

## **ANI 423 – 701 3D Animation Survey**

Fall 2014

T 5:45pm – 9:00pm

CDM 722 Loop

### **Instructor**

Mary Omelina

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Office Hours: T/TH 4:00pm – 5:00pm or by appointment

Rm: 704

### **Course Summary:**

This course is intended as an intensive overview for graduate students with NO prior 3D experience. Topics include polygonal modeling tools, texturing, principles of 3D animation, basic rigging, camera, lighting and rendering. Animation graduate students with proof of previous 3D experience should consult their advisor to substitute any Major Elective for this course. PREREQUISITE(S): None.

### **Course Objectives:**

After completing this course, students will have:

- 1) Gained an understanding of the basic 3D asset creation pipeline
- 2) Become familiar with many of the terms and definitions common to 3D asset creation
- 3) Studied basic modeling concepts & practiced simple polygonal modeling techniques
- 4) Learned to apply materials and simple UV texturing
- 5) Examined basic rigging concepts & techniques
- 6) Studied animation principles and techniques
- 7) Become familiar with simple camera set up; basic lighting schemes; rendering images and animations
- 8)

Your grade will depend on the following criteria:

- Meeting Project Deadlines: It is important to have your work available for critique in class and for grading
- Coming prepared to work in class
- Participation in critiques and discussions

### **Attendance:**

Student absences are not expected to exceed more than 20% (2 absences) of the number of the classes scheduled for the semester. A 3rd absence will lower your final grade by one letter. A 5th absence will result in an F for the course.

The student is responsible for any lectures or assignments missed. If an assignment is due a week that you are absent, it is your responsibility to make sure it still arrives on time. You don't need permission to

miss up to 2 classes. Please do not email me asking me what we covered in your absence. Again, it's your responsibility to track down that information. So make friends with your classmates

You may not miss the final class date. Doing so will equal an automatic two letter grade reduction of your final grade. If for some reason you cannot make one of these dates you must contact your instructor BEFORE the class that you must miss. Excuses given after the fact will not be accepted.

No incompletes will be given without documented proof of circumstances beyond your control.

### **Assignments:**

All assignments and grades will be managed on D2L. Unless I tell you otherwise, assigned work must be completed and submitted on D2L BEFORE class starts. Don't wait until the last minute to attempt to submit your assignment. Turning in something unfinished is always better than nothing at all.

You may be late with 1 (ONE) assignment. Your one and only late assignments will be due on week 10. Late assignments will be graded without penalty but will not necessarily receive critique. No late assignments will be critiqued in class.

Students who use class time to finish assignments on the day they are due will forfeit the right to turn in that assignment. Class time is for working with the material at hand, not finishing late assignments.

Assignments must be in the following format (please note upper and lower case usage)

LastnameFirstname\_projectnameNumber.extension

example: OmelinaMary\_AwesomeProject01.mb

\* Special Accommodations: If you have any special considerations please see the instructor.

\* BACK UP YOUR WORK: Failure of computer software and or hardware will not be accepted as an extenuating circumstance for late projects or incomplete grades so back up your work daily.

### **Grading:**

95% Assignments

5% Participation

A = Excellent

B = Very Good

C = Good

D = Acceptable

F = Unacceptable

A = 100-93, A- = 92-90, B+ = 89-88, B = 87-83, B- = 82-80, C+ = 79-78, C = 77-73, C- = 72-70, D+ = 69-68, D = 67-63, D- = 62-60, F = 59-0.

**Academic Integrity:**

Work done for this course must adhere to the DePaul University Academic Integrity Policy, which you can review in the Student Handbook or by visiting <http://academicintegrity.depaul.edu/>

DO NOT SHARE DIGITAL FILES OR PASS THEM BACK AND FORTH UNDER ANY CIRCUMSTANCES. This is strictly forbidden. All digital assignments must have been generated completely by you, with the exception of a provided file for you to start from. If you need help you must seek out help in person and UNDER NO CIRCUMSTANCES are you to email or otherwise transfer your own working files to anyone except the instructor.

**Materials and Supplies:**

We will be using Maya for the duration of the class. It is recommended that you install the latest version of Maya at home if you are so able. You may not be able to access the provided files with older versions of Maya. It's your responsibility to troubleshoot any installation issues directly with Autodesk.

You need to join Autodesk Education Community to access their free software, and sometimes their response time can be delayed. So take care of this ahead of time if you wish to work on your assignments at home.

<http://www.autodesk.com/education/free-software/students-university/popular>

We will also be using Adobe Photoshop and Premiere once or twice.

