

COURSE SYLLABUS

DFTG 2323 (3:2:4)

**PIPE DRAFTING**

**Computer Aided Drafting & Design**

Industrial Technology Department

Technical Education Division

Levelland Campus

**SOUTH PLAINS COLLEGE**

SPRING 2021

## **I. GENERAL COURSE INFORMATION**

### **COURSE DESCRIPTION**

**DFTG 2323 - Pipe Drafting (3:2:4)**

**Pre-requisite: DFTG 1305 or ENGR 1304**

This course is a study of ASME standards, pipe and fitting symbols and specifications and their application to a process piping system. The course includes drawing plan views, elevations and isometrics of process piping systems, including flow diagrams, vessels, heat exchangers, pumps, instruments, compressors and other mechanical equipment using symbols, piping standards and engineering graphics practices and procedures.

The scope of Pipe Drafting (DFTG 2323) will be for sixteen weeks, which will include two hours of lecture per week and four hours of laboratory per week, for a total of ninety-six contact hours per semester.

### **COURSE LEARNING OUTCOMES**

Create drawings of process equipment; symbology and research specifications; recognize and generate a bill of material list and use charts and standards; visualize views in three-dimensions; follow specifications; and calculate measurements for pipe fittings.

### **COURSE COMPETENCIES**

Upon successful completion of this course the student will have accomplished the following skills and abilities:

1. Understand industrial pipe drafting and drafting department practices
2. Understand the alphabet of lines used in pipe drafting
3. Demonstrate an understanding and practical proficiency in the use of piping symbols
4. Be familiar with piping processes and equipment
5. Be familiar with pipe standards, data, terms, and abbreviations
6. Demonstrate an understanding of pipe fittings and practical proficiency in drawing and detailing pipe and pipe fittings
7. Demonstrate an understanding of valves and practical proficiency in drawing valves
8. Demonstrate an understanding of the methods of joining pipe, pipe fittings, and valves
9. Demonstrate an understanding of pipe drawing bill of materials
10. Recognize pumps, tanks, and miscellaneous equipment as illustrated in design plans.
11. Demonstrate an understanding of flow diagrams and instrumentation and practical proficiency in drawing flow diagrams
12. Demonstrate an understanding of piping isometric drawing and practical proficiency in drawing piping isometrics
13. Have elementary understanding of piping design practices used in industry.

### **ACADEMIC INTEGRITY**

It is the aim of the Computer Aided Drafting & Design faculty of South Plains College to foster a spirit of complete honesty and a high standard of integrity. The attempt of any student to present as his or her own work which he or she has not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offender liable to serious consequences, possibly suspension.

Students should refer to the SPC General Catalog policy regarding consequences for cheating and plagiarism (see "Academic Integrity" as well as "Student Conduct" sections in the college catalog). **At times, working with other students is encouraged** for some assignments and meets SCANS competencies C-9 through C-14. If you have a question as to whether you may work with other students on any assignment, ask your instructor.

## COURSE SYLLABUS

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|-------------------------|--------------------------------|
| <b>COURSE TITLE:</b>    | Pipe Drafting                  |
| <b>COURSE NUMBER:</b>   | <b>DFTG 2323</b> (spring 2021) |
| <b>PREREQUISITE(S):</b> | ENGR 1305 or ENGR 1304         |
| <b>LOCATION:</b>        | TA 207                         |

|                         |  |
|-------------------------|--|
| <b>INSTRUCTOR:</b>      | Terry Stucker  |
| <b>OFFICE LOCATION:</b> | TA 206   |
| <b>PHONE:</b>           | 806.716.2349   |
| <b>E-MAIL:</b>          | <a href="mailto:tstucker@southplainscollege.edu">tstucker@southplainscollege.edu</a> |
| <b>REMIND:</b>          | @spcpi   |

|                      |   |
|----------------------|---|
| <b>OFFICE HOURS:</b> | Tues/Thurs: 3:00pm – 4:00pm<br>Friday: 8a-12p (by appointment only) |
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### SPECIFIC COURSE/INSTRUCTOR REQUIREMENTS TEXTBOOK & OTHER MATERIALS

**Textbook:** (To be purchased)

Book Title: Process Pipe Drafting

Author : Shumaker, T.

