



DFTG 2423 201HY
Pipe Drafting
Fall 2023
Wednesday 6:00-8:50pm Lab
A minimum of 3 hours online per week

Instructor Information:

Name: Andrew Gregory
Email: Agregory2@com.edu
Office: ICB 313-14
Phone: 409 933-8339

Student hours and location:

My office hours are Wednesday, Thursday 2:00 to 5:00 pm. ICB 313-14. Friday 1:00 – 2:30 pm TEAMS

Required Textbook:

Pipe Drafting and Design, Roy A. Parisher & Rhea, Robert A. Publisher: Gulf Publishing, Houston, TX

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.

Course requirements:

Each week there is the same process for learning the material:

1. First you read the text.
2. In the lab we will collectively review any questions the class members have on the exercises.
3. In lab we will collectively complete the drawing problems.
4. You will also take a short quiz in D2L to keep you reading the text.
5. You will also complete a discussion forum post related to the week's topic

Determination of Course Grade/Detailed Grading Formula

Students will be graded on "points-earned" criteria. A grade of C or above is considered acceptable.

| Assessments | Points Each | Total Point Value |
|--------------------------------|--------------------|--------------------------|
| Lab Attendance | 5 | 75 |
| Discussion Forum | 10 | 150 |
| Drawing Problems (per chapter) | 65 | 975 |
| Chapter Quizzes | 20 | 300 |
| Course Evaluation | 50 | 50 |
| TOTAL | | 1,550 |

*Individual Assignments due dates and criteria are listed on the schedule

Grading Scale

1395-1550 points = A

1240-1394 points = B

1085-1239 points = C

930-1084 point = D

Below 930 = F

Make-Up Policy:

Late work will incur a 20% penalty. If there is a documented medical or family emergency, please see me to discuss a work plan to get you caught up.

Attendance Policy:

Attendance is required at the lab sessions. In addition, you are required to log in to 'D2L' a minimum of once per week.

Communicating with your instructor: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means. . I do receive my college email on my phone. Typically, emails are answered within a day or less. Course assignments will be graded within a week. I would like to have all the previous week assignments graded by Lab Time.

Student Learner Outcomes:

Upon successful completion of this course, students will:

1. Create a piping process unit of pipe fittings, valves, vessels, pumps, and exchangers using CAD Architectural Units.
2. Apply precision CAD inputs creating piping plans, elevations, sections, and details to scale.
3. Using CAD modify tools to change existing entities as required.
4. Construct orthographic and isometric piping drawings.
5. Construct drawings of various exchangers and vessels.
6. Construct drawings of process flow diagrams.
7. Dimension drawings using proper dimension techniques.
8. Analyze the planning of a drawing project and debrief on its outcome.

Core Objectives

This course addresses the following core objectives

1. **Critical Thinking Skills:** Students will demonstrate creative thinking, innovation, and the ability to analyze, evaluate, and synthesize information.
2. **Communication Skills:** Develop, interpret, and express ideas through written, oral, and visual communication.
3. **Empirical and Quantitative Skills:** Students will demonstrate applications of scientific and mathematical concepts.
4. **Teamwork:** Students will have the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
5. **Social Responsibility:** Students will demonstrate intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.
6. **Personal Responsibility:** Evaluate choices and actions of others or one's own and relate consequences to ethical decision-making.

Table Mapping SLO's, Core Objectives and Assignments

| Outcome | Maps to Core Objective | Assessed via this Assignment |
|---|------------------------|------------------------------|
| 1. Create a piping process unit of pipe fittings, valves, vessels, pumps, and exchangers using CAD Architectural Units. | Critical Thinking | Week 11 Drawing Problems |
| 2. Apply precision CAD inputs creating piping plans, elevations, sections, and details to scale. | Communication-Visual | Week 12 Drawing Problems |

| | | |
|--|-------------------------|-----------------------------|
| 3. Using CAD modify tools to change existing entities as required. | | Week 5 Drawing Problems |
| 4. Construct orthographic and isometric piping drawings. | Teamwork | Week 15 Drawing Problems |
| 5. Construct drawings of various exchangers and vessels. | Social Responsibility | Week 6 |
| 6. Construct drawings of process flow diagrams. | | Week 8 |
| 7. Dimension drawings using proper dimension techniques. | Quantitative | Week 13 |
| 8. Analyze the planning of a drawing project and debrief on its outcome. | Personal Responsibility | Discussion Forum Week 12 |

Academic Dishonesty:

Any incident of academic dishonesty will be dealt with in accordance with college policy and the Student Handbook. Academic dishonesty – such as cheating on exams is an extremely serious offense and will result in a grade of zero on that exam and the student will be referred to the Office of Student Conduct for the appropriate disciplinary action.

Student Concerns:

If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Professor Sheena Abernathy, Chair Science and Engineering Department at sabernathy@com.edu or 933-8330.

