

Mechanical Drawing

Unit 4 Study Guide for Chapters 18-21

Chapter 18 Architectural Drafting

Section 18.1 Understanding Residential Construction

- A. Architecture Perspectives for Drafters: What are three ways you can evaluate a building's architecture?
 - 1. The Architect's Team
- B. Elements of Residential Construction: By what criteria do you evaluate the framework of a residence?
 - 1. Framework
 - a. Western Framing
 - b. Balloon Framing
 - c. Plank-and Beam Framing
 - 1. Sill Construction
 - 2. Corner Studs and Sheathing
 - 3. Roof Designs
 - 4. Stairway Framing and Detail
 - 5. Doors
 - 6. Windows
- C. Architectural Materials: As a member of an architectural design team, how would you use information in *Sweets Architectural Catalog*?
 - 1. Limber
 - 2. Bricks
 - 3. Concrete
 - 4. Modular Coordination
- D. Symbols for Working Drawings: IN which architectural drawings do you typically use standard symbols?
 - 1. Material Symbols
 - 2. Symbols for Window and Door Openings
- E. Working Drawings: Why must a set of specifications accompany each set of drawings?
 - 1. Foundation Plan
 - 2. Floor Plan
 - 3. Elevations
 - 4. Sections
 - 5. Site Plan
 - 6. Other Drawing Types
 - 7. Schedules and Specifications
 - 8. Title Blocks
- F. Dimensioning Techniques: How do you dimension an architectural drawing?
 - 1. Construction and Finish Dimensions
 - 2. Dimensioned Exterior Walls
 - 3. Architectural Scales

Section 18.2 Creating Architectural Working Drawings

- A. General Introduction to Your Architecture-Related Project: IN addition to floor plans, what are the other parts of a complete set of working drawings?
- B. Board-Drafting Techniques: How can you use new tools to save time in making architectural drawings?
 - 1. Special Techniques and Tools
 - a. Line Technique
 - b. Lettering
 - c. Templates
 - d. Pressure-Sensitive Materials

- C. Floor Plan Production
- D. CAD Techniques: How might changes in technology have affected costs and time allocation in architect's offices?
 - 1. Virtual Tours
 - 2. Traditional AutoCAD Tools and Commands
 - a. Architectural Symbol Libraries
 - b. Double Line Creation
 - c. Dimension Style
 - 3. CAD-Generated Floor Plan

Chapter 19 Map Drafting

Section 19.1 Types of Maps

- A. Map Making and Maps: How do cartographers obtain information for making maps?
 - 1. Technological Advances in Cartography
 - 2. Types of Maps
 - a. Plats
 - b. Operations Maps
 - c. Contour Maps
 - d. Topographic Maps
 - e. Block Diagrams
- B. Geological Mapping: How are geological maps used?
 - 1. Geological Surface Maps
 - 2. Geological Sections
 - 3. Subsurface Mapping

Section 19.2 Creating Contour Maps and Plats

- A. Board-Drafting Techniques: What tools are used to draw maps?
 - 1. Creating a Contour Map
 - 2. Creating a Plat
- B. CAD Techniques: How does CAD's layering function offer flexibility in mapmaking?
 - 1. Creating a Contour Map
 - 2. Creating a Plat
 - 3. CAD-Automated Cartography

Chapter 20 Electricity/Electronics Drafting

Section 20.1 Types of Electrical and Electronic Diagrams

- A. Concepts Related to Electricity and Electronics: What are some common applications for electricity and electronics?
- B. Symbols for Electrical/Electronic Diagrams: How should you draw a schematic diagram following established standards?
 - 1. Schematic Diagram
 - a. Layout
 - b. Connecting Lines
 - c. Interrupted Group Lines
 - d. Interrupted Single Lines
 - 2. Single-Line Diagram
 - 3. Functional Block Diagram
 - 4. Connection Diagram
 - 5. Interconnection Diagram
 - 6. Logic Circuit Diagram
 - 7. Printed Circuit Drawings
 - 8. Electrical Layouts for Buildings
- C. Drawing Conventions: How do you use color when you draw circuit diagrams?
 - 1. Color Codes
 - 2. Line and Symbol Conventions

Section 20.2 Drawing Electrical and Electronic Diagrams

- A. Board-Drafting Techniques: What should you consider when choosing the line width for an electrical diagram?
- B. CAD Techniques: What rule should you remember when you add a symbol to a diagram?

Chapter 21 Media Management

Section 21.1 Project Documentation

- A. Types of Documents: What kinds of reports and graphic communication are used to document a project?
 - 1. Reports
 - 2. Project Organization Charts
 - 3. Records of Drawing Development

Section 21.2 Document Management

- A. Managing Board Drawings: What are the primary concerns when storing finished project drawings?
 - 1. File Systems
 - 2. Microfilm Storage
 - 3. Converting Board Drawings
 - a. Digitizing the Drawing
 - b. Scanning the Drawing
 - 4. Drawing Revision
 - 5. Drawing Reproduction
 - a. Blueprints
 - b. Diazo
 - c. Electrostatic Reproduction
 - d. Photographic Reproduction
- B. Managing CAD Drawings: What can you do to ensure your CAD files are not lost or damaged?
 - 1. Standard Backup Strategies
 - a. Uninterruptible Power Supply
 - 2. Storage Strategies
 - 3. Revision of CAD Drawings
 - 4. Reproduction of CAD Drawings
 - 5. Converting CAD Drawings