Introduction to Layout and Fabrication (WLDG 1417)

Credit: 4 semester credit hours (4 hours lecture)

Prerequisite/Co-requisite: None

Course Description

A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction.

Required Textbook and Materials

1. *Blueprint Reading for Welders by A.E. Bennett & Louis J. Siy (9th Edition)*
    a. ISBN-13: 978-1-133-60578-2
2. Notebook.
3. Project calculator.

Course Objectives

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

1. Identify welding symbols.
2. Identify and select measuring instruments and tools for fabricating projects.
3. Recognize correct layout and fabrication terminology, and identify structural shapes of metal.

Course Outline

1. Structural shapes and materials
    - Identify various structural shapes
    - Write out a materials list
2. Welding symbol
    - Identify various weld symbols
    - Identify the different parts of the welding symbol
3. Measuring instruments and tools
    - Identify different measuring instruments and explain their use
    - Demonstrate the proper use of tools in layout and fabrication
    - Interpret the markings on a tape measure
4. Blueprint interpretation
    - Identify and define terminology on a blueprint
    - Identify the lines on a blueprint
    - Identify items found in the title block
    - discuss the difference of a general note and a specific note

Grade Scale

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

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%.

Course Requirements

1. Attend class regularly.
2. Identify the different parts of the welding symbol
3. Identify the different weld symbols
4. Interpret the markings on a tape measure
5. Identify and define terminology on a blueprint
6. Identify the lines on a blueprint
7. Identify items found in the title block
8. Write out a bill of materials and a cut list
9. Identify and select measuring instruments and tools for fabricating projects.
10. Recognize correct layout and fabrication terminology.

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 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 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.

Classroom Policies

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.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the online resource:
http://www.lit.edu/depts/stuserv/special/defaults.aspx

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 or obtained in print upon request at the Student Services Office.

Course Schedule

Week	Topic	Reference
1-4	Course introduction and policies Basic Lines and Views Sketching Notes and Specification Dimensions Test 1 • LECTURE	Syllabi Unit 1 Unit 2 Unit 3 Unit 4
5-6	Bill of Materials Structural shapes Test 2 • LECTURE	Unit 5 Unit 6
7	Detail, Assembly, and Subassembly Prints Test 3 • LECTURE	Unit 9
8-10	Welding Symbols and Abbreviations Test 4 • LECTURE	Unit 10
11-12	Basic Joints for Weld Fabrication Fillet Welds Groove Welds Test 5 • LECTURE	Unit 11 Unit 12 Unit 13
12-14	Summary Review NO. 2A Hot Water Tank Summary Review NO. 2B Chassis for utility trailer Test 6 • LECTURE	Page 141 Page 143
15-16	Pipe Welding Symbols Final Exam • LECTURE	Unit 23