Introduction to Drafting and Design
Study Guide -1st Semester Final Exam

Unit 1 Introduction and Safety

AC-IDD-3-Demonstrate the knowledge and skills to properly use the tools and equipment safely in the drafting lab.

3.1 Maintain workstation and storage area.
3.2 Demonstrate and incorporate proper use of ergonomics in the drawing lab.
3.3 Follow class and lab rules.

-Safety

Identify what actions should occur in the case of an emergency?
Where is the emergency floor plan information located?
What elements make up the fire triangle?
What are the different classes of fires?
What are the characteristics of each class of fire?
List 5 different classroom rules.
List 5 rules specifically about safety.

-Classroom procedures

Unit 2-Careers/Employability skills

AC-IDD-2 - Identify the disciplines related to architectural and engineering professions.

2.1 Identify the professional and/or trade associations related to the architectural and engineering professions.
2.2 Identify related occupations within the architectural and engineering professions.
2.3 Identify the employment opportunities in the architectural and engineering professions.
2.4 Match architectural and engineering occupational job titles with qualifications and responsibilities.
2.5 Identify education and training required to work in the various architectural and engineering professions.
2.6 Participate in activities related to career interests.

-Engineering drawing and design professions:

1. Architect
2. Mechanical Engineer
3. Civil Engineer
4. Electrical Engineer
5. Chemical Engineer
6. Aerospace Engineer
7. Agricultural Engineers
8. Environmental Engineer
9. Construction Engineer
10. Landscape Architect
11. Architectural Drafter
12. Mechanical Drafter
13. Code Official
14. Surveyor
15. Construction Inspector

Unit 3 –Tools and Equipment

AC-IDD-4-Demonstrate the correct use and management of all drafting tools and supplies.

4.1 Identify and demonstrate the correct operation and maintenance of manual drafting equipment.

4.2 Use correct lead selection to produce drawings.

4.3 Identify and use the proper type of media.

4.4 Promote responsible use of drafting supplies.

-Drafting equipment

List each tool and give a brief description of each use:

1. Adjustable triangle
2. Ames lettering guide
3. Architect's scale
4. Circle template template
5. Compass
6. Dividers
7. Drafting machine
8. Drafting table
9. Drafting tape
10. Drawing pencils
11. Dusting brush
12. Electric eraser
13. Electric pencil sharpener
14. Ellipse template
15. Engineer's scale
16. T-square
17. Eraser
18. Erasing shield
19. 45˚ triangle
20. House plan
21. Irregular curve
23. Metric scale
24. Mylar
25. Parallel bar
26. Protractor
27. Sandpaper pad
28. Skum x cleaning pad
29. Technical pens
30. 30˚ - 60˚triangle
31. Vellum

Drafting Practice

What is the difference between the 30-60 Triangle and the 45 triangle?

Demonstrate using a compass.

Demonstrate creating different angles using 30-60 and 45 Triangles.

Unit 4 Graphic Communications

AC-IDD-5-Create technical freehand sketches.

5.1 Demonstrate orthographic sketches.

5.2 Demonstrate pictorial sketches.

1. Create Technical Freehand Sketches
2. Identify four common types of technical drawings
3. Explain the difference between a pictorial drawing, a multi-view drawing and an orthographic drawing.
4. Identify three types of axonometric drawings
5. Explain/demonstrate the difference between isometric/non isometric lines
6. Explain/demonstrate the difference between isometric/non isometric planes

AC-IDD-6 - Demonstrate proper lettering techniques.

6.1 Demonstrate vertical and/or inclined manual lettering.

1. Define lettering and its importance for technical drawings
2. Describe the difference between vertical and inclined lettering
3. Demonstrate proper lettering techniques.
4. Demonstrate using the Ames Lettering Guide

AC-IDD-7 -Demonstrate the use of proper line types.

7.1 Demonstrate the ability to perform a drawing setup, e.g., sheet size, border, and title block.

7.3 Demonstrate the use of the alphabet of lines.

-Alphabet of Lines. -Definition and Identification

Visible (Object) Lines	Leader Lines
Hidden Lines	Cutting Plane Lines
Section Lines.	Viewing Plane Lines
Center lines	Short Break Lines
Dimension Lines	Long Break Lines
Extension Lines	Phantom Lines

Scale: Read and Draw proper measurements.

-Read an Architect's scale

-Identify the three types of scales and each unit of measurement