

Course: *CIV_ENV 385-1, Architectural Engineering & Design I, Fall 2010*

Credits: 1 Unit credit; contact hours: 4 hrs lecture

Instructor: Laurence Booth

Text: Conceptual Blockbusting
James L. Adams, ISBN-10: 0-7382-0537-0, 2001 Basic Books

Description: This is a 3-course series of integrated studio-lecture-discussion experiences that will provide students a strong, comprehensive and broad understanding of architecture, design, and engineering in the context of our present world. The program integrates creativity, design methods, history, thinking, and research, while requiring students to realize designs individually as well as working in teams.

Prereq: None

Required?: Required for AED Certificate Program

Mechanisms for Assessment:

The course is organized around an integrated studio that combines:

- (A) Individual design problem
- (B) Team design problem
- (C) Reading and written report (creative investigation report)
- (D) Oral Report
- (E) Free-hand drawings (64)
- (F) Structural calculations
- (G) CAD Models

Specific Goals for the Course:

By the end of this course, students will be able to:

1. Apply the design process to arrange space, content, nature and people to create environments that meet specified requirements.
2. Visualize and communicate three dimensional spatial forms, structure and relationships.
3. Support designs by identifying, focusing on and completing quantitative design strategies.
4. Become familiar with, recognize, and describe positive architectural qualities through written, graphical and means.

Relation of “course specific goals” to programmatic student learning outcome through Course Assessment Table (CAT), which feeds into Program Assessment Table (PAT)

Course Goals	Outcome	Assessment via	Performance Indicator	Assessment	Proposed Action
1,2,3,4	c	A	Final Model + CAD Drawings	93%>65	None
3	e	F	Homework Structural Problems	86%>65	Include designed beams in final Revit model
4	g	C,D E	Oral + Written Reports Sketchbook	93%>65 100%>65	Use Capstone Rubrics Intermediate Submission
3	k	G	BIM CAD products	100>65	Result of GEN_ENG 220 Revit

LEARNING			3D MODELING - BIM &	INDIVIDUAL DESIGN	SKETCH FREE-HAND
Week/	Project Assignment	Date			
1	LB/SC..... Problem Assignments, Arch. Design Thinking "Conceptual Blockbusting".....	9/21	Team - Site Model		
1 A	VISITOR.. David Van Zanten - Chicago Architectural History	9/23			
2	SC..... BIM - (Revit) Introduction.....	9/28	BIM Definitions and Parametrics	"Engineering" display in McCormick Plaza	Architectural Sketching • Door
2 A	SC..... BIM - (Revit) Techniques 1.....	9/30	BIM Basics:		
3	LB/SC..... Free Hand Architectural Drawing.....	10/5	• Floors	• Structure	• Window
3 A	LB/SC..... Critiques / (5) Concept Drawings.....	10/7	• Walls	• HVAC	• Space
4	LB/SC..... Book Discussion.....	10/12	• Roofs	• Enclosure	• Volume
4 A	LB/SC..... BIM - (Revit) Techniques 2.....	10/14	• Structure	• Model	
5	LB/SC..... Critiques.....	10/19		• Visualization	Chapter Oral Report
5 A	VISITOR.. Tom Leslie - History Lecture.....	10/21	BIM Visualization:	Program:	1 Page Outline
6	VISITOR.. John Ronan - John Ronan Architects.....	10/26	• Views		
6 A	LB/SC..... Critiques.....	10/28	• Materials	• 1200 SF Exhibit Space	
7	VISITOR.. David Corr - Critiques/Structural Engineering.....	11/2	• Rendering	• 100 SF Office	
7 A	LB/SC..... Critiques.....	11/4		• 100 SF Work/Storage	
8	LB/SC..... (BIM-Revit) Techniques 3.....	11/9	BIM Advanced Modeling:	• 1 Bathroom	
8 A	LB/SC..... Midterm Review - Individual Projects.....	11/11	• Families		Readings (see attached book list)
9	LB/SC..... Critiques.....	11/16	• Components		
9 A	VISITOR.. Dan Wheeler - Wheeler Kearns Architects.....	11/18	• Sheets		
10	VISITOR.. David Corr - Critiques/Structural Engineering.....	11/23	• Annotation		
10 A	HOLIDAY Thanksgiving	11/25			
11	SC..... BIM / (Revit) Presentation.....	11/30			
11 A	SC..... BIM / (Revit) Presentation.....	12/2			
12	JURY Final Jury.....	12/9		Final Review of Space	Written & Oral Book Reports
	Individual Projects			Model 1/8" = 1'-0"	Hand-in Sketch Book
	2pm - 6pm			Individual	60 Sketches

Grade Distribution:

Individual Design Problem and Presentation	65%
Freehand Sketches	10%
Report on Reading	10%
Structural Assignment	15%

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