Publisher: The Goodheart-Willcox Company, Inc. ISBN: 1-59070-247-6

**Spiral or other notebook** for notes, sketches

**Pen, Pencil, Eraser**

**Software:** AutoCAD 2021 - (Provided in CAD labs)

### COURSE OUTLINE

- 1) ORIENTATION
- 2) ALPHABET OF LINES
- 3) PIPE PROCESSES & EQUIPMENT
- 4) PIPE STANDARDS, DATA, TERMS & ABBREVIATIONS
- 5) PIPE FITTINGS & SYMBOLS
- 6) VALVES AND SYMBOLS
- 7) METHODS OF JOINING PIPE AND SYMBOLS
- 8) PIPE DRAWING BILL OF MATERIALS
- 9) PUMPS, TANKS, & MISC. EQUIPMENT
- 10) FLOW DIAGRAMS AND INSTRUMENTATION
- 11) PIPING ISOMETRIC DRAWINGS
- 12) PIPING DESIGN PRACTICES

### ATTENDANCE POLICY

The Technical Graphics Specialist is a professional person working in a business or industrial setting that demands much from its team of employees. For this reason, one who is often tardy or absent from work creates an additional burden for his or her co-workers.

The Computer Aided Drafting & Design program, similar to all the allied engineering professions, requires mature attendance to both lecture sessions and laboratory experiences. Obviously, once missed, a class situation cannot be effectively recreated for students who are not present. Your instructors feel that for a student to succeed, that student must not only be present, but must exercise prudent use of class time. Late or absent members tend to retard the progress of the entire class.

Punctual and regular attendance is required of all students attending South Plains College. Students are responsible for all class work covered during absences from class, even in cases in which they are able to satisfy the instructor that the absence was unavoidable. **ABSOLUTELY NO CLASS TIME WILL BE USED TO UPDATE INFORMATION MISSED DUE TO TARDINESS OR ABSENTEEISM**; it is the student's responsibility to arrange an appointment with the instructor at a time that will not conflict with class schedules in regard to applicable make-up work.

The CAD department implements the following standard absentee policy:

1. Two (2) possible absences per day (one for lecture, one for lab)
2. Students are allowed six (6) absences **or** 12 tardies\*
3. Four (4) tardies = 1 absence
4. The 7th absence will result in the student being dropped from the course

\*Tardies will be 5 or more minutes past class start time as shown in the appropriate schedule of classes. Also leaving class without all active assignments completed before the last 15 (fifteen) minutes may also be counted as a tardy.

**NOTE: Instructors in the Computer Aided Drafting & Design program have the prerogative to amend the standard absentee policy. However, the instructor must notify each student in writing of the attendance policy change.**

Any student wishing to drop this class should go through the proper procedure of initiating the withdrawal by obtaining a **drop form** from the Registrar's Office. This form must be signed by the instructor. This procedure provides the opportunity for counseling with the student by the instructor and determining the reason and justification for withdrawal. Whenever absences become excessive, an **Excessive Absence Report** will be sent to the Dean of Students and, in the instructor's opinion, minimum course objectives cannot be met due to absences, the student will be withdrawn from the course with the appropriate letter grade X, W, or F.

