Field Measuring, Sketching, and Layouts for Plumbing Applications
(PFPB 2349: Spring 2026)

LAMAR INSTITUTE OF TECHNOLOGY

CREDIT
3 Semester Credit Hours (2 hours lecture, 4 hours lab)

MODE OF INSTRUCTION
Face to Face

PREREQUISITE/CO-REQUISITE:
None

COURSE DESCRIPTION
Field dimensioning, measuring, sketching, and layout of future process piping and the use, care, and setup of transit and level. (From WECM)

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

- Calculate fitting take-off
- Sketch field run piping according to piping specifications.
- Set up and use transit and level

INSTRUCTOR CONTACT INFORMATION

Instructor:	Henry LaRocca		
Email:	hlarocca@lit.edu		
Office Phone:	(409) 245-8758	Cell:	(409) 998-0528
Office Location:	Office Location:		Advanced Learning Technology Center
Office Hours:	8 a.m. -9 a.m. (Monday, Tuesday, Wednesday, Thursday, and Friday) 3:30 p.m. – 5 p.m. (Monday, Tuesday, Wednesday, and Thursday)		

REQUIRED TEXTBOOK AND MATERIALS – This is an Online Book
Book: MindTap for PHCC Educational Foundation/Moore's Advanced Plumbing
Publisher: Cengage
ISBN: 9798214117126

Approved: Initials/date

Materials/Tools

Materials:

1. Blueprints/Plumbing Drawings
2. Measuring Tape
3. Plumbing Codes or Reference Materials
4. Sketching Paper or Field Note Pads

Tools:

1. Plumb Bob
2. Level
3. Framing Square
4. Chalk Line
5. Pipe Benders
6. Pipe Cutters/Saws
7. Carpenter's Square
8. Plumbing Pliers

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 absences
   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 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. The 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

DROP POLICY

If you wish to drop a course, you are 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.

COURSE CALENDAR

DATE	TOPICS	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
Weeks 1 & 2	Blueprints and Specification	Read all Sections of: 301 -Chapter 7 Blueprints and Specifications	Homework • PowerPoint Review • Reading Drawings Video • Types and Uses of Construction Specifications Video Test – Blueprints and Specifications Lab 7-1 Blueprint Familiarization Lab 7-2 Plan and Riser Interpretation Lab 7-3 Specifications Review Lab 7-4 Job Planning Application
Weeks 3 & 4	Drawing Types, Floor Plans, and Site Plans	Read all Sections of: 301 -Chapter 8 Drawing Types, Floor Plans and Site Plans	Homework • PowerPoint Review • Residential Blueprints; Understanding the Floorplan Video • How to Read a Site Plan – The Basic Video Test – Drawing Types, Floor Plans, and Site Plans Lab 8-1 Drawing Type Identification

			Lab 8-2 Floor Plan Interpretation Lab 8-3 Site Plan Interpretation Lab 8-4 Coordination and Job Planning
Weeks 5 & 6	Structural, Plumbing, Electrical, HVAC, and Detail Plans	Read all Sections of: 301 - Chapter 9 Structural, Plumbing, Electrical, HVAC, and Detail Plans	Homework • PowerPoint Review • Blueprint Reading: Elevations, Section and Details Video • Lean to Roof Detail Video Test – Structural, Plumbing, Electrical, HVAC, and Detail Plans Lab 9-1 Structural Plan Review Lab 9-2 Plumbing Plan Interpretation Lab 9-3 Detail Drawing Application Lab 9-4 Constructability Review
Weeks 7 & 8	Level, Transit, Elevations, and Grade	Read all Sections of: 301 - Chapter 15 Level, Transit, Elevations, and Grade	Homework • PowerPoint Review • Visual Flashcards • Reading the Level Rod Video Test – Image Labeling; and Level, Transit, Elevations, and Grade Lab 15-1 Understanding Elevations and Reference Points

			Lab 15-2 Establishing Level Lab 15-3 Calculating and Setting Grade Lab 15-4 Using Transit or Laser for Evaluation Transfer Lab 15-5 Verification and Troubleshooting
Weeks 9 & 10	Builder's Level, Transit, and Trench Safety	Read all Sections of: 301 – Chapter 16 Builder's Level, Transit, and Trench Safety	Homework • PowerPoint Review • Wire Leveling Example Video • How to Layout a Building Video Test – Image Labeling; and Builder's Level, Transit, and Trench Safety Lab 16-1 Equipment Identification and Setup Lab 16-2 Establishing Benchmark and Evaluations Lab 16-3 Trench Grade Layout Lab 16-4 Trench Safety Analysis
Weeks 11 & 12	Offsets and Ratios	Read all Sections of: 301 – Chapter 17 Offsets and Ratios	Homework • PowerPoint Review • Using a Hand Tube Bender Video • Piping a 45 Degree Rolling Offset Video

			• Water Treatment Chemical Blending Video Test – Image Labeling; and Offsets and Ratios Lab 17-1 Offset Calculation Lab 17-2 Offset Layout and Fabrication Lab 17-3 Verification and Adjustment
Weeks 13 & 14	Blueprints, Isometrics, and Material Take-offs	Read all Sections of: 401 – Chapter 12 Blueprints, Isometrics, and Material Take-offs	Homework • PowerPoint Review • How to Read and Draw Blueprint Lines Video Test – Image Labeling; and Blueprints, Isometrics, and Material Take-offs Lab 12-1 Blueprint and Isometric Review Lab 12-2 Identification and Scope Definition Lab 12-3 Material Take-off: Pipe and Fittings Lab 12-4 Fixtures, Valves, and Accessories
Week 15	Review		
	Final		

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Homework	15%
Test	25%
Lab/Projects	40%
Final	20%

GRADE SCALE

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

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

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. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.\

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses.

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.