

EASTERN ARIZONA COLLEGE
Residential Architecture

Course Design
2016-2017

Course Information

Division Industrial Technology Education
Course Number DRF 170
Title Residential Architecture
Credits 2-3
Developed by Doug Griffin
Lecture/Lab Ratio 2 Credits = 1 Lecture/2 Lab
3 Credits = 1 Lecture/4 Lab

Transfer Status

ASU	NAU	UA
GIT Dept Elective	CTE Departmental Elective	Non Transferable

Activity Course No
CIP Code 15.1300
Assessment Mode Pre/Post Test (25 Questions/25 Points)
Semester Taught Spring
GE Category None
Separate Lab No
Awareness Course No
Intensive Writing Course No

Prerequisites

DRF 154 or concurrent enrollment in DRF 154

Educational Value

Students enrolled in the Associate Degree in Drafting, elective credit, or general interest.

Description

Students will be instructed in residential architecture drafting techniques required to design and draft floor plans, exterior and interior details, and structural representations. The course will use architectural CAD software to develop a full set of residential house plans. All drawings will meet the American Architectural Graphic Standards, the International Building Code, the International Residence Code, ADA, and any additional local building and zoning requirements.

Supplies

None

Competencies and Performance Standards

1. Identify early historical architectural designs; recognize four basic designs, and list advantages and disadvantages of each design.

Learning objectives

What you will learn as you master the competency:

- a. Identify the historical influences that helped shape today's home design.
- b. Recognize and describe the elements of contemporary dwellings.
- c. Discuss current trends in residential architecture.
- d. Recognize the four basic house designs.
- e. List the chief advantage of each of the four basic house designs.
- f. Map the traffic circulation for maximum efficiency.
- g. Compare the relative cost of heating and cooling for each of the four basic designs.

Performance Standards

Competence will be demonstrated:

- o by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- o learner participates in all learning activities and completes all assignments

2. Produce multi-view working drawings that meet industrial requirements.

Learning objectives

What you will learn as you master the competency:

- a. Create drawings with footings, foundations, and concrete, wall sections, and schedules that meet industrial requirements.

Performance Standards

Competence will be demonstrated:

- o by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- o learner participates in all learning activities and completes all assignments

3. Develop a set of working drawings, including floor plan, exterior elevations, structural drawings, interior elevations, plot plan and necessary schedules using good drafting technique.

Learning objectives

What you will learn as you master the competency:

- a. Identify various features shown on a typical plot plan.
- b. Locate home on site using proper guidelines.
- c. Draw a plot plan using correct symbols and conventions.

Performance Standards

Competence will be demonstrated:

- o by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- learner participates in all learning activities and completes all assignments

4. Reproduce a set of blueprints that demonstrate quality line and lettering techniques.

Learning objectives

What you will learn as you master the competency:

- a. Reproduce a set of blueprints using proper technique.

Performance Standards

Competence will be demonstrated:

- by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- learner participates in all learning activities and completes all assignments

5. List the primary considerations in designing a residential floor plan, i.e. site location, community attributes, zoning restrictions, family life styles, etc.

Learning objectives

What you will learn as you master the competency:

- a. Evaluate a given site with respect to important considerations.
- b. Discuss key site consideration, restrictions, zoning, and codes.
- c. List family needs that should be considered when planning a dwelling (handicaps, etc.).
- d. Describe the basic construction drawings used to build a structure.

Performance Standards

Competence will be demonstrated:

- by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- learner participates in all learning activities and completes all assignments

6. Demonstrate good design techniques in drawing a floor plan including sleeping areas, living areas, and the service area.

Learning objectives

What you will learn as you master the competency:

- a. Discuss factors that are important in the design of a bedroom.
- b. Plan the size and location of closets for a typical residence.
- c. Apply the furniture cutout method in planning room arrangement.
- d. Implement important design considerations for bathrooms.
- e. Identify the rooms and areas that comprise the living area.
- f. Apply design principles to planning a living room.
- g. Analyze a dining room using good design principles.
- h. Design a functional kitchen, clothes care center, and garage or carport.

Performance Standards

Competence will be demonstrated:

- by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- learner participates in all learning activities and completes all assignments

7. Apply knowledge of basic electrical symbols of a residential floor plan.

Learning objectives

What you will learn as you master the competency:

- a. Design a complete electrical plan using the floor plan as a base.

Performance Standards

Competence will be demonstrated:

- by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- learner participates in all learning activities and completes all assignments

8. Dimension and label residential floor plan using industry acceptable dimensioning techniques.

Learning objectives

What you will learn as you master the competency:

- a. Design and draw a residential floor plan using accepted symbols and techniques.
- b. Dimension the floor plan in a clear and precise manner.

Performance Standards

Competence will be demonstrated:

- by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- learner participates in all learning activities and completes all assignments

9. Dimension all required exterior elevations as required by FHA regulations.

Learning objectives

What you will learn as you master the competency:

- a. Draw the necessary elevations demonstrating proper technique.

Performance Standards

Competence will be demonstrated:

- by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- learner participates in all learning activities and completes all assignments

10. Demonstrate the accurate use of CAD in the development of the residential floor plan.

Learning objectives

What you will learn as you master the competency:

- a. Acquaint self with the CAD software in designing a residential floor plan.

Performance Standards

Competence will be demonstrated:

- by successfully completing all assigned activities related to this unit

Criteria - Performance will be satisfactory when:

- learner participates in all learning activities and completes all assignments

Types of Instruction

Class Presentation

Computer Lab

Grading Information

Grading Rationale

Each instructor has the flexibility to develop evaluative procedures within the following parameters:

The Post Test will represent 10% of the course grade.

Course learning activities shall represent 90% of the course grade.

Grading Scale

A 90% - 100%

B 80% - 89%

C 70% - 79%

D 60% - 69%

F 59% and below