

# ULTRAREAL SYLLABUS

## A4534 - TECHNIQUES OF THE ULTRAREAL

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Spring 2019

Wednesday 7-9PM

Avery 600 - Ware Lounge

Office Hours: Wednesday, 9PM

### **Description**

The use of perspective and rendering is often an afterthought. With the abundance of 3D modeling software and the ability to see every angle of a project instantaneously, renderings are often thought of as a last minute tool for representation. This class challenges the participants to not only think of rendering as a method of presentation, but also a tool for design. We encourage the use of perspective and rendering early and often in the design process. In addition to learning techniques for creating ultrarealistic images, we will teach a workflow that encourages early exploration. We will focus on color, light, material, context, reflection, and opacity throughout the course of the entire design project. We will look for inspiration in many places, including art, photography and cinematography.

The class will use V-Ray for 3D Studio Max as the main engine for exploration, but will also encourage the use of other modeling applications, post processing software, and 3rd party plug-ins. Students will also be required to explore additional methods of composition, including sketching and photography. No knowledge of V-Ray or 3DS Max is required, but students should be able to model in an application of their choice. The class will focus on Rhino and 3DS Max as modeling tools.

### **Class Structure**

Classes will consist of a combination of student presentations, lectures, and software demonstrations. There is a more detailed breakdown of each class in the schedule below. Other instructional video tutorials will be found online at [digicon-nyc.tumblr.com](http://digicon-nyc.tumblr.com). There will be weekly office hours with teaching assistants and critics, as well as several weekend working sessions with critics. Please note, that online tutorials and office hours are not a substitute for attending lecture.

Grading is dependent on multiple factors. The first is weekly progress and participation. We will check blogs on a weekly basis. In order to achieve the level of quality that this class requires, it is necessary to test and revise the techniques that we show you each week. A few groups will be asked to present their progress in the beginning of class throughout the semester. The second factor in grading is overall quality of midterm and final images.

### **Project**

Students will be encouraged to work in groups of up to four (4) members for the semester. Deliverables will be the same for each group, regardless of number of students. The project will consist of a small scale pavilion or other architectural object that will be developed and presented through rendering. The focus of the images must be the exploration of this project through three scales. Environment and context

will play a supporting/secondary role to your focal design. Images will be uploaded to a team website each week, and critics and assistants will provide feedback. **The project must be new, original work.** Students **are not** allowed to use an existing project or previous studio work. You must design, model, and render a project from scratch.

In addition to the project, there will be small assignments throughout the course of the semester. Each group must create a Tumblr blog and upload assignments and progress images on a weekly basis. See attached project description for details. Blogs will be reviewed in class each week.

## ***Schedule:***

### **January 23rd - Intro**

**LECTURE:** *Visual Studies presentation, project intro, and project walkthrough*

- Introduction to the class and review syllabus
- Walkthrough sample project
- Discuss major goals for a rendering project
- Website explanation
- Review of first assignment
- Questions

**VIDEO ASSIGNMENT:** *17.1A, 17.1B, 17.2*

**VIDEO SUPPLEMENT:***13.1, 13.2, 13.5, 13.6*

**Due Next Week:** One sketch of a proposed perspective for each student, uploaded to blogs

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### **January 30th - Photography & Cameras**

**ASSIGNMENT DUE:** *One Sketch per student*

**LECTURE:** *Photography and Camera Techniques*

- Digital SLR Camera Set-up
- F Stop
- Shutter Speed
- Composition set up

**VIDEO ASSIGNMENT:** *17.3*

**VIDEO SUPPLEMENT:***13.4, 13.8*

**Due Next Week:** 3 Renders from Bootcamp Tutorial Video

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### **February 6th - Composition & Analysis**

**ASSIGNMENT DUE:** 3 Renders from Bootcamp Tutorial Video

**LECTURE:** *Composition*

- Guest: Gian Colangelo

**DEMONSTRATION:** *Composition Analysis*

- Several groups will be selected to present their sketches

**VIDEO ASSIGNMENT:**

**VIDEO SUPPLEMENT:**13.1, 13.2, 13.5, 13.6

**Due Next Week:** 3 Photos per Student. Interior, Exterior, and Black & White.

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**February 13th - Materials 01**

**ASSIGNMENT DUE:** *Photo Assignment*

- Selected groups discuss their Images

**LECTURE:** *Bump, Reflection, Diffuse Maps*

**DEMONSTRATION:** *Procedural Materials*

- Modeling in Max for specific materials
- Procedural Materials
  - Titanium
  - ETFE
  - Metals
  - Water
  - Chrome
  - Plastic
  - Channel Glass
  - Frosted Glass

**VIDEO ASSIGNMENT:** 18.2

**VIDEO SUPPLEMENT:**18.1A, 18.1B

**Due Next Week:** Material Palettes Due

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**February 20th - Desk Crits**

**ASSIGNMENT DUE:** *Material Palettes*

- Material choices discussed at Desk Crit. 11x17 Prints of All Views.

