San José State University
College of Humanities and the Arts/Animation/Illustration
Introduction to 3D Modeling, Ani 51A-02, 47598, Fall 2015

Instructor: Tom Austin
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Office Hours: Tu Th 11:30AM-12:00
Class Days/Time: Tu Th 12:00PM - 2:50PM
Classroom: Art 222

Course Description

The primary goal of this class will to teach the student 3D modeling as practiced in industry today. These methods will be applicable to all fields of the industry.

At the conclusion of this course, the student will be prepared for an internship, or possibly an entry level position depending on the student's focus and dedication. The student should have a basic understanding of working in a production pipeline/environment and two solid portfolio pieces, they should also feel comfortable creating almost any representational, non-organic object in 3D.

Our main software will be Autodesk's Maya, but the principals and practices could easily be applied to any other 3D modeling package. Maya is not only a 3D modeling program, but it is also a "hub" program. All things in production go in and come out from Maya.

While our main focus will be modeling and Maya, we will need to support our Maya endeavors with Adobe Photoshop, as well as, other programs.

Because of the nature of 3D, we will of necessity, have to spend lots of time on "technique" to arrive at realistic results.

This should never distract you from your primary mission to create good art! You will utilize all of your art training and add to it in this class.

There is no room to hide in 3D land! Your knowledge and depiction of form must be accurate as well as your breakdown and reproduction of the surface qualities of an object and how it interacts with light. There are no shadowy areas with which to hide your lack of understanding of light and form!

Part of operating within a professional environment is the ability to accurately re-create the object you are given, whether it be realistically or whimsically, you must map to the reference as exactly as possible!
**Course Goals and Student Learning Objectives**
(Insert goals and objectives here. Objectives must be measurable, specific, and time related. Sequential numeration of GE/SJSU studies learning outcomes followed by course learning outcomes.)

Learn to use Autodesk Maya (or really any 3D package) to recreate non-organic objects in 3D.

Learn to use ancillary programs, such as Adobe Photoshop, and ND02., to aid in the creation of textured models that replicate the look and fidelity of the reference given.

Learn skills and working methods/ethos of industry pipelines, to create professional content that could be used in games or cinema and to do so in a timely fashion, while under pressure.

**Course Content Learning Outcomes**
Upon successful completion of this course, students will be able to:

LO1 - Model using a 3D package, any non-organic object in 3D, using current industry practices.

LO2 - Create custom UV Mapping coordinates to facilitate the application of textures to their 3D objects.

LO3 - Create custom textures in both Maya and Photoshop, that will be applied to their 3D models, making them appear realistic.

LO4 - Prepare their 3D object and export it into a game engine.

LO5 - Create appropriate presentation materials to show case their work in a professional portfolio/reel.

**Required Texts/Readings**

**Textbook**

*Digital Modeling*, by William Vaughan

This book will sustain you for ANI 51A and ANI 130A and ANI 130B

**ISBN-10**: 03217008999

**Other Readings**

*Autodesk Maya 2015*, Murdock
I use this all the time. It is the simplest and most concise reference I own for Maya! Highly recommend it.

Other equipment / material requirements

You will need to buy a memory stick with as much memory as you can afford.

Or better yet, a portable hard drive. Again, the bigger the better! You can easily get 1 TB for under a hundred bucks, although a 500 GB will easily suffice.

Classroom Protocol

- Be on time. Do not use computers during lectures. Clean up the class room the last 5 minutes of class. Respect other students when they have the floor. Kind of like kindergarten but with bigger computers.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic calendar web page located at http://www.sjsu.edu/academic_programs/calendars/academic_calendar/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.
Assignments and Grading Policy

<table>
<thead>
<tr>
<th>Assignments</th>
<th>40%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Project progress</td>
<td>20%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Final</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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- **Grading information:**

The Tutorials or book lessons and the class participation will be graded differently than the assignments. The assignments make up your base grade and are the most important! The book lessons and the class participation scores will adjust your assignment grade up or down.

Grading Percentage Breakdown

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>94% and above</td>
<td>A</td>
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<tr>
<td>93% - 90%</td>
<td>A-</td>
</tr>
<tr>
<td>89% - 87%</td>
<td>B+</td>
</tr>
<tr>
<td>86% - 84%</td>
<td>B</td>
</tr>
<tr>
<td>83% - 80%</td>
<td>B-</td>
</tr>
<tr>
<td>79% - 77%</td>
<td>C+</td>
</tr>
<tr>
<td>76% - 74%</td>
<td>C</td>
</tr>
<tr>
<td>73% - 70%</td>
<td>C-</td>
</tr>
<tr>
<td>69% - 67%</td>
<td>D+</td>
</tr>
<tr>
<td>66% - 64%</td>
<td>D</td>
</tr>
<tr>
<td>63% - 60%</td>
<td>D-</td>
</tr>
<tr>
<td><strong>below 60%</strong></td>
<td>F</td>
</tr>
</tbody>
</table>

Below I have broken down how I arrive at my grades. This should serve mainly to help you understand the priorities I place on different aspects of my grading evaluation.

