

# ULTRAREAL

## A4534x TECHNIQUES OF THE ULTRAREAL

## A4542x IMAGINING THE ULTRAREAL

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Fall 2014

Monday 7-9PM

Avery 600 - Ware Lounge

Office Hours: Alternating Saturdays and Mondays

### **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. Will 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. No knowledge of V-Ray or 3DS Max is required, but students should be able to model in an application of their choice (Rhino, Maya, Revit, etc.)

### **Class Structure**

At the beginning of each class, we will show and discuss examples of student work. After this, each class will consist of an occasional lecture, followed by a software demo. Other instructional video tutorials will be found online at [digitalconceptsny.com](http://digitalconceptsny.com). There will be additional required working sessions and desk crits with critics and assistants.

Session A will start to explore the basic aspects of the rendering process, including but not limited to modeling, cameras, lights, and material. Session B will expand on these ideas and delve deeper into each aspect, as well as introduce additional techniques. Students who take session B are **highly encouraged** to take session A.

### **Project**

Students will be encouraged to work alone or in small groups for the semester. The project will consist of a small scale pavilion or other architectural object that will be developed and presented through rendering. Images will be uploaded to a team website each week, and critics and assistants will provide feedback. In addition to the semester long project, there will be small assignments assigned 2-3 times a month. Each group must create a Tumblr blog and upload assignments and progress images every week.

## **Schedule**

### **September 8th**

Introduction to the Class - Review Syllabus  
Website Explanation  
Session A and/or B Explanation  
Drawing demo and review of first assignment  
Questions

**Due Next Week:** One sketch of a proposed perspective for each student

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### **September 15th - ULTRAREAL BOOTCAMP**

#### **DEMONSTRATION: RHINO**

Modeling techniques, specifically for adding detail and managing large models

#### **DEMONSTRATION: 3DS Max / V-Ray**

Setting up scene for test rendering and Optimal V-Ray settings  
Basic materials - White 200 and Glass  
Basic lighting - daylight systems  
Basic cameras

#### **REVIEW: First Weeks Assignment**

**Due Next Week:** Rendered views of model with basic materials and lighting

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### **September 22nd**

#### **LECTURE**

Composition and site context

#### **DEMONSTRATION**

Advanced camera settings  
Model management, scene states, batch rendering  
Adjusting Lighting  
Refining views  
**Due Next Week:** Rendered views of model using new techniques

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### **September 27th SATURDAY DESK CRITS with Critics**

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### **September 29th**

#### **LECTURE**

Material quality- reflectivity, transparency, refractivity, texture

#### **DEMONSTRATION**

Advanced materials  
Procedural maps vs bitmaps  
Bitmap selection  
Environment maps

**Due Next Week:** Rendered views of model with at least 1 refined material

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### **October 6th**

#### **DEMONSTRATION**

Procedural Materials

#### **DEMONSTRATION**

Post processing

Material IDs

Using V-Ray render elements

Masking and selection sets

**Due Next Week:** Final midterm images

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-----**October 13th - MIDTERM REVIEW, END OF SESSION A**-----

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**October 20th - GUEST LECTURE**

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**October 27th**

**LECTURE**

Detailed Materials

Environment Materials

High-Def Images

**DEMONSTRATION**

Advanced materials

Using Crazy Bump

Using Photoshop to create custom bitmaps

**Due Next Week:** Rendered views with updated materials

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**November 3rd - NO CLASS, ELECTION DAY**

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**November 10th**

**LECTURE**

Environments and Context

**DEMONSTRATION**

Advanced context modeling

Forest Pack Pro plug-in

V-Ray environment fog, containers

**Due Next Week:** Rendered views with updated context

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**November 17th**

**LECTURE**

Lighting and Atmosphere

**DEMONSTRATION**

Advanced lighting

Interior lighting

IES profiles

Using V-Ray RT to evaluate lighting

**Due Next Week:** Nighttime views of model

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**November 22nd SATURDAY DESK CRITS with Critics**

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**November 24th**

**DEMONSTRATION**

Advanced post processing

Using After Effects / Magic Bullet

**Due Next Week:** First draft renders of final images

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**December 1 - NO CLASS, FINAL STUDIO REVIEWS**

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**December 8th**

**DEMONSTRATION**

Final composition techniques

Color management

Print management in Photoshop

Questions and Troubleshooting

**Due Next Week:** First Draft of Final Images

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**Monday, December 15th (TENTATIVE)**

**FINAL REVIEW**