

WLDG 2435
Advanced Layout and Fabrication (4-2-6)

Western Texas College

- I. Basic Course Information
 - A. Course Description: An advanced course in layout and fabrication. Includes production and fabrication of layout, tools, and processes. Emphasis on application of fabrication and layout skills.
 - B. Any required prerequisites: Freshman level courses or permission of instructor
 - C. Required Grade for Enrolling in the Next Course in this Sequence: Satisfactory Completion
- II. Student Learning Outcomes
 - A. Apply appropriate techniques of fabrication
 - B. Design welding projects
 - C. Prepare drawings and produce templates
 - D. Apply layout offsets
 - E. Apply take offs
 - F. Bills of materials
 - G. Apply mathematical concepts in the construction of projects.
- III. Testing Requirements
 - A. The final exam will take place in the welding classroom.
 - B. Students are NOT allowed to use their book or but can use notes of any kind while taking their tests and exams.
 - C. Students are allowed to use a calculator.
- IV. Major Course Requirements
 - A. Attendance - 10%
 - B. Participation – 20%
 - C. Welding Fabrication Projects – 70%
- V. Information on Books and Other Course Materials
 - A. Required Book: The Pipe Fitter's and Pipe Welder's Handbook & Modern Methods of Pipe Fabrication
Book ISBN: 0-02-802500-8 & 0-87511-008-8
 - B. Required Access Code: None
 - C. Calculators: Students must have a calculator that provides them with the trig function keys. A TI-30XA or its equivalent is strongly recommended.
- VI. Other Policies, Procedures and important dates. Please refer to the WTC [Catalog](#) for the following:
 - A. Campus Calendar
 - B. Final exam schedule
 - C. How to drop a class
 - D. Withdrawal information
 - E. Student Conduct/Academic Integrity
 - F. Class Attendance
 - G. Students with disabilities

VII. Course Content

| WEEKS | LAB REQUIREMENTS |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| 1-16 | All students will go through a variety of steps to learn how to read the appropriate field manuals to perform advanced techniques in cutting pipe and structural metals. |
| 1-3 | Review of Handbooks |
| 4-6 | Template Making |
| 7-9 | Cutting Using Templates |
| 10-13 | Welding fabricated pipe to spec |
| 14-15 | Individual student project – random selection of pipe size |
| 16 | Welding Joint Testing |

Last Modified: September 20, 2016