

APPT 148: SF 402 ADVANCED DRAWING & BLUEPRINT READING

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2023
Units:	7
Hours:	72 lecture, 36 laboratory per quarter (108 total per quarter)
Prerequisite:	Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory:	Not open to students with credit in APPR 120.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	None
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- A student will be able to identify standard architectural symbols used on a construction print.
- A student will be able to identify common types of drawings.
- A student will be able to describe the purpose of specifications.

Description

Study of technical drawings, piping drawings, building plans, specifications, and submittals. Interpretation of three view, plan view, elevation view, and isometric drawings is discussed. Hands-on exercises in the process of creating coordinated drawings, beginning with sketching principles, calculating and drawing, and finishing with drawing coordination and system design.

Course Objectives

The student will be able to:

- Interpret technical drawings for proper installation of piping systems
- Describe building plans
- Describe architectural specifications
- Describe mechanical and electrical systems as they relate to blueprint reading
- Interpret isometric drawings
- Create isometric drawings
- Describe the process of creating coordinated drawings

Course Content

- Interpret technical drawings for proper installation of piping systems
 - Describe working drawings
 - Describe orthographic drawings
 - Describe function of schematic drawings
- Describe building plans
 - Identify various types of building plans
 - Describe commonalities in building plans
- Describe architectural specifications
 - Explain finish schedules
 - Explain plot plan elevations
 - Describe structural plans
- Describe mechanical and electrical systems as they relate to blueprint reading
 - Identify plumbing symbols and criteria that could be found on a blueprint
 - Describe symbols for heating, ventilation, and air conditioning systems
- Interpret isometric drawings
 - Identify importance of isometric drawings
 - Describe isometric drawings
 - Convert plan elevation to isometric
- Create isometric drawings
 - Explain isometric working sketches
 - Draw isometric drawings
- Describe the process of creating coordinated drawings
 - Define the process of creating coordinated drawings
 - Create a coordinated drawing
 - Create sleeve drawings and schedule
 - Draw a floor plan that includes hydronic details

Lab Content

Students will work individually and in teams on drawing mechanical piping projects. Students will learn to create and coordinate piping drawings.

Special Facilities and/or Equipment

- Laboratory with drawing tools
- When taught via Foothill Global Access, on-going access to computer with software and hardware capable of accessing email, learning management system, and video conferencing; email address

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Results of written exercises and final examination
Satisfactory completion of hands-on projects
Maintenance of a student's workbook with questions drawn from text
Group and classroom participation

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture

Lab assignment
Group discussion
Demonstration

Representative Text(s) and Other Materials

International Pipe Trades Joint Training Committee, Inc.. Drawing Interpretation and Plan Reading. 2015.

Although this textbook is older than 5 years, it conforms to national training standards and is considered seminal in the discipline. We will adopt the next edition, as it is published.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

- a. Readings from assigned textbook Drawing Interpretation and Plan Reading
 - i. Chapter 8: Print Reading Part 3
- b. Writing assignments given in the laboratory
 - i. Identify information on prints taken from assigned reading
 - ii. Describe relationship between plan and elevation views

Discipline(s)

Steamfitting