

CATALOG INFORMATION

Dept and Nbr: ARCH 181 Title: RESIDENTIAL INFRASTRUCT
Full Title: Residential Infrastructure
Last Reviewed: 3/12/2007

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	1.00	Lab Scheduled	0	17.5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	1.00		Contact Total	17.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00

Total Student Learning Hours: 52.50

Title 5 Category: AA Degree Applicable
Grading: Grade or P/NP
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly:

Catalog Description:
An introduction to the principles of residential plumbing, mechanical and electrical systems including identification of system components, and schematic design of basic systems.

Prerequisites/Corequisites:

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: An introduction to the principles of residential plumbing, mechanical and electrical systems, including identification of system components and schematic design of basic systems. (Grade or P/NP)
Prerequisites/Corequisites:
Recommended:
Limits on Enrollment:
Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:

IGETC:	Transfer Area	Effective:	Inactive:
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CSU Transfer:	Effective:	Inactive:
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UC Transfer:	Effective:	Inactive:
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CID:

Certificate/Major Applicable:

Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

Upon completion of this course, the student will be able to:

1. Explain the design principles of residential plumbing systems.
2. Identify components of a residential plumbing system.
3. Apply plumbing system principles and components in the schematic design of a basic plumbing system.
4. Explain the design principles of residential mechanical systems.
5. Identify components of a residential mechanical system.
6. Apply mechanical system principles and components in the schematic design of a basic mechanical system.
7. Explain the design principles of residential electrical systems.
8. Identify components of a residential electrical system.
9. Apply electrical system principles and components in the schematic design of a basic electrical system.

Topics and Scope:

- I. Plumbing systems
 - A. Design principles
 - B. Components
 - C. Examples
 - D. Schematic design of basic plumbing systems
- II. Mechanical systems
 - A. Design principles
 - B. Components
 - C. Examples
 - D. Schematic design of basic mechanical systems
- III. Electrical systems
 - A. Design principles
 - B. Components
 - C. Examples

D. Schematic design of basic electrical systems

Assignment:

1. Reading: approximately 10 - 20 pages per week.
2. Identify plumbing, mechanical, and electrical components on working drawings.
3. On a simple floor plan, complete a schematic design for:
 - a) a basic plumbing system;
 - b) a basic mechanical system;
 - c) a basic electrical system.
4. 1-2 quizzes; final exam.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Component identification

Problem solving
30 - 50%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Schematic designs

Skill Demonstrations
30 - 50%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion, Short answer

Exams
20 - 30%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance and participation

Other Category
0 - 10%

Representative Textbooks and Materials:

Building Construction Illustrated, Ching, Francis D. K. et al., John Wiley & Sons, 2007.

Instructor prepared materials.

