



INTERIOR 1061 CAMELBACK RD P. 949.675.4451  
 DESIGNERS NEWPORT BEACH F. 949.759.0667  
 INSTITUTE CA 92660 www.idi.edu

## Syllabus

# Course 443 CAD 3

**Software** Sketch Up, V-Ray, & Photoshop  
 If you choose to buy your own copy of the software it must match the lab versions in order to be compatible with your class work

**Hardware** USB Flash Memory

	Class Time	Work Time
<b>Overview</b> Model Creation (SketchUp)	18%	25%
Illumination (VRay plugin)	18%	25%
Materials (Vray Plugin, Photoshop)	18%	25%
<u>Post production (Photoshop)</u>	<u>18%</u>	<u>25%</u>
Lab time (practice with individual help)	18%	
Grading (individual feedback and teaching)	9%	

<b>Grading</b> Project (see project grade sheet):	100 points
Notebook	50 points
<u>Project process deliverables (5 at 10 points each):</u>	<u>50 points</u>
Total:	200 points

**Attendance** Each student may have two total absences. However, more than two consecutive class meeting absences or three non-consecutive class meeting absences per course may result in the student being withdrawn from the course. Attendance is considered an important habit to acquire in becoming a mature, responsible member of the professional community.

**Project** 18x9 inch full color perspective rendering 200 ppi min (3600x1800 pixels), mounted on 1/4" black foam core (your completed project will be collected and not returned to you). Your project must be an interior space that is:

*1-Fully furnished*

2-Fully accessorized (media, pillows, art, sculpture, foliage)

3-Has appropriate lighting

4-Is the correct format (see above)

Work product:

1-Three (3) computer files; Model file .skp, Rendered file .png, Post production file .psd

2-Seven (7) Proof prints on 8.5x11 or 11x17 paper

3-One (1) final mounted project (as described above)

4-One (1) digital file copy saved as directed to the schools server that include your first and last name

**Project Deliverables** required print and file you hand in during class to show your process (print the rubrics read them, and bring them to class every day)

1-Project model enclosure, file and print from SketchUP 8.5x11

2-Project model complete (3 files enclosure empty, enclosure furnished, all), file and print all 3 from SketchUP 8.5x11

3-Project Illumination, full size render file, and 11x17 print of .png

4-Project materials – mapped, full size render file and 11x17 print of .png

5-Post production – 2 files, rendering and postproduction file, full size render file, and 11x17 print of .psd

Class **1** Modeling 1

## Lecture

*Technologically-based collaboration method, benefits of SketchUp and 3D models and renderings*

*Instructor; Window > Instructor*

*Orbit (scroll button - use as a button)*

*Pan (scroll button - shift + click)*

*Zoom (scroll)*

*Zoom Window (shift + ctrl + w)*

*Zoom Extents (shift + z)*

*Rectangle (r)*

*Axes; red, green, blue*

*Inference engine: hover; Endpoint, Midpoint, Intersection, on face, on edge*

*VCB (Value Control Box)*

*Push Pull (p)*

*Select; left/right, number of clicks*

*Faces*

*Edges*

*Delete (Not erase)*

*Undo (ctrl + z)*

*Move / Copy (m / m + ctrl)  
Scenes; Window > Scenes  
Component; Window > Component, Warehouse  
Group creation (select, then right click)  
Line (l)*

**Note** *Esc is not the same as in AutoCAD, Use the space bar, and Ctrl + T*

## Class **2** Modeling 2

### Lecture

*Layers  
Styles; Window > Styles  
Camera > Field of View  
Printing  
Export, Export Options  
Circle (c)  
    *Enter # of sides before clicking to start  
    circle*  
Measure (t)  
Offset (f)  
Line (l)  
Arc (a)  
Styles Toolbar; View > Toolbars > Styles, x-ray  
Follow me; Tools > Follow me  
Rotate (q)  
Scale (s)  
Standard Views; Camera > Standard Views  
Component creation (use components for glass  
    and lights)  
Component modification (place material or light  
    from VRay in component)*

#### *Clean a Model*

1. Open model - File, open, browse for your model, select in list, open, no, file, save as, file name, key in "current date\_first initial\_lastname" For example - 170506\_MRRobins, save
2. Improve model efficiency - Window, model info, statistics, purge unused, fix problems, x (upper right)
3. Delete all existing materials – Default tray, materials, (click next to house icon) choose in model , right click existing material, choose delete, strike enter key, or delete all

