

Piping Standards & Materials (PFPB 2308 6A1: Fall 2026)

CREDIT

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

MODE OF INSTRUCTION

Face to Face

PREREQUISITE/CO-REQUISITE:

None

COURSE DESCRIPTION

Identification, description, and application of piping standards and specifications. Includes identification and use of various metallic and non-metallic piping materials, identification and installation of valves, and material take-offs. (WECM)

COURSE OBJECTIVES

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

1. Identify the types, uses, and properties of plastic pipe and fittings; describe the different methods for joining plastic pipe; and describe the methods used to support, protect, and test plastic pipe.
2. Identify the types, uses and properties of copper tube and fittings; describe the different methods for cutting and bending copper tube; and describe the methods used to install and test copper tube.
3. Identify types, uses, and properties of cast iron pipe; describe the methods for measuring, cutting, and joining cast iron pipe; and describe the methods for supporting, installing, and testing horizontal and vertical pipe runs.
4. Identify the types, uses, and properties of steel pipe; describe the different methods of measuring, cutting, and joining steel pipes; and describe the methods used to stall and test steel pipe.
5. Describe the benefits and components of DWV systems; describe trap types, their purpose, and installation requirements; describe DWV fittings and their applications; and describe DWV sewer connections, components, and related codes.
6. Describe how water is distributed in municipal, residential, and private water systems; identify the major components of a water distribution system and describe the function of each; and explain the relationships between the components of a water distribution system.



**LAMAR INSTITUTE
OF TECHNOLOGY**

INSTRUCTOR CONTACT INFORMATION

Instructor: Henry LaRocca

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Office Phone: Cell: (409) 998-0528

Office Location: Advanced Technology Building

Office Hours: Monday - Friday: 8:00 a.m. – 9:00 a.m.

REQUIRED TEXTBOOK

Textbook: Plumbing Level 1 + NCCERconnect (Digital Book)

Author: NCCER, Publisher: Pearson, Edition: 5th, ISBN: 13:9780137933679

You may purchase your book through Eagle Learning Essentials or Pearson.com

Eagle Learning Essentials

Eagle Learning Essentials (ELE) is an affordable textbook rental program through the Barnes and Noble Bookstore. Through this program, students can receive required textbooks, lab manuals, access codes and electronic books conveniently before the first day of class.

The ELE bundle will provide the needed learning materials based on cost per credit hour (added to your student account), saving students up to 35-50% on the cost of course materials. The cost can be paid by financial aid or by the student. If a student enrolls in a payment plan, this charge will be included in the payment plan calculations. Supplies are not included in this program and will need to be purchased separately.

LIT students are automatically enrolled in the program at the time of registration and will begin receiving emails about selecting their preferred delivery method.

Students are responsible for manually opting out of the ELE program and must do so by the dates listed here: <https://lit.edu/student-success/eagle-learning-essentials>

REQUIRED MATERIALS AND TOOLS

<u>Item</u>	<u>Quantity</u>
3"-3 ring notebook and notebook paper	1
25 ft. min. steel tape/6 ft. plumbers folder ruler	1 each
Safety glasses	1
Leather gloves	1 pair
Safety Shoes	1 pair
Calculated Industries Calculator	1
Required PFPB Shirt	2 minimum
Screwdriver, flat tip, 6 inch	1
Screwdriver 10 inch	1

Screwdriver Phillips #2 tip, 6 inch	1
Adjustable Wrenches – 6 inch and 12 inch	1 each
Pipe wrench – 14 inch	1
Pliers – Needlenose pliers, 7 inch	1
Pliers – Adjustable or ARC joint	1
Hammer – ball peen, 16 ounce	1
Hacksaw, adjustable angle	1
Hacksaw 18 TPI B=blades	3-5

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	TOPIC	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
Week 1, 2, and 1 st day of week 3.	Module 02106: Plastic Pipe and Fittings (Have Book and Plumbing tools available)	Read Syllabus All sections of Module	Homework: M6 Review Questions M6 Concept Checks M6 Trade Terms (Last day of Week 2) Exam: Plastic Pipe and Fittings 1st day of Week 3) Lab 1: Select correct types of materials for plastic piping systems. Identify types of fittings and valves and their uses. Lab 2: Select the appropriate personal protective equipment for working with plastic piping. Properly measure, cut, and join plastic piping. Lab 3a: Select the correct support and spacing for the application.
2 nd day of Week 3, 4, and 5	Module 02107 Copper Tube and Fittings	All Sections in Module	Homework: M7 Review Questions M7 Concept Checks M7 Trade Terms (First day of week 5) Exam: Copper Tube and Fittings (Day of Week 5)

			Lab 3b: Select types of materials for copper tube system. Lab 4: Identify types of fittings and valves and their uses. Select the appropriate personal protective equipment for working with copper tube. Lab 5: Correctly measure, cut, and join copper tube. Select the correct support and spacing for the application.
Weeks 6 & 7	Module 02108 Cast Iron Pipe & Fittings	All Sections in Module	Homework M8 Review Questions M8 Concept Checks M8 Trade Terms (First day of week 7) Exam: Cast Iron Pipe & Fittings (Last day of Week 7) Lab 6: Select the correct materials for cast iron piping system. Identify fittings and their uses. Select the appropriate personal protective equipment for cast iron piping.

			Lab 7: Correctly measure, cut, and join cast iron pipe. Select the correct support and spacing for the application.
Weeks 8 & 9	Module 02109 Steel Pipe and Fittings	All Sections in Module	Homework M9 Review Questions M9 Concept Checks M9 Trade Terms (First day of week 9) Exam: Steel Pipe & Fittings (Last day of Week 9) Lab8/9: Properly measure, cut, and join steel piping.
Week 10, 11, and 1 st day of week 12	Module 02111 Introduction to Drain, Waste, and Vent (DWV) Systems	All Sections in Module	Homework M11Review Questions M11 Concept Checks M11 Trade Terms (Last day of week 11) Exam: Drain, Waste, and Vent (DWV) Systems (1st day of week 12) Lab 10/11/12a: Sketch an isometric drawing of a simple DWV system and label its components.
2 nd day of week 12, weeks 13 & 14	Module 02112 Introduction to Water Distribution Systems	All Sections in Module	Homework M12 Review Questions M12 Concept Checks M12 Trade Terms (First day of Week 14) Exam: Water Distribution Systems (Last day of Week 14) Lab 12b/13/14: Sketch an isometric drawing of a

			simple water distribution system and label its components.
Week 15	Review		
Final Week	Final	Final Exam	All Modules covered in class

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Homework	15%
Exams	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 \(lit.edu\)](https://lit.edu/specialpopulations).

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.