APSM 105: SMQ-5 DRAFTING INTRODUCTION & VIEWS

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	2.5
Hours:	32 lecture, 8 laboratory per quarter (40 total per quarter)
Prerequisite:	Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
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 successful student will be able to use drafting techniques to develop simple scaled drawings.
- A successful student will be able to draw normal orthographic projection views.

Description

Introduction to communication of construction details through drafting of plans and patterns. Topics include drafting equipment and materials, use of an architect's scale, drawing format, geometric construction, basic views, square and radius elbows, and drawing duct runs.

Course Objectives

The student will be able to:
A. Identify, maintain, and use basic drafting equipment
B. Prepare a drawing sheet with border and title block
C. Use an architect's scale rule
D. Dimension and letter on drawings as needed
E. Apply geometric construction principles to drafting lay out
F. Develop duct fitting drawings with seam allowances indicated
G. Draw normal orthographic projection views
H. Make oblique and isometric drawings
I. Use drafting techniques to develop simple drawings
J. Apply techniques to HVAC scale drawings
K. Demonstrate techniques and knowledge to an acceptable standard of performance as measured by the final exam

Course Content

A. Basic drafting equipment
1. Drafting equipment and materials
B. Drawing sheets
1. Preparing drawing sheets for input
C. About the architect's scale
1. Using an architect's scale
D. Dimension and letter
1. Format, lettering, and line types
E. Apply geometric construction principles to drafting lay out
1. Geometric construction
F. Duct fitting drawings
1. Basic views for ducting
2. Drawing ducting
G. Normal orthographic projection
1. Pictorial drawings
2. Elbows other than 90
H. Oblique and isometric drawings
1. Detailing a duct run
I. Drafting techniques
1. Hidden and true length lines
J. Apply techniques to HVAC scale drawings
1. Basic transition
K. Techniques and knowledge of acceptable standards
1. Review of standards
2. Testing for acceptance

Lab Content

A. Demonstrations to facilitate applying orthographic, oblique, and isometric views to real objects
B. Geometric construction techniques and trade practice
C. Develop patterns for some basic duct fittings
D. Safety

Special Facilities and/or Equipment

A. Laboratory with sheet metal tools
B. Personal protective equipment

Method(s) of Evaluation

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

Results of written quizzes and tests
Shop participation
Comprehensive written final examination
Comprehensive final project
Evaluation of progress by weekly assignment

Method(s) of Instruction

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

Discussion
Laboratory instruction
Demonstration

Representative Text(s) and Other Materials

International Training Institute. Layout Curriculum for the Sheet Metal Industry, International Training Institute for the Sheet Metal and Air Conditioning Industry (student manual and workbook). 2010.

This is the standard Sheet Metal textbook/workbook used for this course. Although it may not be within 5 years of the required published date, it is the most current book used when teaching this course.

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

A. Reading assignment:
1. Read textbook pages 31-37 explaining graphic visualization
B. Writing assignment:
1. Practice drafting lettering techniques by drawing text using reference lines and to size and style as assigned by instructor

Discipline(s)

Sheet Metal