

# Piping Standards & Materials

PFPB 2308

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## Instructor:

Monty R. Payne

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## Course Evaluation:

Module Tests	20%
Performance Labs	20%
Math/Triangles	20%
Drawings	20%
Final Exam	20%

## Grading Scale:

A = 100-90
B = 89-80
C = 79-70
D = 69-60
F = Below 60

## Course Schedule:

Tuesday from 6:30pm – 10:00 pm in room L-206

There will be homework, a test and a performance lab for each module.

## 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.

## Course Learning Outcomes:

Define and identify metallic and non-metallic pipe and tubing; interpret pipe specifications; describe various types of valves and fittings; and explain valve applications.

## Text and References:

Contren Learning series, model 08201-06, ISBN-10: 0-13-613595-1; 08203-06, ISBN-10: 0-13-613598-6; 08303-07, ISBN-10: 0-13-614664-3; 08308-07, ISBN-10: 0-13-614634-1; by National Center for Construction Education and Research, published by Pearson Education, Inc., Upper Saddle River, NJ, ISBN

The Pipefitters' Blue Book, W.V. Graves, Published by Graves Publishing Co. Webster, Texas ISBN 0-9708321-2-5

(A student in this institution is not under any obligation to purchase a textbook from the college bookstore. The same textbook is/may also be available from an independent retailer, including an online retailer.)

## **Course Goals:**

The following list of course goals will be addressed in the course. The goals are directly related to the Performance Objectives.

1. Define metallic non-metallic pipe
2. Define metallic non-metallic tubing
3. Define operating pressure
4. Define operating temperature
5. Define pipe specifications
6. Define pipe standardization
7. Describe advantages/disadvantages expansion-joint
8. Describe fitting applications
9. Describe fitting characteristics
10. Describe gasket types
11. Describe gate, globe, diaphragm and butterfly valves
12. Describe instrument and plant air
13. Describe liquid-level temperature instruments
14. Describe orifice and meter runs
15. Describe pipe expansion-joints
16. Describe pipe hangers
17. Describe pipe vents
18. Describe pipe hanger applications
19. Describe procedures, preparation and safety of hot-tapping
20. Describe relief valve piping
21. Describe repacking valve
22. Describe replacing valve-diaphragm
23. Describe replacing valve-disc
24. Describe replacing valve-wheel
25. Describe screwed, butt-weld and socket-weld pipe
26. Describe seamless butt-weld pipe
27. Describe types of fittings
28. Describe types/use of steam trap
29. Describe utility pipe
30. Describe valve applications
31. Describe valve features
32. Describe valve limitations
33. Describe valve trim
34. Explain determination of specifications

## **Performance Objectives:**

1. The student will identify by description, application and limitation various piping components used in a piping system.
2. The student use piping specifications for material selection of pipe and piping components used in various piping applications.

3. The student will use piping specifications for acceptable methods and procedures necessary in performing the various job involved in the trade of pipefitting.
4. The student will prepare a material take-off from a set of piping prints and piping specifications for material requisitioning for a particular job to be fabricated and erected in the field.
5. The student will identify and install various types of valves.

## **Attendance and Withdrawal Policy:**

Being present at each scheduled class/lab time is essential to your success in this course. Multiple unexcused (More than 2) absences will result in the Instructor dropping you from the class.

During each class period we will be learning skills/knowledge to successfully complete this course. If you miss a class, it is your responsibility to schedule any make-up test, homework, or in class assignment with the instructor.

If you fall behind in this class it is your responsibility to withdraw from the class. Just because you stop attending class, does not mean that you have officially withdrawn from class. To officially withdraw and receive a "W" in this class, you need to complete a withdrawal form before the official deadline which is Thursday, November 03, 2016.

During class, cell phones and pagers are to be turned off or set on "silent" mode for the ENTIRE class period. Texting is not allowed in class or Lab. If you are expecting a call or text of an emergent nature, please inform me before class to make arrangements in handling the call.

## **Assignments, Make-up policy and NCCER Credit:**

Brazosport College is recognized as an accredited training unit by the National Center for Construction Education and Research (NCCER) and Merit Shop Training, Inc., the education arm of Associated Builders and Contractors, Texas Gulf Coast Chapter.

Since this course incorporates the NCCER curriculum, you may ask to have the skills attained in this class reported to NCCER's Automated National Registry as evidence to potential employers. Before any student's work is reported to the Automated National Registry, the student must sign a Registration and Release form to be which is kept on file at the college. Without this form the college is prohibited from reporting a student's records to third parties.

Students are responsible for completing all reading and homework assignments prior to class. There will be a test and a performance lab on each module. In order to receive NCCER credit for the module, you must pass the written test with a minimum score of 70 and successfully demonstrate the task in the performance lab for the instructor. You have 3 attempts to achieve a score of 70 on the written exam; however you must wait a minimum of 48 hours before the second attempt. If you do not make a score of at least 70 on the second attempt, you must then

wait a minimum of 90 DAYS before the third attempt. I score you make on the FIRST attempt will be the score recorded in the grade books and used in your average. Second and third attempt is a PASS or FAIL only status.

All homework assignments are due the next class period at the beginning of class. Homework will receive a ten (10) point deduction for being late one (1) class period, twenty (20) points for being late two (2) class periods and will NOT be accepted after the beginning of the second class period. Extenuating circumstances and emergencies do arise; these will be handled on a case by case basis which requires you to notify the instructor PRIOR to the start of class via a message at 979-230-3514.

## **Other Student Information**

Information about the Brazosport College Library is available at [www.brazosport.edu/sites/CurrentStudents/Libray/default.aspx](http://www.brazosport.edu/sites/CurrentStudents/Libray/default.aspx) or by calling - 979-230-3310.

Information about study skills and tutoring for math, reading, writing, biology, Chemistry, and other subjects is available in Learning Services. See [www.brazopsrt.edu/sites/CurrentStudents/LAC/default.aspx](http://www.brazopsrt.edu/sites/CurrentStudents/LAC/default.aspx) or by calling 979-230-3253

Student Services provide assistance in the following:

Counseling and advising	979-230-3040
Financial Aid	979-230-3294
Student Activities	979-230-3355

To reach the Information Technology Department for the following: computer, email, or other technical assistance call the help desk 979-230-3266

## **Student Contributions:**

Each student will spend at least 2 hours per week preparing for class. Attendance is CRITICAL in this class and is part of the student's final grade. PUNCTUALITY and CONSISTENCY of work attendance is also part of the student's grade. The student will have an opportunity to evaluate the instructor.

## **Students with Disabilities:**

Brazosport College is committed to providing equal education opportunities to every student. Brazosport College offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. Please contact Special Populations Counselor, 979-230-3236, for further information.

## **Academic Honesty:**

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is

**your alone. Academic dishonesty including but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the Brazosport College Student Guide for more information. This is available online at <http://www.brazosport.edu>. Click on the catalogs and schedules link under students.**

**Academic dishonesty violates both the policies of this course and the Student Code of Conduct. In this class, any occurrence of academic dishonesty will be referred to the Dean of Student Services for prompt adjudication, and will, at a minimum, result in a ZERO for the test and or assignment, in the course. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services.**