



Pipe Drafting (DFTG 2323)

Credit: 3 semester credit hours (2 hours lecture, 4 hours lab)

Prerequisite/Co-requisite: DFTG 1309, DFTG 1305

Course Description

A study of pipe fittings, symbols, specifications and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics.

Required textbook and materials

1. *Pipe Drafting and Design*, 3rd edition, by Roy A. Parish and Robert A Rhea, Gulf Professional Publishing
 - a. ISBN number is 978-0-12-384700-3
2. Flash Drive – 1GB minimum
3. Piping Selector (Piping Wheel)
4. Notebook with dividers
5. Access to computer with AutoCAD

Course Objectives

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

1. Create drawings of foundations, structural supports and process equipment.
2. Identify symbols and research specifications
3. Apply appropriate codes and standards
4. Generate a bill of material list
5. Use charts and standards
6. Generate isometric drawings
7. Calculate measurements for pipe fittings

Course outline

A. Introduction

1. Introduction of faculty and staff
2. Review syllabus
3. Review class policies
4. Overview of pipe drafting

B. Steel pipe

1. History
2. Materials and sizing
3. Manufacturing pipe
4. Methods of joining pipe

C. Pipe fittings

1. Welded fittings
2. Screwed and socket weld
3. Flanged
4. Cast iron and plastic

D. Flange basics

1. Flange ratings
2. Flange faces
3. Flange types
4. Bolts and gaskets

DFTG 2323 Course Syllabus

E. Valves

1. Valve defined
2. Valve types
3. Valve operators

F. Mechanical equipment

1. Types of equipment
2. Descriptions
3. Terminology
4. Vendor data drawings

G. Flow diagrams and instrumentation

1. Uses of flow diagram
2. Types of flow diagrams
3. Flow diagram instruments
4. Flow plan arrangement

H. Codes and specifications

1. Codes
2. Specifications
3. Specification classes
4. Abbreviations

I. Equipment layout

1. Plant coordinate system
2. Site plans
3. Unit plot plans
4. Equipment location drawings
5. Foundation location drawings
6. Piping drawing index

J. Pipe arrangement drawings

1. Sections and elevations
2. Responsibilities
3. Information sources
4. Dimensioning
5. Details
6. Pipe line list

K. Standard piping details

1. Pipe rack spacing
2. Piping flexibility
3. Anchors and guides
4. Insulation
5. Rod and spring hangers

L. Piping systems

1. Plant utilities
2. Valve manifolds
3. Utility stations
4. Meter runs
5. Sewer and underground

M. Piping isometrics

1. Isometric orientation
2. Drawing isometrics
3. Dimensions
4. Notes
5. Callouts
6. Isometric offsets

Grade Scale

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

Course Evaluation

Varies per instructor

Course requirements

1. Create drawings with blocks from data sheets
2. Create isometric drawings
3. Recognize standard piping symbols and abbreviations
4. Produce a working set of drawings

Attendance Policy (all work during absence must be made up)

Varies per instructor

Course Policies

1. No food, drinks or use of tobacco products in class.
2. No foul or harsh language will be tolerated.
3. Turn off all cell phones during lectures.
4. Do not bring children to class.
5. No cheating of any kind will be tolerated. Students caught cheating or helping someone to cheat can and will be removed from the class for the semester. Cheating can result in expulsion from LIT.
6. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course you will earn an "F" in the course.
7. Back-ups
It is the student's responsibility to make back-up copies of their work. Do not rely on the server to be there 100% of the time. I cannot help you if you lose your work. Remember that in order for your work to be graded it must be turned in.
8. Internet usage
 - a. Classroom computers have access to the internet.
 - b. Student usage of the internet will be monitored.
 - c. Proper usage of the internet will be allowed to be used for classroom research or as directed.
 - d. Any unauthorized use of the internet will not be tolerated.
 - e. Improper usage of the internet, such as profanity, pornography, gambling, etc. will result in disciplinary action not limited to expulsion from LIT.

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.

Supplemental Instruction

Supplemental Instruction (SI) consists of group tutoring sessions conducted once a week for 50 minutes for selected subjects. The SI Leader is a peer who helps students learn difficult content in those specific courses. The SI Leader attends the class with the students to keep up with the course content and engage students in interactive learning

strategies at the 50 minute sessions. For this course, the supplemental instruction session will be held on “day” at “time” in “bldg/room”.

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 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.



Contact information

Instructor: Varies per instructor

Refer to Calendar for important dates and course schedules!