Course outline:

| | | |
|--------------|--------|---|
| August 30 | Week 1 | Reading - Chapter 1 Overview of Pipe Drafting and Design Topic - Overview of Pipe Drafting Assignment - Prepare a drawing template for use in this course |
| September 6 | Week 2 | Reading - Chapter 2 Steel Pipe Topic - Steel Pipe Assignment - Organizing a Library in Design Center |
| September 13 | Week 3 | Reading - Chapter 3 Pipe Fittings |

| | |
|--------------|--|
| | <p>Topic - Pipe Fittings</p> <p>Assignment – Fittings Due</p> |
| September 20 | <p>Week 4</p> <p>Reading - Chapter 4 Flange Basics</p> <p>Topic - Flange Basics</p> <p>Assignment - Draw and use flange blocks Due</p> |
| September 27 | <p>Week 5</p> <p>Reading - Chapter 5 Valves</p> <p>Topic - Valves</p> <p>Assignment – Use a library of Valves to draw piping layouts</p> |
| October 4 | <p>Week 6</p> <p>Reading - Chapter 6 Mechanical Equipment</p> <p>Topic - Mechanical Equipment - Vessels</p> <p>Assignment - Vessel drawings and Unit schematics</p> |
| October 11 | <p>Week 7</p> <p>Reading - Chapter 7 Flow Diagrams and Instrumentation</p> <p>Topic - Flow Diagrams and Instrumentation</p> <p>Assignment - Prepare a flow diagram including all symbols as blocks</p> |
| October 18 | <p>Week 8</p> <p>Reading – Chapter 8 and 9</p> <p>Topic – Codes and Specifications & Equipment Layout</p> <p>Assignment – Draw a Unit Plan</p> |
| October 25 | <p>Week 9</p> |

Reading - Chapter 9

Topic - Equipment Layout cont.

Assignment - Draw a Unit Foundation location drawing

November 1

Week 10

Reading - Chapter 10 pages 143-185

Topic - Piping Arrangement Drawings, Sections, and Elevations

Assignment - Prepare a Plan of a Unit

November 8

Week 11

Reading - Chapter 10 pages 186-193

Topic - Piping Arrangement Drawing, Sections, and Elevations

Assignment - Prepare Elevations and Section drawing of a Unit.

November 15

Week 12

Reading - Chapter 10 cont.

Topic - Piping Arrangement Drawing, Sections, and Elevations

Assignment - Prepare Elevations and Section drawing of a Unit.

November 22

Week 13

Reading - Chapter 11

Topic - Standard Piping Details

Assignment - Detail Drawings including welding symbols and dimensioning

November 29

Week 14

Reading - Chapter 13 Piping Isometrics

Topic - Piping Isometrics

Assignment - Prepare an Isometric Drawing

December 6 Week 15
Reading - Chapter 13 Piping Isometrics cont.
Topic - Piping Isometrics
Assignment - Prepare an Isometric Drawing

December 13 Week 16
Semester Review

Reading, Discussion Forums and Quizzes should be completed online during the week. We will work on the chapter problems during the in-person lab session.

Institutional Policies and Guidelines

Grade Appeal Process:

Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook [Student Handbook 2023-2024 v2.pdf](#). *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

Academic Success & Support Services:

College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement:

Any student with a documented disability needing academic accommodations is requested to contact Kimberly Lachney at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Textbook Purchasing Statement:

A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy:

Students may withdraw from this course for any reason prior to the last eligible day for a “W” grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is October 11. The last date to withdraw from the 16-week session is November 28. The last date to withdraw for the 2nd 8-week session is December 7.

FN Grading:

The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program:

The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

Resources to Help with Stress:

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here <https://www.com.edu/community-resource-center/> College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.

Success Tips for Students, Course Delivery & Expectations:**Course Communication:**

To communicate with me in an expedient manner use my COM email.

Course Delivery & Expectations:

The course content is delivered via the online portion through reading, watching demonstrations on a screencast, and you completing the Essentials and Beyond drawing problem. A short five-question quiz is also given for each chapter. This is to ensure that you read the text.

You will need to log in each week. The reading, watching the demos, and completing the Essentials and Beyond problem will probably take between 4 and 8 hours outside of lab time.

The lab is intended to address your questions on the current chapter does not present it in its entirety. Therefore, you should have completed the reading, reviewed the supplemental material before the weekly lab. The drawing problems, discussion forum, and quiz are due the night prior to our lab meeting at 10:00 pm.

All drawing problems should be attached to the course assignment in the online course. The files should be in their native format, meaning, if it is an AutoCAD drawing, submit the AutoCAD file.

Course Prerequisite:

DFTG 1305 and DFTG 1409 **With a grade of 'C' or better.**

Technology Prerequisite:

You must complete the free [Online Learners workshop](#) Before you gain access to this course online via D2L.

Course Format:

The structure of this hybrid course is the topics are introduced in the lab, and the exercises are completed in the collective setting. Online you continue practicing and mastering the skills and concepts for the week by completing the Essentials and Beyond. This exercise combines all the commands and concepts presented in the chapter exercises. There is a video showing step-by-step how to complete the Essentials and Beyond. In addition, you complete a quiz and discussion forum online. Both the online and lab parts of the class are essential. At the lab session, we will open with a discussion of issues or problems the group encountered in the previous week, provide more face-to-face demonstrations, and review your work one-on-one at your computer.

Technology Outage Policy:

It is your responsibility to complete the coursework in a timely manner. THE ONLY EXTENSION OF DUE DATES related to technology outage is an outage of the College of the Mainland's systems, such as the internet connection to the College. If your computer or internet provider is experiencing a technological outage, other options include completing the work at the College or at another location that has WIFI.