

COURSE OUTLINE

INTRODUCTION TO ARCHITECTURAL DESIGN & DRAFTING

Course Title

AD 120

Dept. & Course No.

I. COURSE DESCRIPTION:

This course introduces the student to manual drafting using a tee square and/or drafting machine. The topics covered in this course include freehand sketching as a problem solving and communication tool, introduction to the basic drafting, and elementary design principles. At the completion of this course the student will have drafting skills necessary to complete a basic set of drawings for a simple house.

II. SEMSTER CREDITS

3

III. CONTACT HOURS PER WEEK

2

Lecture

3

Lab

5

total

IV. PREREQUISITE: None

V. STUDENT LEARNING OUTCOMES:

Upon completion of this course, the student will be able to, with 65% accuracy to:

1. Explain the importance of blueprints
Identify what is included in a set of drawings
2. Use drafting tools and equipment.
Demonstrate the use of architectural scales.
3. Identify and explain the use of different lines
Draw different line types and letters
4. Use proper techniques of sketching

VI. COURSE CONTENT

- A. Construction Blueprints/
Working Drawings
- B. Architectural Scales
Tee Square and Set Square
Drafting Machine Adjustments
Drafting Tools & Equipment
- C. Line types:
 1. Construction Line
 2. Object Line
 3. Hidden Line
 4. Center Line
 5. Dimension & Extension Lines
 6. Leader Line
 7. Break Line
 8. Border Line
- D. Sketching Methods:
 1. Horizontal Lines
 2. Vertical Lines
 3. Inclined Lines
 4. Arcs and Circles

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| <ul style="list-style-type: none"> 5. Identify and sketch different pictorial drawings 6. Visualize, sketch and draw objects and simple structures orthographically 7. Dimension objects on drawings 8. Identify and explain standard drafting symbols and abbreviations 9. Draw a basic set of working drawings of the house 10. Read and interpret specifications | <ul style="list-style-type: none"> E. <ul style="list-style-type: none"> 1. Isometric Drawing 2. Oblique Drawing 3. Axonometric Drawing 4. Perspective Drawing 5. One Point Perspective 6. Two Point Perspective F. Orthographic Drawing: <ul style="list-style-type: none"> 1. Plans 2. Elevations G. Dimension Techniques H. Symbols and Abbreviations J. <ul style="list-style-type: none"> 1. Site Plan 2. Floor Plan 3. Foundation Plan 4. Electrical 5. Plumbing Plan 6. Roof Framing Plan 7. Sections 8. Elevations 9. Detail Drawings 10. Door and Window Schedule K. Specifications |
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VII. EQUIPMENT AND MATERIALS

Classroom tools and Equipment

1. Drawing boards
2. T-Square
3. Tracing paper (24" x 36")
4. Routine class room materials

Student's Tools and Equipment (rent by student)

1. Architect's scale rule
2. 30° & 45° set squares
3. Circle template
4. Human Figures
5. Landscape Templates
6. House Templates
7. 6" Protractor
8. Lead pointer, Lead holder, Leads HB, F, & H or Drafting Pencils
9. Eraser shield
10. Eraser
11. Drafting tape (½" masking tape)
12. Drafting Brush

VIII. TEXT AND REFERENCES:

Required Text:

Instructor made handouts

Supplementary References:

1. Townsend, G., & J Dalzell. *How to Plan a House*. 3rd Edition. Chicago USA: American Technical Society, 1958.
2. Tremblay, K., & L Von Bamford. *Small House Designs*. Pownal Vermont: Storey Publishing, 1997.
3. Ramsey, C., & H Sleeper. *Architectural Graphic Standards*. 6th Edition. New York: John Wiley & Sons Inc., 1970.
4. Kicklighter, Clois E. *Architecture Residential Drafting and Design*. Tinley, Illinois: The Goodheart-Willcox Company, Inc., 2008

IX. METHODS OF INSTRUCTION

1. Lecture/discussion
2. Demonstration/Illustration/Explanation
3. Cooperative learning
4. Student projects/Reinforcement activities
5. Guest speaker

X. METHOD OF EVALUATION

Lecture presentation is tested by written tests. Evaluation of drawings is based on skill development and knowledge acquisition.