## Deliverables 1

Project model enclosure (model accuracy, content, and settings – leave window openings without glass at this point), *read and print rubric – you get points for printing and bringing the rubric to class for grading*

### Lecture

#### *Sunlight*

1. Modify render output – Asset editor, settings (gear), render output, image width, key in 800 (click on existing number and key in 800)
2. Interactive Render - Asset editor, render with vray (use arrow at base of tool icon), choose render with vray interactive
3. Modify default sunlight location – Default tray, shadows, show hide shadows (cube upper left), time, date (modify visually with slider bar),
4. Modify sunlight settings – Asset editor, lights, sunlight, arrow at right, next to sunlight slider on (blue)

#### *Lighting*

1. Lock interactive render window - Render interactive, lock camera orientation (vray lock icon)
2. Add rectangular light emitting surface – Double click component in model (if using a component), plane light, place like sketchup geometry, space bar, click out of component
3. Modify rectangular light - Asset editor, lights, vray rectangular light, intensity, key in 500, adjust as required using slider
4. Add spotlight – Spot light, place like sketchup geometry
5. Modify existing lights - Asset editor, lights, choose light, modify settings at right
6. Modify existing lights from model – Click light intensity tool, hover over light component, click and drag up or down to change intensity
7. Add color to a light - Asset editor, lights, choose light, modify settings at right,

color/texture, click on color box, and or use slider

8. Add emissive material - Asset editor, left fly out, materials (triangle), emissive, LED 5500k, drag and drop to middle section, adjust intensity as required, material will show in default tray (sketchup), assign material in sketchup

## Class **4** Modeling / Illumination

### Lab

## Class **5** Materials

## Deliverables 2

Project model complete (3 files; enclosure empty, enclosure furnished, all), *read and print rubric*

### Lecture

#### *Materials*

1. Add glass material – Asset editor, left fly out, materials (triangle), Glass, glass window neutral (may need to scroll at right), drag and drop to material list in center, right fly out, vraybrdf, reflection, reflection ior, (higher number yields mirror like material), click plus sign, choose reflection, reflection bar (at top), leave defaults, vray brdf, opacity, change to 0.30, gear, environment, uncheck box, rendering will show windows as black
2. Add material to component - Zoom window (shift+ctrl+w) , orbit and pan to see geometry, double click component, draw geometry (use inference points), click outside component box (if nested requires multiple clicks), ctrl+t
3. Add default material - Asset editor, left flyout, materials (triangle), bricks, bricks weathered e04 1m, drag and drop to material list, default tray, materials, select, choose bricks, default tray, materials, select material, edit, texture, next to arrows, key in 1m (1

meter - default material size), asset editor, interactive render

4. Increase bump map - Asset editor, materials, select material to modify, right flyout, bump/normal mapping, amount slider, interactive render
5. Make an new material - Asset editor, left flyout, create, materials, choose generic, drag and drop to middle section, right flyout, diffuse, map icon (checkerboard), choose bitmap, browse, M:\\_CAD 3\Materials (find image file here), back to center section re-click generic, bump/normal mapping, turn on, mode/map, checker, bitmap, browse, M:\\_CAD 3\Materials (find image here with "bump" in file name), back to center section re-click generic, material list, generic, right click, choose rename, key in name, default tray, materials, select, choose new material, click geometry in model, materials, edit, key in new material scale as required

Class **6** Illumination / Materials

Lab

Class **7** Post Production 1

Lecture

*Save as .png*  
*Image size pixel density*  
*Background image*  
*Perspective issues*  
*Brightness and Contrast*  
*Adjustment layers*  
*Alt + Click between adjustment*  
*layer and layer below to only*  
*adjust that layer*  
*Curves*

Class **8** Materials / Render / Post Production

## Deliverables 3 *Project Illumination, read and print rubric*

Lab

Class **9** Render / Post Production

## Deliverables 4 *Project materials mapped, read and print rubric*

Lab

Class **10** Post Production

## Deliverables 5 *Post production, read and print rubric*

Lab

Class **11** Lab (flex day)

Lab

Class **12** Project Grading

Project Due, *read and print rubric*

# In Class Project Presentation and Grading