

**MIDLAND COLLEGE**  
**SYLLABUS**  
**WLDG 2443**  
**ADVANCED SHIELDED METAL ARC WELDING**  
**2-5**

**Course Description:**

Advanced topics based on accepted welding codes. Training provided with various electrodes in SMAW processes with open V-groove joints in all positions. The student will describe effects of preheating and postweld heating; explain precautions used when welding various metals and alloys; distinguish between qualification and certification procedures; and discuss problems of welding discontinuities. The student will perform open groove welds with mild steel and low alloy electrodes in all positions. Student will demonstrate safe work practices.

**Text, References, and Supplies:**

1. **MODERN WELDING**, 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. These goals are directly related to the performance objectives. Upon successful completion of the course the student will;

1. Construct Course Notebook
2. Complete Chapter 30 Study Guide & Test
3. Complete Chapter 31 Study Guide & Test
4. Complete Chapter 32 Study Guide & Test
5. Define Metallurgical Terms
6. SMAW V-Groove, 5P E6010, 1G
7. Prepare and Bend Test 1G Weld
8. SMAW V-Groove 5P E6010, 3GD
9. Prepare and Bend Test 3GD Weld

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10. SMAW V-Groove 5P E6010, 3GU
11. Prepare and Bend Test 3GU Weld
12. SMAW V-Groove 5P E6010, 2G
13. Prepare and Bend Test 2G Weld
14. SMAW V-Groove 5P E6010, 4G
15. Prepare and Bend Test 4G Weld
16. SMAW V-Groove 5P E6010 and 7018 Fill & Cap 1G
17. Prepare and Bend Test 1G Weld
18. SMAW V-Groove 5P E6010 and 7018 Fill & Cap 3GU
19. Prepare and Bend Test 3GU Weld
20. SMAW V-Groove 5P E6010 and Fill & Cap 2G
21. Prepare and Bend Test 2G Weld
22. SMAW V-Groove 5P E6010 and Fill & Cap 4G
23. Prepare and Bend Test 4G Weld
24. SMAW Pipe to Plate 3 Pass 7024 1G
25. SMAW Pipe to Plate 3 Pass 5P E6010, 1G
26. SMAW Pipe to Plate 3 Pass 5P E6010, 3GD
27. SMAW Pipe to Plate 3 Pass 5P E6010, 3GU
28. SMAW Pipe to Plate 3 Pass 5P E6010, 4G
29. SMAW Pipe to Plate 3 Pass 7018 1G
30. SMAW Pipe to Plate 3 Pass 7018 3GU
31. SMAW Pipe to Plate 3 Pass 7018 4G
32. SMAW 6" Pipe 5P E6010, 1G

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**Student Contributions, and  
Class Policies:**

Attendance, desire to learn with steady and consistent work.

1. The student will be enrolled in WELD 2443. 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

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. Student will use department computers to access AWS software and research procedures and required results of welding codes.

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

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<b>Evaluation of Students:</b>	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 class meets for 2 lecture hours and 5 lab hours per week.

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

**RESOURCES:**  
Selects material and equipment and procedure which will allow or produce enough time to complete all goals. Estimates cost to complete all content goals.

**THINKING:**  
Specifies goals and procedures needed to meet the desired test results. Develops new learning technique in researching AWS codes. Learns that strict compliance to the rules and regulations of these codes are necessary.

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**Instructor Information:**

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Ken Roland, Lab Instructor  
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Office Hours: TBA by Individual Instructors

Curt Pervier, Applied Technology Dean  
Lisa Hays, Applied Technology Secretary  
Room 143A TC  
(432) 685-4676  
Fax: (432) 685-6472

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://wdcrobcop01.ed.gov/CFAPPS/OCR/contactus.cfm> or call 1 (800) 421-3481.

### **Spanish**

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