence, inform the instructor.

Linn-Benton Community College

**INTERMEDIATE ARC WELDING FUNDAMENTALS**

**Course Number: WD4.241**

**COURSE OUTLINE AND SYLLABUS**

**Instructor:** Dean Dowless
**Instructor Voice Mail:** (541) 917-4580
**Instructor email:** DOWLESD@linnbenton.edu
**Instructor Office:** Room IA-106A
6. **Work Ethic, Productivity, Attitude, and Industriousness**

Students are expected to maintain a professional attitude and work ethic regarding their hands-on skills training each day while in this class. This includes being a self-starter, a team player, following instructions, being willing to adapt, maintaining a receptive attitude towards learning, utilizing welding time for the purpose that it is allotted for, properly adhering to break and cleanup times, and not leaving early. Text-messaging, use of laptops, use of cell phones, use of stereos, use of radios, listening to music on earbuds, or use of similar devices this term during welding time is prohibited. The instructor reserves the right to drop the final grade for the term without notice by one complete grade level per occurrence. The instructor reserves the right to prohibit the use of any device during class time which the instructor deems to be a distraction to the student or of others.

7. **Breaks and Clean-Up**

The fifteen-minute break will begin at 1-1/2 hours after the start of class each day. The student is expected to return from break on time and resume work immediately (see section on Work Ethic above).

Clean-up time will begin 15 minutes before the end of the third hour of class each day; follow this procedure:

- **Shut down** welding equipment you are using.
- **Return** any tools used to proper area.
- **Return** unused steel to proper storage area.
- **Place** welding pieces in the scrap container (cool, if necessary)
- **Return** welding rods over 2 inches in length to the proper box or tray in the storage rack.
- **Sweep** off table top in welding booth, and place the welding stool upright on the table.
- **Sweep** the floor of the welding booth and put stubs and slag in metal garbage can.
- **Clean-up** any other area in the shop that was used during the class period.
- **If the welding machine you are using is equipped with a shielding gas cylinder**, close the cylinder valve and then properly shut down the shielding gas supply system for that machine.
- **Remove the tungsten electrode from the GTAW torch** and return it to the plastic tool box.
- **Place the GTAW machine foot control** back into the holder.

8. **Safety**

The student is responsible to follow all safety rules and shop procedures and to perform all tasks in a safe and conscientious manner. This includes wearing the required safety items (safety glasses, high top boots or shoes, etc.) during the lab time.

**NOTE:** The instructor will verbally warn the student when required safety items are not being worn in the shop, or when safety procedures are not being followed. Repeated safety violations may require the student to be withdrawn from the course by the instructor. Third warning could result in dismissed from the class.

**Disabilities Services and Emergency Planning – Meet with Instructor Week One**

If you have emergency medical information for your instructor, need special arrangements to evacuate campus, or have a documented disability, please meet with your instructor, by appointment, no later than the first week of the term, to discuss your needs. If you have a documented disability that will impact you at college and you seek accommodations, contact the Office of Disability Services (ODS) for intake and to document your disability with LBCC. Then, each term, at least two to three weeks prior to the start of classes, submit your “Request for Accommodations” form to ODS and pickup instructor letters. ODS may be reached from any LBCC campus/center by email to ODS@linnbenton.edu or by calling 917-4789. Letter pickup is available at each LBCC campus/center.