

**MIDLAND COLLEGE**  
**SYLLABUS**  
**WLDG 1457**  
**INTERMEDIATE SHIELDED METAL ARC WELDING**  
**2-5**

**Course Description:**

A study of the production of various fillets and groove welds, including preparation of specimens for testing in all test positions. The student will identify principles of arc welding; describe SMAW operations of fillet and groove joints; explain heat treatments of low alloy steels; and explain weld size and profiles. The student will prepare test plates perform fillet welds in the overhead position; perform Air Carbon Arc Cutting (CAC-A), weld removal; perform bevel groove welds with backing plates in various positions; and demonstrate use of tools and equipment. Students will demonstrate safe work practices.  
Corequisite: WLDG 1421

**Text, References, and Supplies:**

1. **MODERN WELDING**, by Althouse, Turnquist & Bowditch.
2. Handouts from American Welding Society, Victor & Lincoln.

The student will need to provide his/her own:  
Welding hood with correct lens  
Welding gloves  
Face Shield - Tinted  
Tape measure  
Appropriate clothing for welding  
Safety Glasses

**Course Goal/Objectives:**

The following list of course goals will be addressed in the course. The goals are directly related to the performance objectives. (\*designates a CRUCIAL Goal)

1. Complete Chapter 11 Study Guide & Test
2. Complete Chapter 12 Study Guide & Test
3. Complete Chapter 20 Study Guide & Test
4. Complete Chapter 32 Study Guide & Test
5. SMAW Bead Plates 1/8 E6010--all positions
6. SMAW LAP 1/8 E6010 2F
7. SMAW Lap 1/8 E6010 3F-D
8. SMAW Lap 1/8 E6010 3F-U
9. SMAW Lap 1/8 E6010 4F

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10. SMAW T-Fillet 1/8 E6010 2F
11. SMAW T-Fillet 1/8 E6010 3F-D
12. SMAW T-Fillet 1/8 E6010 3F-U
13. SMAW T-Fillet 1/8 E6010 4F
14. SMAW Bead Plates 3/32 & 1/8 E6010 LH
15. SMAW Lap, 1/8 E7018LH, 2F
16. SMAW Lap, 1/8 E7018LH, 3F-U
17. SMAW Lap, 1/8 E7018LH, 4F
18. SMAW T-Fillet, 1/8 E7018LH, 2F
19. SMAW T-Fillet, 1/8 E7018LH, 3F-U
20. SMAW T-Fillet, 1/8 E7018LH, 4F
21. SMAW Bead Plate, 1/8 E7024 Jet, 1G
22. SMAW Lap, 1/8 E7024 Jet, 2F
23. SMAW Lap, 1/8 E7024 Jet, 2F + 15\*
24. SMAW Lap, 1/8 E7024 Jet, 2F - 15\*
25. SMAW T-Fillet, 1/8 E7024 Jet, 2F
26. SMAW Open V-Butt, E6010, 2F
27. SMAW Open V-Butt, E6010, 3F-U
28. SMAW Open V-Butt, E6010, 3F-D
29. SMAW Open V-Butt, E6010, 4F
30. Define Welding Terms

**Student Contributions, and  
Class Policies:**

Attendance, desire to learn with steady and  
Consistent work.

1.The student will be enrolled in WELD 1457. The  
student will exhibit professional behavior.  
Performance will be satisfactory if;

- A. College attendance is adhered to
- B. Student participates in class
- C. Student maintains a positive attitude

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2. Unless otherwise stated, the student will be allowed references, including research material located in the Midland College Welding Technology Library. The student will be provided demonstrations for each of the content goals as seen necessary by the instructor. These goals will be complete and satisfactory is consistent with AWS and the course text.

3. Satisfactory performance will be measured by an objective and/or application exam and instructors observation.

**Evaluation of Students:**

Weld Grades.....50%  
Chapter Tests.....10%  
Attendance, Class Participation,  
And Attitude.....10%  
Notebook.....10%  
Final Examination.....20%

90 and above           A  
80 to 89                B  
70 to 79                C  
60 to 69                D  
50 to 59                F  
(1 point per absence)

**Course Schedule:**

This course meets for 2 lecture hours and 5 lab hours per week.

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**SCANS Information:**

The following SCANS skills are taught and reinforced in this course:

**INTERPERSONAL:**

Works as a team member to solve shop (group) problems dealing with instructor specified content goal. Aids in the teaching of technique to WELD 1421 & 1425 students. Exercises leadership with encouragement of class participation in shop duties.

**LISTENING/SPEAKING:**

Interprets and responds to lectures in a manner which aid in the transfer of knowledge and ideas and supports the speaker. Organizes ideas and communicates group oral conversations on welding problems and codes.

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**Instructor Information:**

Scott Cranford, Instructor ATC  
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Office Hours: TBA by Individual Instructors

Curt Pervier, Applied Technology Dean  
Lisa Hays, Applied Technology Secretary  
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Students are encouraged to contact the instructor at any time; however, making an appointment will guarantee the instructor's availability at a specific time.

## **Americans with Disabilities Act (ADA) Statement:**

Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must visit [www.midland.edu/accommodation](http://www.midland.edu/accommodation) and complete the Application for Accommodation Services located under the Apply for Accommodations tab. Services or accommodations are not automatic, each student must apply and be approved to receive them. All documentation submitted will be reviewed and a "Notice of Accommodations" letter will be sent to instructors outlining any reasonable accommodations.

Students **MUST** actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity will be reported as never attended and dropped from the course.

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individuals have been designated to handle inquiries regarding the non-discrimination policies: **Tana Baker, Title IX Coordinator/Compliance Officer, 3600 N. Garfield, SSC 242, Midland, TX 79705, (432) 685-4781, [tbaker@midland.edu](mailto:tbaker@midland.edu)**; **Natasha Morgan, Director Human Resources/Payroll, 3600 N. Garfield, PAD 104, Midland, TX 79705, (432) 685-4534, [nmorgan@midland.edu](mailto:nmorgan@midland.edu)**. For further information on notice of non-discrimination, visit <http://wdcrobc01.ed.gov/CFAPPS/OCR/contactus.cfm> or call 1 (800) 421-3481.

### **Spanish**

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