**DEMONSTRATION:** *Desk Crits are done as a 1 on 1 review*

- *Sign Up Sheet will be posted by TA Monday, October 1st*

**VIDEO ASSIGNMENT:**

**VIDEO SUPPLEMENT:**

**Due Next Week:** 3 Screenshots from Details Tutorial Video

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### **February 27th - Materials 02**

**ASSIGNMENT DUE:** *Detail Screenshots*

- Selected groups will present their details

**LECTURE:** *Project Examples with Materials*

**DEMONSTRATION:** *Bitmap Materials*

- Bitmap Materials (Arrowway, CG Textures, Dirt Maps)
  - scale
  - bump, displacement, reflectivity
  - UVW Map modifiers
  - Material IDs

**VIDEO ASSIGNMENT:** *15.1*

**VIDEO SUPPLEMENT:**

**Due Next Week:** Final Views w/ 1 refined Bitmap Material

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### **March 6th - Materials 03**

**ASSIGNMENT DUE:** *Final Views*

- Selected groups discuss selected views w/ 1 refined material

**LECTURE:** *None*

**DEMONSTRATION 1:** *Custom Bitmaps*

- Using existing bitmaps to compile and create new ones
- Extracting geometry to create maps
- Creating maps from scratch
- Dirt Maps
- FSSS2

**VIDEO ASSIGNMENT:** *15.2*

**VIDEO SUPPLEMENT:** *14.1*

**Due Next Week:** Final Views w/ all materials

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### **March 13th - Collage**

**ASSIGNMENT DUE:** *Final Views*

- Selected groups discuss selected views w/ 1 refined material

**LECTURE:** *None*

**DEMONSTRATION 2:** *Custom Photo merging and collaging*

- How to collage Photos with renderings
- Extracting render elements
- Perspective Matching in 3D Max
- Photoshop Blending Techniques

**VIDEO ASSIGNMENT:** *15.2*

**VIDEO SUPPLEMENT:** *14.1*

**Due Next Week:** Collage Swap Assignment

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**March 20th - Spring Break**

**NO CLASS, Spring Break**

**VIDEO ASSIGNMENT:**

**VIDEO SUPPLEMENT:**

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**March 27th - Composition and Site Context**

**ASSIGNMENT DUE:** *Final Views*

- Selected groups discuss final views

**LECTURE:** *Context*

**DEMONSTRATION:** *3DS Max and Photoshop for Custom Environments*

- Grass, rock, paths using Photoshop
- Proxy Objects
- Creating rocky cliff face using Photoshop and displacement
- Environment fog and containers
- Environment Maps

**DEMONSTRATION:** *Forest Pack*

- Advanced context modeling
- Forest Pack Pro plug-in

**VIDEO ASSIGNMENT:** *14.3, 14.4, 17.4*

**VIDEO SUPPLEMENT:** *13.3, 13.7, 13.9, 13.11, 13.12, 13.13*

**Due Next Week:** Context & Material Board Updates and Inspiration

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**April 3rd - Lighting**

**ASSIGNMENT DUE:** *Collage Swap Assignment*

- Selected groups review their collaged swap assignments

**LECTURE:** *Lighting Systems*

**DEMONSTRATION :** *Interior Lighting*

- Advanced lighting
- Interior lighting
- IES profiles

**VIDEO ASSIGNMENT:** *13.14*

**VIDEO SUPPLEMENT:**

**Due Next Week:** Night Time Renders

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**April 10th - Desk Crits**

**ASSIGNMENT DUE:** *Night Time Render*

- Selected groups review their night time renderings

**LECTURE:** *None.*

**DEMONSTRATION:** *Desk Crits are done as a 1 on 1 review*

- *Sign Up Sheet will be posted by TA Monday, November 5th*

**VIDEO ASSIGNMENT:**

**VIDEO SUPPLEMENT:**

**Due Next Week:** Final Views with Context & Lighting

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**April 17th - Advanced Post Processing**

**ASSIGNMENT DUE:** *Final View*

- Selected groups review their final views

**LECTURE:** *Advanced Post Processing*

**DEMONSTRATION:** *Realflo*

**DEMONSTRATION:** *Advanced Post Processing*

- Using Vray render elements
- Adjusting levels
- Layer masks
- Lens blur / depth of field
- Using After Effects / Magic Bullet / Volumetrics

**VIDEO ASSIGNMENT:**

**VIDEO SUPPLEMENT:**

**Due Next Week:** First Draft of Final Views with post processing for 9/10 Review

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----- **April 24th - 9/10 REVIEW** -----

**This will be presented as a compiled PDF**

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**April 25th - May 3rd - Final Reviews**  
**NO CLASS, ARCHITECTURE FINAL REVIEWS**

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**May 8th - ALL FINAL IMAGES DUE & FINAL REVIEW (TENTATIVE)**