ARCH 80A Course Outline as of Fall 2004

CATALOG INFORMATION

Dept and Nbr: ARCH 80A Title: ARCH DESIGN FUND 1
Full Title: Architectural Design Fundamentals 1
Last Reviewed: 11/20/2006

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00 Total Student Learning Hours: 157.50

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:
Introduction to fundamental concepts of architectural design including site analysis, site design, programming and adjacency diagrams, building planning and preliminary building design.

Prerequisites/Corequisites:
Course Completion of APTECH 45 (or APTECH 55 or IED 55)

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Introduction to fundamental concepts of architectural design including site analysis, site design, programming and adjacency diagrams, building planning and preliminary building design. (Grade or P/NP)
Prerequisites/Corequisites: Course Completion of APTECH 45 (or APTECH 55 or IED 55)
Recommended:
Limits on Enrollment:
Transfer Credit: CSU;UC.

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:

CSU Transfer: Transferable Effective: Fall 2004 Inactive: Spring 2010

UC Transfer: Transferable Effective: Fall 2008 Inactive: Spring 2010

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon successful completion of this course, the student will be able to:
1. Site Analysis:
 a. Define site analysis elements such as: topography, climate, solar access, views, privacy, noise, vegetation, pedestrian access, vehicular access, storm water drainage.
 b. Evaluate common zoning requirements such as setbacks and lot coverage.
 c. Identify and perform research needed to prepare graphic site analysis, and prepare a graphic site analysis document.
2. Site Design:
 a. Analyze elements incorporated into site design for different building types.
 b. Research grading requirements for different foundation types and site drainage, and prepare preliminary grading design for specified foundation types and site drainage.
 c. Research regular and emergency vehicular access, parking, and pedestrian access requirements for different building uses, and prepare preliminary site access design solutions for specified building uses.
 d. Research handicapped access requirements for different building uses, and prepare preliminary handicapped access design for specified building uses.
 e. Research entry requirements for different building uses, and prepare preliminary entry access design for specified building uses.
 f. Prepare a preliminary site design document, locating building and other site elements, for specified building use.
3. Residential Building Programming and Adjacency Diagrams:
 a. Examine samples of graphic programming documentation for residential buildings, including activities, furniture and

equipment needs, relationships between activities, and space attributes.
  b. Identify potential activity categories for residential use, and the information to be considered for each activity.
  c. Determine desired relationships among and between activities for residential use, and explore relationships among and between activities through adjacency diagrams considering several circulation patterns.
  d. Prepare an activity-based programming document for residential building.
4. Residential Building Planning:
  a. Evaluate samples of graphic documentation for residential building planning.
  b. Research and document requirements for specified residential activity requirements including: entry, "public" spaces, kitchen, sleeping, "working," "playing," bathroom, indoor/outdoor relationships, and outdoor space.
  c. Analyze common internal circulation patterns of residential design.
  d. Prepare sketches to document potential spatial arrangements.
5. Preliminary Residential Building Design:
  a. Use programming and building planning information to produce preliminary designs.
  b. Apply selected internal circulation pattern to preliminary design.
  c. Compare alternative building structural systems constraints.
  d. Apply alternative building structural systems in preliminary design.
  e. Develop alternative floor plans.
  f. Develop alternative sections through a building.
  g. Develop alternative elevations of a building.

Topics and Scope:

1. Introduction to the site analysis process
2. Elements of site analysis and how to show them graphically
 a. topography
 b. climate
 c. solar access
 d. views
 e. privacy
 f. noise
 g. vegetation
 h. pedestrian access
 i. vehicular access
 j. storm water drainage
3. Explanation of common zoning requirements
 a. setbacks
 b. lot coverage
 c. parking
4. Researching and preparing a graphic site analysis
5. Locating building and entry on site
6. Locating and configuring parking and human and vehicular circulation elements

7. Setting grades
 a. for building floors
 b. for foundations
 c. parking and other surfaces
 d. determining cut-and-fill requirements for grades
8. Determining site drainage requirements
9. Introduction to the architectural programming process
 a. activity-based programming
 b. adjacency diagrams
10. Elements of activity-based programming
 a. activity
 b. users
 c. indoor and outdoor relationships
 d. equipment and furniture needs
 e. client identified characteristics
    1. orientation
    2. color
    3. light quality
    4. other
 f. area and volume needs
11. Potential activity categories for residential use and attributes to be considered for each activity
 a. getting programming information from a client
 b. preparing a programming chart
12. Preparing adjacency diagrams
13. How to use programming information and adjacency diagrams in planning a building
14. Internal circulation patterns
 a. types
 b. use
15. Understanding and documenting building planning information for specific activities and spaces
 a. entry
 b. "public" spaces
 c. kitchen
 d. sleeping
 e. "working"
 f. "playing"
 g. bathroom
 h. indoor/outdoor relationships
 i. outdoor space
16. Preparing building planning documentation
17. Requirements for light wood frame, and light steel frame building systems
18. Preliminary floor plan drawing requirements
19. Preliminary section drawing requirements
20. Preliminary elevation drawing requirements

Assignment:

Representative assignments:
1. Reading handouts and assigned textbook readings, 15-30 pages per week.

2. Written assignments involving research, analysis and synthesis of course material, such as 2-3 page research paper.

3. Graphic assignments involving research, analysis and synthesis of course material including:

 a. Perform research and prepare graphic site analysis document.

 b. Research grading requirements and preparing preliminary grading design for specified foundation types and site drainage.

 c. Perform research and prepare preliminary site access design solutions for specified building uses.

 d. Perform research and prepare preliminary entry access design for specified building uses.

 e. Prepare a preliminary site design document.

 f. Prepare an activity-based programming document for a residential building.

 g. Prepare sketches to document spatial arrangements for residential activities.

 f. Produce preliminary designs for a residential building.

4. Midterm; 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.

Written homework	Writing 20 - 40%

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

None	Problem solving 0 - 0%

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

Graphic assignments.	Skill Demonstrations 20 - 40%

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

Multiple choice, True/false, Matching items, Completion	Exams 20 - 40%

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 and Adams, 3rd edition, Wiley,

2001.

The Professional Practice of Architectural Working Drawings. Wakita, Osamu and Linde, Richard. Wiley, 3rd edition, 2002.
Problem Seeking: An Architectural Programming Primer. Pena, William and Parshall, Steven. Wiley, 4th edition, 2001.
A Pattern Language: Towns, Buildings, Construction. Alexander, Christopher, Ishikawa, Sara and Silverstein, Murray. Oxford University Press, 1997.
Architecture: Form, Space, and Order. Ching, Frank D.K. and Ching, Francis D. John Wiley & Sons, 2nd edition, 1995.
Instructor prepared materials.