### **ASSIGNMENT POLICY**

- 1) All required work must be turned in on time in order for the student to benefit from the corrections and to prepare for future assignments.
- 2) All assignments (practical drawing assignments and/or practical drawing test, objective assignments and/or objective test) will be due at **specified times and dates**. Any drawing assignments that are *not* turned in at the specified time and date will immediately receive a grade of Zero (0) – Late work will still be graded, but with a maximum grade of 85 – this will count as the students' correction or resubmission (see #4).
- 3) All electronic classwork must be saved to your folder on the cad server. Any assignment not on the server at the time of grading will immediately receive a grade of Zero (0) – improperly filed work will still be graded, if it is filed correctly, but with a maximum grade of 85 – this will count as the students' correction or resubmission (see #4).
- 4) Assignments with a grade below 85, unless otherwise specified, can be corrected and resubmitted for a corrected grade. A corrected grade will have a maximum value of 85. This is a one-time correction process and does not apply to late or missing work.

## **GRADING POLICY/PROCEDURE**

- 1) Daily course work (lecture and laboratory experiences) = **50%** of the semester grade. Practical drawing assignments will be graded on the following:
  - a) Ability to follow directions
  - b) Neatness
  - c) Line Criteria
  - d) Text Criteria
  - e) Dimensioning Criteria
  - f) Choice & Location of Views
  - g) Correctness & Accuracy of Views (shape description)
  - h) Printing and Plotting
- 2) Mid-Term Project / Exam = **20%** of semester grade. The mid-term project will be a comprehensive project comprised of practical skills developed to this point in the semester.
- 3) Final Exam = **20%** of the semester grade. The final project will be a comprehensive project comprised of practical skills developed throughout the semester.
- 4) Attendance = **10%**

**NOTE: Instructors in the Computer Aided Drafting & Design program have the prerogative to amend the standard assignment and grading policy. However, the instructor must notify each student in writing of changes made to assignment and grading criterion.**

## **STANDARDS FOR COURSE GRADES**

Final grades will be determined using the following scale:

- A: 90 - 100%
- B: 80 - 89%
- C: 70 - 79%
- D: 60 - 69%
- F: 59% or Below

## **ADDITIONAL POSICIES & ACCOMODATIONS**

### **BUILDING POLICIES**

- 1) **ABSOLUTELY NO** use of tobacco products will be allowed in the classroom. Only covered drinks will be allowed. Any food should be consumed outside the actual classroom so as not to distract others.
- 2) Headphones are not allowed during lecture portions of class, but are allowed during lab if the volume is turned down so as not to be heard by other class members. Violation of this will result in loss of the privilege of using headphones.
- 3) Phones must be turned off during the lecture portion of class. If a call must be made or received while in class (lecture or lab), please excuse yourself to a hallway so as not to interrupt class or distract other students.
- 4) Each student must clean their workstation and restart their computer or log off of your profile at the end of class.
- 5) **ABSOLUTELY NO** rough or boisterous play or profanity will be allowed in the classroom.
- 6) Students should adhere to standards established in the SPC Catalog (Student Conduct) and Student Guide. Students in the Computer Aided Drafting & Design program must follow all safe practices in the classroom and

other laboratory work areas. Further, chemical hazards and appropriate MSDS safety practices will be covered by the instructor during the first class session if potential for exposure exists.

The computers within the CAD Lab have been optimally set to enhance learning for students. The configurations are set to establish a base of reference for all students, and so the instructor can optimize aid to each student. Please do not alter the configurations of any workstation or computer at any time. Lab computers are monitored remotely

## **ACCOMMODATIONS**

South Plains College strives to accommodate the individual needs of all students in order to enhance their opportunities for success in the context of a comprehensive community college setting. It is the policy of South Plains College to offer all educational and employment opportunities without regard to race, color, national origin, religion, gender, disability or age (SPC Equal Opportunity Policy--General Catalog).

### **Diversity Statement**

In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

### **Disabilities Statement**

Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) & Lubbock Center 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

### **Non-Discrimination Statement**

South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

### **Title IX Pregnancy Accommodations Statement**

If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact Crystal Gilster, Director of Health and Wellness at 806-716-2362 or email [cgilster@southplainscollege.edu](mailto:cgilster@southplainscollege.edu) for assistance.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: <https://www.southplainscollege.edu/campuscarry.php>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.