

Advanced Gas Tungsten Arc Welding (WLDG 2451 - 5A1)



**LAMAR INSTITUTE
OF TECHNOLOGY**

INSTRUCTOR CONTACT INFORMATION

Instructor: Antonio Menn Williams
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Office Phone: (409)247-5072
Office Location: Tommy Williams ITC-1 - 111
Office Hours: Tuesdays and Thursdays; 3:00pm-4:00pm
Friday; 9:00am-1:00pm

Credit

4 semester credit hours (2 hours lecture, 6 hours lab)

Mode of Instruction

Face to Face

Prerequisite/Co-requisite:

(WLDG 1434)

Course Description

Advanced topics in GTAW welding, including welding in various positions and directions.

Course Objectives

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

1. Demonstrate GTAW in various positions
2. Describe safety rules and equipment used
3. Describe the effects of welding parameters in GTAW
4. Weld various joint designs; diagnose welding problems
5. Perform visual inspection.

Required Textbook and Materials

1. *Modern Welding 12th Edition* by Althouse, Turnquist, Bowditch
2. Personal Tool List (approximately \$200-\$250).
 1. Hood
 2. Welder's cap
 3. Shade 10 or 11 lens

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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. Channel Lock Pliers
13. Flashlight

Students will not be allowed in class without the proper equipment and clothing

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:
 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 absence
 - 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 go to 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. Doctor's excuse required showing proof. Will count toward total days missed.
 - B. Will be given for documented death in the 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.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process by the specified drop date as listed on the [Academic Calendar](#). If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

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STUDENT EXPECTED TIME REQUIREMENT

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16-week session OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time in this course as in the traditional, face-to-face class.

Course Schedule

| Week | Topic | Reference |
|-----------|---------------------------------------|----------------|
| | Course introduction and policies | Instructor |
| 01/20/26- | Use of Plasma cutting torch | Demonstration/ |
| 02/19/26 | Gas Tungsten Arc Welding in 2G | Supervision |
| | Test 2G | |
| | LECTURE/Lab | |
| 02/24/26- | Use of Plasma cutting torch | Instructor |
| 03/19/26 | Gas Tungsten Arc Welding in 5G | Demonstration/ |
| | Test 5G | Supervision |
| | LECTURE/LAB | |
| 03/24/26- | Use of Plasma cutting torch | Instructor |
| 04/16/26 | Gas Tungsten Arc Welding in 5G skill | Demonstration/ |
| | Test Skilled | Supervision |
| | LECTURE | |
| 04/21/26- | Use of Plasma cutting torch | Instructor |
| 05/07/26 | Gas Tungsten Arc Welding in 6G | Demonstration/ |
| | Test 6G: 2" Monster or 2" Restriction | Supervision |
| | LECTURE/LAB | |

Due dates subject to change!

Course Evaluation

Final grades will be calculated according to the following criteria:

| | |
|-------------|-----|
| Assignments | 30% |
| TEST | 70% |

1. Late Penalties will be assessed on all work turned in late. 5 points per day.
2. Average a grade on all test and assignments of at least 70%.

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Grade Scale

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

ACADEMIC DISHONESTY

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's Academic Dishonesty Policy available in the Student Catalog & Handbook at <http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty>.

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be found online at <https://lit.edu/online-learning/online-learning-minimum-computer-requirements>. A reliable broadband internet connection, such as DSL, cable, or Wi-Fi 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

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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, etc.) 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.