



Course Information

Instructor	Zachary Reddig
Phone	w:(406)243-7644
Email	Zachary.reddig@umontana.edu
Credits	2
Campus	Missoula College

Description

Fundamental concepts and requirements of the American Society of Mechanical Engineers (ASME) and American Welding Society (AWS) are examined. Through laboratory experience students are provided the opportunity to qualify (certify) under the two codes mentioned above.

Relationship to Program

Welding codes and certification contributes to the objectives of the Welding Technology Program by increasing the students' knowledge of welding codes, correct welding procedures with an overall view of AWS (American Welding Society) and ASME (American Society of Mechanical Engineers) requirements.

Prerequisites

WLDG 180 Shielded Metal Arc Welding
WLDG 187 Flux Core Arc Welding

Student Performance Outcomes

Upon completion of this course, the student will be able to:

1. Interpret welding codes and their use.
2. Develop welding skills for qualification (certification).
3. Understand procedure and performance welding qualification.

Textbooks

Welding Principles and Practices, 4th Edition; Sachs and Bohnart, McGraw Hill

Suggested Reference Materials

The Welding Journal, published monthly by the American Welding Society

Attendance

Attendance is not taken, although you are required to be in attendance to successfully complete the course.





Exams and Assignments

Practical Hands-on Welding Tests: Upon successful completion of lab assignments a hands-on welding test derived from written specifications and graphics (drawings) will be administered. It will be graded based on execution i.e., fit-up, weld profile, workmanship, etc. as prescribed by AWS/ASME standards.

Written Tests: Codes tests are derived from reading assignments, notes from class lectures, and presentations. **No make-up exams will be allowed.**

Quizzes: Short impromptu tests given on reading assignments, demonstrations, lectures. Composed of student name/date and three questions. Name and date are worth 25%. Each question is worth 25%. To receive credit for questions the question must be written out and answered correctly. Quizzes may be given at anytime during the course scheduled meeting time. **No make-up quizzes will be allowed.**

Notebook: Compilation of class notes and handouts. To receive the full 5% credit, the notebook must be neat and organized. It must also be contained or be found contiguous within a three ring binder.

Professionalism: Defined as a combination of attitude, motivation, participation, organization and work area cleanliness as demonstrated on a daily basis in the lab and classroom.

Grade Breakdown

Practical Hands-on Welding Exams	45%
Written Exams/Assignments	35%
Quizzes	10%
Notebook	5%
Professionalism	5%

Grading Scale

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

Safety

Safety is required to be practices at all times. Disregarding safety practices, endangering yourself or others may result in your being denied access to the lab areas
Eye protection is mandatory at all times in the lab area.





Required Supplies

1. Welding Helmet with #10 or #11 lens
2. Lightweight Welding Gloves (GTAW)
3. Eye Protection
4. Pliers with wire-cutting capabilities
5. Full size “pipe” hand brush (has tapered grouping of bristles)
6. 4” or 4 ½” right angle handheld grinder
7. Tape Measure
8. Striker
9. Upper body protection, leathers, coveralls or equivalent
10. Lock for Locker
11. Chipping hammer

Academic Integrity

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at <http://www.umt.edu/SA/VPSA/index.cfm/page/1321>.

Disability Accommodations Policy

Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. “Reasonable” means the University permits no fundamental alterations of academic standards or retroactive modifications.

Course Outline

1. General Philosophy of Welding Codes
2. Workmanship Standards
3. Procedure Qualification
4. Performance Qualification
5. Preparation of Materials for Plate and Pipe Qualification
6. Plate Qualification – AWS
7. Pipe Certification – AWS/ASME as they related
8. Practical Welding Experience
9. Non-Destructive Testing of Welds

