

**Southern Polytechnic State University**  
**Architecture Program - School of Architecture, CET & Construction**  
**DFN3241 - Computer Application in Architecture (1-3-2)**

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Section One: Tuesday 1:00-6:00 Room N-176  
Class Website: <http://architecture.spsu.edu/classes/DFN3241-FormZ/>

## **Syllabus Summer 2007**

### **Course Description: Welcome to the digital environment**

Three-dimensional elemental study of design is among the most important analytic aspects of architecture. In general a physical model provides unswerving intuitive and empirical clues to the interactive association of a space and volume, thus describing its scale, tectonics, structure, spatial mood and other related systems. Conversely, a detailed physical model to study volumetric nuances of a space(s) can become more cumbersome and time-consuming than several quick simulated elemental models that can provide a great deal of analytic information during the stages of the design process.

This course integrates design and its visualization in 3-D using Form•Z. The class is structured in a lecture-lab format with exercises from your assigned textbook and class handouts. The textbook includes a total of seven workshops that provide step-by-step information to learn the commands and essentials inter-related tools of Form•Z that are realized and learned by doing the related exercises. The class handouts have been developed to provide further study into the power of Form•Z for architectural design.

Remember, Form•Z is a skill based and a very tool-oriented program, unlike other drafting and graphic programs. The learning curve for Form•Z is a bit steep, but nothing is difficult if you are determined. The required book is fundamentally essential for the course besides other material that I will give you in class to make your life in lab a bit more endurable.

The structure of the assignments is meant to discipline your learning process of Form•Z. You will learn Form•Z by regularly doing the assigned work as a bare minimum requirement for the course... otherwise, practice, practice, practice. Initially it may take some painstaking effort, but ultimately your hard work will become very rewarding for many years to come in the 3-D visualization world of architecture.

### **Learning Outcomes:**

- The student will be able to edit pixel based images using PhotoShop
- The student will be able to draw two-dimensional drawings using Form•Z
- The student will be able to create three-dimensional models complete with textures and lighting using Form•Z

### **Course Objectives:**

- Familiarize the student with digital techniques of computer representation and drawing including:
- Basic concepts of pixel based imaging and manipulation
- Basic concepts of two-dimensional computer drafting
- Concepts of three-dimensional computer modeling

### **Text Book:**

Lachmi Khemlani, *Form•Z 4.0: 3D Modeling, Rendering, and Animation*,  
McGraw Hill Company, New York ISBN 0-07-142516-0

### **NAAB Performance Criteria:**

**1. Speaking and Writing Skills, 2. Critical Thinking Skills, 3. Graphics Skills, 4. Research Skills, 11. Use of Precedents, 24. Building Materials and Assemblies, 26. Technical Documentation**

### **Grading:**

Homework Assignments	30%
Midterm	20%
Final Project	40%
Class Attendance and Participation	10%

Assignments are to be submitted on CD-Rom or USB Jump drive. If you use jump drive you will need to two. Data media will be returned after each evaluation. Some homework assignments and the Mid-term and Final require printed submissions.

### **Class Expectations**

Attendance is required. You are expected to be in class on time and ready to participate. We will start on time so please be punctual. This means be on time. Remember to turn cell phones off or set them to quite mode at the beginning of class. Your attendance and participation counts 10% toward the your final grade.

Assignments & Grading: Homework assignments are due the following week at the beginning of class. Homework is evaluated out of a ten-point scale. Assignments submitted late are penalized 1 point. Assignments submitted after they have been reviewed in class are penalized 4 points and then evaluated. Homework constitutes 30% of your final grade.

This class is focused on teaching digital media techniques. It is expected that you have a mastery basic computer skills to attend this class. You should be able to copy and move electronic files including establishing an organization for you computer files. You should be able to create CD-ROMs for assignment submission and project backup files. If you do not have these skills please seek tutoring outside of this class.

Computer crashes, viruses, bugs and technical problems are always present in a digital environment. You are responsible for all the work that we will produce during the semester. As such any work that would cause you considerable pain to recreate should be stored in multiple places, known as a backup copy. Not just on your computer hard drive but also on some other media like CD-ROM or jump drive. Backup your work often. No sympathy can be given to students that do not follow this convention. But remember: *"The second time is always faster."*

### **Semester Schedule Summer 2007:**

<b>Date</b>	<b>Week</b>	<b>Lesson</b>	<b>Assignment</b>
5/15/07	Week 1	Welcome Introduction	Purchase Book & Install Software
5/22/07	Week 2	Photoshop 101	People Masking & Midterm Research
5/29/07	Week 3	Drafting Module	Drafted Column
6/5/07	Week 4	Basic Shapes - <b>Midterm Due</b>	A Simple Pavilion
6/12/07	Week 5	Sizing Up your World	An Architectural Block Model
6/19/07	Week 6	More Modeling Techniques	An Item of Furniture
6/26/07	Week 7	Holiday - No Class	Site Planning for Urban Design
7/3/07	Week 8	Rendering your Scene	Lighting Commercial Building
7/10/07	Week 9	Materials & Textures	Final Project
7/17/07	Week 10	<b>Final Project Due</b>	