CDMLab Information and Availability (an amazing resource actually):

<http://www.cdm.depaul.edu/current%20students/pages/labs.aspx>

Recommended Texts (not required):

Introducing Maya 2014 by Dariush Derakhshani Publisher: Sybex

The Art of 3D Computer Animation and Effects, Fourth Edition (Paperback) Isaac Kerlow, Publisher: John Wiley & Sons; 2009

**Reference Websites:**

DePaul students, faculty, and staff can login to lynda.com for unlimited access to a vast online library of instructional videos covering the latest software, creative, and business skills. Taught by accomplished teachers and recognized industry experts, lynda.com is a high-quality resource for students, faculty, and staff looking to develop skills in Microsoft Office, Adobe Creative Suite, social media, web design, animation, photography, audio and video production, project management, and a wide range of other topics.

<http://offices.depaul.edu/is/services/technology-training/Pages/online-training.aspx>

## **Weekly Schedule (subject to change):**

### **Week 1 - 9/16**

Intro to 3D Space, Coordinate System, Simple Transforms, Navigation  
Modeling w/ Primitives - Simple Fan  
3D Design; Abstraction; Silhouette – Animals and Everyday Objects  
Grouping; Layers; Rendering (Still Images)

Video Homework: Maya Essentials 1 - Interface and Organization with George Maestri – 1.5 hrs

Lab Homework: Create 3 animals in silhouette using only 10 primitives each. Turn in Maya file and JPEG.  
Lab Homework: Create 3 everyday household objects in silhouette using only 10 primitives each. Turn in Maya file and JPEG.

BRING A SHOE IN NEXT WEEK (NOT a sneaker or sandal and NOT one you are wearing)

### **Week 2 - 9/23**

Polygonal Modeling - Lo-Poly Shoe (MUST HAVE SHOE WITH YOU IN CLASS FOR REFERENCE)  
Rendering Playblasts

Video Homework: Maya Essentials 2 - Polygonal Modeling Techniques with George Maestri – 2.5 hrs

Lab Homework: Model a lo-poly shoe starting from a cube. Turn in Maya file.

### **Week 3 - 9/30**

Polygonal Modeling - Modeling a Human Head; Modeling a Hand

Lab Homework: Complete the head and hand models that you started in class. Turn in 1 Maya file for each model.

Lab Homework: Create a simple lo-poly model of your own choosing. Turn in Maya file.

### **Week 4 – 10/7**

UVs and Textures

Video Homework: Maya Essentials 4 - Creating Textures and Materials with George Maestri – 2 hrs

Lab Homework: Layout the UVs and create a simple texture map for the wooden cart. Turn in Maya file and JPEGs of your UV layout and texture map.

### **Week 5 - 10/14**

Lighting and Rendering

Video Homework: Maya Essentials 6 -Lights and Rendering with George Maestri – 2 hrs

Lab Homework: Render Playblast character spins of your shoe; head; hand models. Also render a spin of your textured cart. Compile Playblasts in Premiere and compress to QT movies (1 for each model, 4 total movies).

Lab Homework: Light and Render high quality stills (1 each) of your shoe; head; hand; and cart models

### **Week 6 - 10/21**

Animation - Bouncing Ball

## Lighting and Rendering Animation

Video Homework: Maya Essentials 5 - Animation Tools with George Maestri – 1.5 hrs

Lab Homework: Bouncing Ball Animations (2) – Complete, Lit & Rendered

### **Week 7 - 10/28**

Simple rigs and animation – 1 Legged Jump

Lab Homework: Lou Animation – Completed, Lit and Rendered QT Movie

### **Week 8 – 11/4**

Character Animation

Animation Production: Planning; Staging; Layout

Lab Homework: Plan and Stage your Final Character Animation (Turn in either Thumbnails & Maya Layout Stills, Storyboard and Maya Layout Stills, or 3D Animatic in Maya)

### **Week 9 – 11/11**

Character Animation

Animation Production: Blocking; Key Poses

Lab Homework: Block your animation and set all your key poses. Turn in Maya file and Playblast QT.

Optional Video Homework for remainder of quarter: Character Animation Fundamentals with Maya with George Maestri – 6 hrs

### **Week 10 - 11/18**

Character Animation

Animation Production: Key Poses; Breakdowns; Clean-up

Lab Homework: Complete, Light and Render your Final Character Animation. Turn in Final QT Movie.

FINAL EXAM (PRESENTATION) is on November 25, 2014 @ 5:45pm

Final Presentation of your Final Character Animation Movies

Final Presentation of any revised projects by request