

ID 217 – Introduction to Computer Aided Design in AutoCAD 2011

Spring Semester, 2013

Chaminade University

Mondays and Wednesdays from 6 pm until 8:50 pm

Laurent Chouari

228-0938

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

WEEK #1

Monday, 14 January

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

<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

<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, 16 January

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

WEEK #2

Monday, 21 January

No Class. Fr. Chaminade, Martin Luther King Day holiday observed. Offices closed.

Wednesday, 23 January

Block, Wblock (chapter 9)

Internet research, Design Center

Create blocks for first project

Blocks for furniture layout

WEEK #3**Monday, 28 January**

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

Wednesday, 30 January

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)

WEEK #4**Monday, 4 February**

Hatch (chapter 8)
Create countertop plan

Wednesday, 6 February

Create flooring and wall covering plans

WEEK #5**Monday, 11 February**

Lighting and electrical

Wednesday, 13 February

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

WEEK #6**Monday, 18 February**

No Class. Presidents Day

Wednesday, 20 February

Review commands
Compile and print construction documents for first project

WEEK #7**Monday, 25 February**

Review first project
Overview of building codes and ADA guidelines

Wednesday, 27 February

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

WEEK #8**Monday, 4 March**

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

Wednesday, 6 March

Furniture layout

WEEK #9**Monday, 11 March**

Elevations

Wednesday, 13 March

Elevations

WEEK #10**Monday, 18 March**

Countertops and wall covering

Wednesday, 20 March

Lighting and electrical plans, smoke detectors

WEEK #11**Monday, 25 March**

No Class. Spring Recess

Wednesday, 27 March

No Class. Spring Recess

WEEK #12**Monday, 1 April**

Soffit and flooring plans

Wednesday, 3 April

Compile second project into sheets

WEEK #13**Monday, 8 April**

Review second project

Wednesday, 10 April

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>

WEEK #14**Monday, 15 April**

Business communication via telephone and email.

Specifications Book

Importing text and images into CAD

Wednesday, 17 April

Commercial bathroom layout

WEEK #15

Monday, 22 April

Command Aliases

Wednesday, 24 April

Customizing CAD

WEEK #16

Monday, 29 April

Enhancing plans

Wednesday, 1 May

Sketchup

Last day of instruction