



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

Hardware USB Flash Memory

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

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

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-Four (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 (this is the file you use for Vray), file and print from SketchUP 8.5x11
- 2-Project model complete (3 files enclosure empty, enclosure furnished, all), file and print 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)
Materials (b)
Move / Copy (m / m + ctrl)
Shadows; Window > Shadows, Settings
Use Front, or orient the sun by rotating
the model
Scenes; Window > Scenes
Component; Window > Component, Warehouse
Group creation (select, then right click)
AutoCAD saving to earlier versions
Import; Import a CAD file
Line (l)*

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

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
Component modification (place glass in door component)
Custom materials

Deliverables 1 Project model enclosure (this is the file you use for Vray)

Lecture

General Illumination - HDR Image for GI

Turn Off Physical Camera
1-Vray Options "O" on tool bar
2-Choose "Camera"
3-Under Physical Camera, uncheck "On" toggle

Set up HDR Image for GI
1-Vray Options "O" on tool bar
2-Choose "Environment"
3-Next to "GI (Skylight)" click on the "M"
4-Under "Preview" select "TexBitmap"
5-Select file HDR that has illumination
6-At bottom under "UVW Type" select "UVWGenEnvironment"
7-OK

Note Locations for HDR Images: <http://www.hdrlabs.com/sibl/archive.html>

Class **4** Illumination 2

Lab

Class **5** Illumination 3

Deliverables 2 Project model complete (3 files; enclosure empty, enclosure furnished, all)

Lecture

Sunlight + General Illumination

- 1-Options
- 2-Global Switches
- 3-Lighting, check default lights
- 4-Go to Environment
- 5-Check "On" box under Reflection
- 6-Click on m
- 7-Under preview select TexSky
- 8- Under Default Sky Options select Sun1
- 9- Under Sun check Enabled
- 10-Under Sun Adjust Intensity (1.0)
- 11-OK, then uncheck "On" box under Reflection
- 12-Uncheck "On" box under Reflection/refraction (background)
- 13-Uncheck "On" under GI (skylight)

Lighting

- Omni light 30-100
- Rectangular light
 - Under Options check Double Sided
- Spot light 1-0.5

Add Color to Lighting

- 1-Select light
- 2-Right click and go to V-ray for Sketchup, then Edit light
- 3-Click on box next to Color
- 4-Assign these numbers to colors Red: 255, Green: 240, Blue: 160

Lecture

Modifying materials in Vray:

Add emissive layer

- 1-Material Editor
- 2-Right click on material in Material List
- 3-Select Create Layer, Emissive
- 4-Click on m next to Multiplier
- 5-Select TexFresnel from pull down
- 6-Leave defaults
- 7-Change number next to M after Multiplier for greater brightness
- 9-Check box next to Double Sided
- 10-Click Preview to assess lighting level

Add reflection layer

- 1-Material Editor
- 2-Right click on material in Material List
- 3-Select Create Layer, Reflection
- 4-Click M next to Reflection
- 5-Change under Preview to TexFresnel, leave defaults
- 6-Back to Material Editor, change Glossiness next to Reflect – use preview button

Make new material

- 1-Sketchup Materials palette
- 2-Click on crate with +
- 3-Type material name
- 4-Check Use texture image
- 5-Find file
- 6-Edit as required

Add Bump maps

- 1-Open Material editor
- 2-Select material in list
- 3-Go to Maps section
- 4-Check Bump box
- 5-Click on M next to Bump
- 6-Under Preview select Tex Bitmap
- 7-Find bump file
- 8-Back in material editor modify Bump multiplier to enhance bump map

Note To find materials see <http://www.arroway-textures.com/en/products/wood-1/contents>, http://resources.maxwellrender.com/news_scripts.php?t=1, <http://www.sketchuptextureclub.com>, <http://www.vray-materials.de>, and the M drive

Class 7 Materials 2

Lab

Note *To find good textures go to cgtextures.com*

Class 8 Post Production 1

Deliverables 3 *Project Illumination*

Lecture

*Save as .png
Image size pixel density
Background image
Perspective issues
Brightness and Contrast*

Class 9 Post Production 2

Deliverables 4 *Project materials mapped*

Lecture

*Adjustment layers
Alt + Click between adjustment
layer and layer below to only
adjust that layer
Curves*

Class 10 Lab

Deliverables 5 *Post production (rendering file before post production)*

Lab

Class **11** Lab (flex day)

Lab

Class **12** Project Grading

Project Due

In Class Grading