

## **ID 217 – Introduction to Computer Aided Design in AutoCAD 2011**

Fall Semester, 2012  
Chaminade University  
Mondays and Wednesdays from 6 pm until 8:50 pm

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### **Course Description**

Students will learn how to create architectural construction documents using AutoCAD 2011

### **Course Objectives**

This course has three objectives: how to use AutoCAD 2011, how to organize information and how to present this work.

Students will learn by doing. Upon completion, they will be able to confidently create construction documents for a small renovation project. Construction documents include: title sheet, floor plan, elevations, electrical, lighting, countertop, soffit, flooring and detail plans, door and window schedules. During this course, students will learn a little about file organization, construction, budgeting and cabinetry. Only AutoCAD's 2D tools will be covered.

### **Course Outline**

After an introduction to AutoCAD's workspace, the first task is to create their custom sheet borders. Then, we will begin with a small residential bathroom renovation. Students will learn how to create the floor plan, elevations, countertop plan, flooring plan, lighting and electrical plans. They will calculate the quantities for the flooring and wall covering and prepare documents to obtain a countertop and splash quote. Notations for blocking and placement of the shower fixtures and lighting will be included.

Next, the students will be tasked to create both an independent-living master bath and a commercial restroom employing universal design principles and following ADA guidelines. These drawings will also include notations required to obtain a building permit.

### **Class Structure**

Each class will begin with a review of what was addressed in the last class (approximately 15 minutes). There will be a chance for short questions (approximately 10 minutes) then I will introduce the next topic (approximately one hour). Students will then work on their projects; I will work with each student individually during this remaining time.

### **Grading**

Grading is based on attendance (35%), class participation and preparation (30%) projects and final (35%).

### **Required Text**

AutoCAD 2011 for Interior Design and Space Planning

## **Monday, 27 August**

Course outline and relevance to career path.

How I am qualified to teach this class.

Why AutoCAD? It is not the software, rather the operator, that matters.

Overview of Model and Paperspace.

Commands:

**line, polyline, offset, copy, move, fillet, zoom extents, circle, ellipse, trim, explode, rectangle, rotate, divide, mirror, multi-line text, erase, undo, stretch, vplayer, array, block, wblock, poly-line edit, distance, move;previous, ed, F3, F8, F2, TM1, TM0, ltscale, attdef**

Introduction to Layers

Colors and color-dependent plotting

Line types

CAD standards:

[http://www.upo.harvard.edu/campusprojects/Std/CAD\\_Standards.pdf](http://www.upo.harvard.edu/campusprojects/Std/CAD_Standards.pdf)

<https://cadbim.usace.army.mil/MyFiles/2/8/1/ERDC%20ITL%20TR-12-1.pdf><http://www.uscg.mil/sflc/drawings.asp>

[www.uscg.mil/sflc/drawings.asp](http://www.uscg.mil/sflc/drawings.asp)

<https://cadbim.usace.army.mil/CAD>

how to organize files

homework:

review chapters 1 and 2

create own logo for use on sheet borders

select 24x36 sheet border and customize, if desired.

## **Wednesday, 29 August**

Review commands and file organization

Individual help with sheet borders

Start with small residential bathroom renovation:

Draw floor plan and start elevations (chapter 6)

Homework: find fixtures to use in first project

## **Monday, 3 September**

No class

## **Wednesday, 5 September**

Block, Wblock (chapter 9)

Internet research, Design Center

Create blocks for first project

Blocks for furniture layout

**Monday, 10 September**

Review floor plan and continue with elevations  
Add dimensions  
Reflected Ceiling Plan (chapter 11)

**Wednesday, 12 September**

Xref (chapter 10)  
Dimensions (chapters 7 & 8)  
Mview  
Door and window schedules (chapter 4), door and window construction  
Set up sheets and print floor plan and elevations (chapter 12)

**Monday, 17 September**

Hatch (chapter 8)  
Create countertop plan

**Wednesday, 19 September**

Create flooring and wall covering plans

**Monday, 24 September**

Lighting and electrical

**Wednesday, 26 September**

Area  
Calculate quantities for flooring and wall covering  
Add construction details (chapter 8)

**Monday, 1 October**

Compile and print construction documents for first project

**Wednesday, 3 October**

Review commands

**Monday, 8 October**

Review first project  
Overview of building codes and ADA guidelines

**Wednesday, 10 October**

Start next project, an independent living master suite  
Xref existing CAD file

**Monday, 15 October**

Continue with independent-living master suite  
Floor plan (noting egress, illumination, smoke detectors)  
<http://publicecodes.cyberregs.com/icod/irc/2003/index.htm>

**Wednesday, 17 October**

Furniture layout

**Monday, 22 October**

Elevations

**Wednesday, 24 October**

Elevations

**Monday, 29 October**

Countertops and wall covering

**Wednesday, 31 October**

Lighting and electrical plans, smoke detectors

**Monday, 5 November**

Soffit and flooring plans

**Wednesday, 7 November**

Compile second project into sheets

**Monday, 12 November**

Review second project

**Wednesday, 13 November**

Preparing plans to obtain a building permit

<http://www1.honolulu.gov/council/ocs/roh/>

<http://publicecodes.cyberregs.com/icod/irc/2003/index.htm>

<http://www.nkba.org/Design/Professionals/Guidelines.aspx>

**Monday, 19 November**

Business communication via telephone and email.

Specifications Book

Importing text and images into CAD

**Wednesday, 21 November**

Commercial bathroom layout

**Monday, 26 November**

Command Aliases

**Wednesday, 18 November**

Customizing CAD

**Monday, 3 December**

Enhancing plans

**Wednesday, 5 December**

Last day of instruction

Sketchup

**Monday, 10 December**

No class

**Wednesday, 12 December**

No class