

Course Number and Title: EDD 234 Engineering Drafting (Piping)

Campus Location:

Stanton

Effective Date:

2021-51

Prerequisite:

EDD 142 and EDD 171

Co-Requisites:

none

Course Credits and Hours:

3.00 credits

2.00 lecture hours/week

2.00 lab hours/week

Course Description:

This introductory piping drafting course emphasizes industrial piping drafting with a study of pipe fittings and valves, pumps, tanks, vessels and equipment along with the symbols, specifications, and their applications to a piping process system. Topics include flow diagrams and piping and instrumentation diagrams (P&IDs), plans and elevations, piping isometrics, and spool drawings.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

None

Schedule Type:

Classroom Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Identify piping components, and define related terminology. (CCC 1, 2, 3, 5, 6; PGC 1, 3, 4, 5)
2. Describe and draw a flow diagram. (CCC 1, 2, 3, 5, 6; PGC 1, 3, 4, 5)
3. Describe and draw piping plans and elevation drawings. (CCC 1, 2, 3, 5, 6; PGC 1, 3, 4, 5)
4. Produce piping isometric drawings. (CCC 1, 2, 3, 5, 6; PGC 1, 3, 4, 5)
5. Produce piping spool drawings. (CCC 1, 2, 3, 5, 6; PGC 1, 3, 4, 5)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Identify piping components, and define related terminology.
 1. Recognize pipe sizes and fittings.
 2. Describe the methods of joining pipe.
 3. Interpret pipe specifications.
 4. Recognize the different types and uses of pumps, tanks, and vessels.
2. Describe and draw a flow diagram.
 1. Read and interpret the function of a flow diagram.
 2. Create a CAD symbol library for valves, instrument, and equipment symbols.
 3. Lay out a flow diagram.
3. Describe and draw piping plan and elevation drawings.
 1. Read and interpret the function of piping plan and elevation drawings.
 2. Lay out a plan and elevation drawing.
 3. Recognize the different types and use of piping insulation and supports.
4. Produce piping isometric drawings.
 1. Calculate and draw isometric offsets.
 2. Lay out an isometric drawing.
 3. Label and dimension an isometric drawing.
5. Produce piping spool drawings.
 1. Discuss and draw a single line and double line piping spool drawing.
 2. Accurately draw isometric spools.
 3. Complete a piping spool bill of materials.

Evaluation Criteria/Policies:

The grade will be determined using the Delaware Tech grading system:

90	-	100	=	A
80	-	89	=	B
70	-	79	=	C
0	-	69	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Drawing Exercises (Formative)	40%
Exams (Summative) (Equally Weighted)	30%
Chapter Questions (Summative)	20%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

1. Prepare detailed mechanical, machine, architectural, structural, HVAC, industrial piping, and electrical/electronics drawings for light commercial, manufacturing, and industrial companies.
2. Perform routine structural design calculations required to size steel beams, columns, and decking materials in accordance to AISC standards and reinforced concrete slabs and foundation footings in accordance to ACI standards.
3. Support manufacturing office administration activities with the ability to read and interpret drawings and specifications, prepare technically accurate drawings using both manual and CAD techniques, perform quantity surveys and organize cost data for cost estimating functions, prepare or check shop drawings, assist in the planning or coordinating of manufacturing activities, assist designers, and coordinate the preparation and review of bid packages.
4. Provide meaningful and innovative assistance to supervising engineers or designers by developing layout design solutions to manufacturing problems, recommending alternate material substitutions or methods of production, and applying reference resources to collect, organize, and analyze required research data.
5. Collect, organize, and analyze data for manufacturing machine parts, and prepare plans for department and/or client approval.

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.