

**INTRODUCTION TO WELDING USING
MULTIPLE PROCESSES
WLDG 1407**

INSTRUCTOR CONTACT INFORMATION

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Office Hours: Monday – Friday 3:30 P.M. - 4:30 P.M.



CREDIT

4 Semester Credit Hours (2 hours lecture, 6 hours lab)

MODE OF INSTRUCTION

Face-to-Face

PREREQUISITE/CO-REQUISITE:

None

COURSE DESCRIPTION

Basic welding techniques using some of the following processes: Oxy-fuel welding (OFW) and cutting, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux cored arc welding (FCAW), and gas tungsten arc welding (GTAW).

COURSE OBJECTIVES

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

1. Demonstrate machine set-up and complete welds and cutting operations
2. Demonstrate basic shop safety
3. Identify types of consumables used in welding processes
4. Identify various welding and cutting practices
5. Demonstrate proper joint preparation techniques.

REQUIRED TEXTBOOK AND MATERIALS

1. Modern Welding by Althouse, Turnquist, Bowditch – Latest Edition
2. Personal tool list (approximately \$150-\$250).
 1. Hood

2. Welder's cap
3. Shade 10 or 11 lens
4. Clear lens (10)
5. Long sleeve 100% cotton shirt or leather sleeves or leather jacket
6. Long 100% cotton work pants (jeans)
7. High top leather boots (steel toe)
8. Leather gloves
9. Chipping hammer
10. Wire brush
11. Safety glasses
12. Cutting goggles or glasses (shade 5)
13. Measuring tape
14. Tip cleaner
15. 12" combination square
16. Pliers

ATTENDANCE POLICY

I. Students are allowed to miss two days without penalty; each additional day will result in the student's grade being dropped by a letter grade.

Example:

- 2 days absent = If student has an A average no penalty
- 3 days absent = A drops to a B
- 4 days absent = B drops to a C
- 5 days absent = C drops to a D (student must retake class)
- 6 days absent = D drops to a F (student must retake class)

II. Absences are counted for unexcused, excused and coming to class late.

III. 3 tardies = 1 absences

- A. Tardy- arriving within 15 minutes after class begins or leaving before the end of class.
- B. More than 15 minutes late you will be counted absent.
- C. If you sleep in class, you will be counted absent.

IV. **Excused absences.** Only given to allow students to make up missed work.

- A. Will be given for documented Injury or Illness. The doctor's excuse required showing proof. Will count toward total days missed.
- B. Will be given for documented Death in immediate family. Will count toward total days missed.
- C. Approved LIT school functions; E.g., SkillsUSA, SGA etc. Will not count toward total days missed
- D. It is the student's responsibility to obtain from the instructor any handouts or assignments for classes missed. Lectures will not be repeated.

V. If you wish to drop, you are responsible for the drop process. I will not initiate the drop, no matter how many absences or zeroes you have; that is, if you stop coming to class and do not drop, you will earn an “F” in the course. Students are only allowed to drop 6 times in their college career.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an “F” in the course.

COURSE CALENDAR

WEEK	TOPIC	REFERENCE
1-4	- Course Introduction & Policies; Shop Orientation & Safety; FCAW Equipment Setup - FCAW Fundamentals; Equipment, Wire Feeders & Welding Guns; Begin FCAW Fillet Welding - FCAW Welding Variables, Filler Metals & Shielding Gases; FCAW 2F T-Joint Fillet Weld - FCAW Fillet Welding Practice and Skill Development	- Syllabi - Instructor Demonstration and Supervision
5-8	- FCAW 3F T-Joint Fillet Weld - FCAW 4F T-Joint Fillet Weld - FCAW Practical Test - GMAW Equipment Setup; Equipment, Wire Feeders & Welding Guns	Instructor Demonstration and Supervision
9-12	- GMAW Fundamentals; Begin GMAW Fillet Welding - GMAW Welding Variables, Wires & Shielding Gases; GMAW 2F T-Joint Fillet Weld - GMAW 3F T-Joint Fillet Weld - GMAW Transfer Modes, Joint Types & Welding Techniques	Instructor Demonstration and Supervision
13-16	- GMAW Fillet Welding Practice and Skill Development - GMAW 4F T-Joint Fillet Weld; Weld Defects & Troubleshooting - GMAW Practical Test - Final Practical Test	Instructor Demonstration and Supervision

Specific assignments, Miller OpenBook activities, practical welds, assessments, and due dates are listed in Blackboard. Students are responsible for checking Blackboard regularly for all required coursework and submission deadlines.

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

<i>Activity</i>	<i>Percentage</i>
Miller OpenBook Assignments:	20%
Lab Exercises/Practical Welds:	30%
Test/Practical Test:	25%
Final Practical Test/Shop Cleanup:	25%
Total:	100%

No late assignments will be accepted.

GRADE SCALE

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

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at <https://lit.edu/online-learning/online-learning-minimum-computer-requirements>. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](#).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

1. No electronic devices of any kind (cell phones, I-pod, headphone, ect.) will be tolerated in the classrooms or labs. If you are seen using any electronic device, you will be asked to leave the class for the day.
2. No food or drink will be allowed in the classroom.
3. No derogatory or foul language will be tolerated.
4. We have a zero tolerance policy for sexual harassment.
5. We have a zero tolerance policy of racial or ethnic discrimination.
6. Be considerate of others in the classroom. Remember they paid for the class just like you.