Four criteria used in evaluating projects and operation performance are:

1. Accuracy
2. Techniques
3. Appearance
4. Completion

The components used in the computation of the final grades are:

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|---------------------------------|-----|
| 1. Classwork/participation..... | 10% |
| 2. Homework/assignments..... | 20% |
| 3. Quizzes..... | 10% |
| 4. Mid term and final test..... | 30% |
| 5. Final project..... | 30% |

The transmutation of percentages to letter grades are:

90 – 100%.....	A
80 – 89%.....	B
70 – 79%.....	C
65 – 69%.....	D
0 – 64%.....	F

Palau Community College
AD120 Introduction to Architectural Design and Drafting
Course Learning Outcomes

During the course experience, the course learning outcomes (CLOs) will be assessed through the use of signature assignments. A rating scale will be used to determine the students' proficiency level of each CLO using specifically aligned assignments. The numerical ratings of 3, 2, and 1 are not intended to represent the traditional school grading system of A, B, C, D, and F. The descriptions associated with each of the numbers focus on the level of student performance of each of the course learning outcomes listed below:

Rating Scale:

- 4 Exceeds Expectations
- 3 Meets Expectations
- 2 Developing
- 1 Below Expectations

CLO 1: Freehand sketch a three dimensional pictorial drawings of a complex object.

Numerical Value	
4	Identify and sketch different drawings of a complex object, showing three visible faces and indicating edges of hidden planes using correct line type.
3	Identify and sketch different drawings of a complex object, showing three visible faces.
2	Sketch a complex object, showing three visible faces.
1	Cannot sketch a three dimensional drawing of a complex object.

CLO 2: Freehand sketch orthographic projections of a simple structure.

Numerical Value	
4	Sketch orthographic projections of a simple structure, matching windows, doors and roof planes on elevations to plan, and indicating finishes.
3	Sketch orthographic projections of a simple structure, matching windows, doors and roof planes on elevations to plan.
2	Sketch orthographic projections of a simple structure.
1	Cannot sketch orthographic projections of a simple structure

CLO 3: Draw a plan and elevations of a three bedroom house.

Numerical Value	
4	Accurately a draw plan and elevations of a three bedroom house using correct scale, line types, line weights, appropriate drafting symbols and abbreviations.
3	Accurately a draw plan and elevations of a three bedroom house using correct scale, line types, appropriate drafting symbols and abbreviations.
2	Draw a plan and elevations of a three bedroom house using correct scale, appropriate drafting symbols and abbreviations.
1	Draw a plan and elevations of a three bedroom house using correct scale.

CLO 4: Dimension a floor plan

Numerical Value	
4	Accurately dimension a floor plan using correct line types, line weights, appropriate drafting symbols and abbreviations, and ensuring dimensional correctness.
3	Accurately dimension a floor plan using correct line types, appropriate drafting symbols and abbreviations, and ensuring dimensional correctness.
2	Dimension a floor plan using correct line types, appropriate drafting symbols and abbreviations.
1	Dimension a floor plan.

CLO 5: Draw a roof framing plan.

Numerical Value	
4	accurately draw roof framing plan showing trusses, rafters, ridge/s, overhang/s, hip/s, valley/s, appropriate dimensions, and notes
3	accurately draw roof framing plan showing trusses, rafters, ridge/s, overhang/s, hip/s, valley/s, appropriate dimensions
2	draw roof framing plan showing trusses, rafters, ridge/s, overhang/s, hip/s, valley/s
1	draw roof framing plan showing trusses, rafters, ridge/s, overhang/s