



West Los Angeles College  
Los Angeles Institute of Architecture and Design

## Course Syllabus – Fall 2015

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### Arc 161 Introduction to Computer Aided Design (2) CSU

LAIAD Equivalent course: Arch 211B: Basic Arch Drawing 2

### PRE-REQUISITE / CO-REQUISITE

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Co-requisite: Arc 180

### SCHEDULE / LOCATION

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6:00 pm – 7:45 pm M, Th at LAIAD, 3807 Wilshire Bl. Suite 330

### FACULTY

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William Taylor, FAIA 213 251 4500 [wtaylor@LAIAD.com](mailto:wtaylor@LAIAD.com)

### OFFICE HOURS

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By Appointment. The instructor is available during business hours for consultation outside of class. Students are encouraged to seek help and bring concerns to the instructor during this time. Please don't hesitate to ask for help or assistance if you need it, or to discuss any concerns you have regarding the class.

### COURSE DESCRIPTION

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Arc 161 Introduction to Computer Aided Design: An introduction to computer-based architectural communication utilizing multiple 2D and 3D computer applications such as Autocad and Rhino. This course involves 2D and 3D analysis and interpretive studies using drawing as an integral part of the design process. An additional laboratory component allows students to receive hands-on computer instruction while working on assignments. Students are to provide their own laptop computer and the appropriate software for the course.

### REQUIRED HARDWARE

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A 64-bit **laptop running Windows**. (If you are a Mac user, you must install Boot Camp or Parallels and install Windows right away. 7, 8 or 10 will suffice.)

### REQUIRED HARDWARE (Student to provide)

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- **Rhino 5 with latest service release** (*Rhino for Mac has been recently released but is generally not sufficient for this class. The underlying framework is entirely different from the PC version, therefore it is more useful to learn the PC interface for professional practice.* ) Be sure to buy the student version at the highly discounted rate of \$195 using the online form on the McNeel website.

- **Grasshopper** Available free at [grasshopper3d.com](http://grasshopper3d.com) (we will be learning how to use the Grasshopper plugin for Rhino in the tail end of the class).

- **Adobe Illustrator** I recommend the entire CC suite at \$19.95 per month for students, but all you really need for this class is Illustrator.

## **COURSE STUDENT LEARNING OUTCOME (SLO)**

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At end of the course, the successful student will be able to demonstrate digital drafting competency by creating different 3D drawings /views of an object in CAD software, and then creating layout views for printing and presentation purposes.

### **LEARNING OBJECTIVES**

1. Practice the software taught in the concurrent course and access department printers, plotters, and scanners to assist in completion of co-requisite course assignments.
2. Assess, compare, and select appropriate commands to achieve particular tasks.
3. Utilize the computers to produce a variety of architectural documents.
4. Delineate projects assigned in the concurrent course.
5. Compare and discuss solutions to project design challenges with other students.
6. Produce animations such as walk-throughs and fly-arounds for class presentation.
7. Produce large format prints at correct size/scale to create presentation boards.
8. Assemble class projects portfolio.
9. Develop skills related to digital data management.

### **COURSE CONTENT**

#### Basic Knowledge of Digital Architectural Software

1. Learning and understanding of the Rhino interface / tools
2. Emphasis on Rhino as a tool for design
3. Integration of Multi software applications into single work flow
4. Understanding vector and pixel based programs
5. Learning and understanding of the Rhino interface / tools
6. Emphasis on Rhino as a tool for 2D description
7. Integration of Multi software applications into single work flow

#### Basic Techniques of Digital Architectural Drawing

1. Modeling / drafting of a design
2. Rendering
3. Composition
4. Presentation

#### Basic Techniques in Spatial Description

1. Orthographic projection: Plan, Section, Elevation.
2. Axonometric and isometric views
3. Relationships of plan, section, and elevation in a composition.

#### Basic Techniques of Analytical Drawing

Use of diagrams as design tools

Use of Diagrams as presentation tools

Compositional diagramming through abstract analysis

#### Basic techniques in architectural presentation software

1. Understanding interface and tools
2. Digital modeling / drafting, export, and rendering
3. Continuing discussion on the use of diagrams: as a design tool versus an explanation tool.
4. Use of varying graphics in presentation: 2d architectural drawings, 3d architectural drawings, 2d and 3d diagrams, photography, 3d renderings, text.
5. Compositional relationships in presentation
6. Verbal presentation skills

### **EVALUATION GUIDELINES AND PROCEDURES:**

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1. Students are evaluated for individual progress using the following criteria:
  - A. Development of skills and abilities listed under learning objectives.
  - B. Attendance and contribution to studio, lectures, and field trips.
  - C. Evidence of motivation / perseverance.

- D. Willingness to explore alternatives and take risks.
- E. Willingness to accept criticism.

2. In terms of the criteria listed above the design studio activities are weighted approximately as follows:

Projects & Case Studies 75% (number of projects may vary)

Attendance and Participation 15%

Instructor Discretion 10%

TOTAL 100%

- Grades given on LAIAD transcripts will be traditional A,B,C, F grading. No grades of D will be given.
- Equal Grades will be given on West Los Angeles College Transcripts if student is enrolled at WLAC for credit.
- Attendance is mandatory. Students missing 25% of classes will be subject to dismissal.
- No project assignments will be accepted for full credit if late or unfinished.

### SCHEDULE: Fall 2015

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Homework will be assigned on a daily basis. Attendance is mandatory to all class meetings.

Week	Day	Date	Subject Matter
0	Thur	Sep 03	First Day of Class - Computer Setup
1	Mon	Sep 07	Labor Day – No Class
	Thur	Sep 10	Tutorials: Rhino
2	Mon	Sep 14	Tutorials: Rhino
	Thur	Sep 17	Tutorials: Rhino
3	Mon	Sep 21	<b>Project 1 Assigned: Modeling Case Study</b>
	Thur	Sep 24	Tutorials: Architectural Drawings in Rhino & Illustrator
4	Mon	Sep 28	Desk Crits
	Thur	Oct 01	Desk Crits
5	Mon	Oct 05	Project 1 Due
	Thur	Oct 08	Tutorials: Grasshopper
6	Mon	Oct 12	Tutorials: Grasshopper
	Thur	Oct 15	Tutorials: Grasshopper
7	Mon	Oct 19	Tutorials: Grasshopper
	Thur	Oct 22	<b>Project 2 Assigned: Grasshopper Algorithmic Curiosities</b>
8	Mon	Oct 26	Desk Crits
	Thur	Oct 29	Desk Crits
9	Mon	Nov 02	Desk Crits
	Thur	Nov 05	Tutorials: Visualization in Grasshopper
10	Mon	Nov 09	Desk Crits
	Thur	Nov 12	Desk Crits
11	Mon	Nov 16	<b>Project 2 Due</b>
	Thur	Nov 19	Tutorials: Rendering
12	Mon	Nov 23	<b>Project 3 Assigned: Studio Drawings</b>
	Thur	Nov 26	Thanksgiving – No class
13	Mon	Nov 30	Desk Crits
	Thur	Nov 03	Desk Crits
14	Mon	Dec 07	Desk Crits
	Thur	Dec 10	Desk Crits
<b>15</b>	<b>Sat</b>	<b>Dec 12</b>	<b>ALL WORK DUE – Final Jury on Saturday DEC 12</b>