Modeling will be judged on form and edge flow. After the introductory projects I will grade equally the modeling, the color map implementation, the spec map implementation and artistic merit.

Modeling, Color map and Spec map.

- How closely does the final product match the concept art, reference, or general idea of the project as described to you? This is by far the most important criteria. All else can somewhat be forgiven, but you must meet the visual expectations!
- Does it look realistic and/or convincing for its intended function? If the concept art was unclear or inaccurate, have those deficiencies been corrected in a way that passes muster? Your audience should be unaware of any deviation and be visually convinced of the soundness of your asset.
- Edge flow will be a major factor in achieving full credit for modeling.

Artistic Merit:
• Does the final product transcend the media?
• Is there any kind of wow factor, especially in light of limitations and difficulties of 3D?
• How well has the scene been lit.

Each of the four categories will be heavily influenced by the following factors:

a. Completeness and Pipeline/Feedback ready:

• Does it look finished by measure of the examples of the instructor's and previous students work as shown? In the case of the industry, there will be plenty of in-house work and work being done by other studious, by which to judge the merits of your work.
• Is it finished enough to receive appropriate feedback for the stage of development, whether WIP or finish. Even something that is WIP, should still be "done" enough to allow for feedback at certain points in the process.
• Is it ready to hand off, or is there some re-work necessary? It must be clean and ready for someone else to work on at all points in the process!

b. Implementation of Directions:

• Does the work show that the procedures and working methods in the lecture and the lecture notes were followed and implemented correctly? Or in the industry, that your studio's practices were implemented?
• Were things submitted correctly? For class this means placed on the server in the right folder, using Maya project folders and having trimmed them appropriately.
• Was the naming convention adhered to?
• Were the correct type of files used and placed in the right folders?

c. Penalty (if any) for late or missed work: Work is considered late if it is not on the server before class starts! Always turn in what you have no matter how atrocious! Not turning in anything is an automatic F!!!

The only exception will be if you have PRIOR to class contacted me and RECEIVED my APPROVAL for a late submission. Sending me an email a half an hour before class and not getting a reply from me does not count!

d. Extra Credit and Redos: There may be opportunity for extra credit to be earned and for assignments to be resubmitted. This will be up to my discretion and should not be relied on to improve your grade.

e. Family Emergencies and other Crisis’s: All family emergencies or other life crisis’s will require a doctor’s note for verification. I will work with any student to adjust the curriculum to take into account any authenticated emergency. If possible all efforts should be made to notify in advance.

It is expected that some form of communication in a timely fashion will be received by me regarding any difficulties. Do not drop out for weeks at a time and then expect to
return to class without some notice of your difficulties.

Also, if you are feeling overwhelmed with school, please let me know and or seek out help at Student Services. I am happy to try and work something out, but you have to let me know! You are here to learn, not to suffer!

**e. Incompletes:** I will only give out an incomplete if you have or are experiencing a compelling family emergency and/or life crisis. You have to complete the work on your own and have one year to submit all final materials for consideration or your grade reverts to an F.

**University Policies**

**CHEATING**

Don’t do it! You are required to create your own content from scratch in this class, it is completely **IMPERMISSIBLE** to copy, reference, borrow, or otherwise use another student’s work or something you scrounged up on the internet and attempt to pass it off as your own work!!!

Maya has DNA. Everything you create has a fingerprint and if I get wind of anyone cheating, I will immediately, bring action against the transgressor. At the very least you will fail my class and at worst you could possibly be expelled from the university! See below...

**Academic integrity**

Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The [University’s Academic Integrity policy](http://www.sjsu.edu/senate/S07-2.htm), requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at [http://www.sjsu.edu/studentconduct/](http://www.sjsu.edu/studentconduct/).

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person’s ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU’s Academic Policy S07-2 requires approval of instructors.

**Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. [Presidential Directive 97-03](http://www.sjsu.edu/senate/PrDir/97-03.htm) requires that students with disabilities requesting accommodations must register with the [Disability Resource Center](http://www.drc.sjsu.edu/) (DRC) at [http://www.drc.sjsu.edu/](http://www.drc.sjsu.edu/) to establish a record of their disability.
Misc.

School Server

You will submit your work via the school server unless otherwise directed. I will specify where and how to post your assignments and book work. You can submit work either in the lab as shown below or remotely using Cyberduck.

Procedures for accessing the server are outlined in this lecture, lec_server.pdf.

User names and passwords will be supplied in class.

Groups you need to join!

This one is mandatory for my class!

http://groups.yahoo.com/group/SJSUDigitalAnim/

All animation students should join this Yahoo group for department information.

http://groups.yahoo.com/group/SJSU_Animation_Illustration/

All animation students in 114 and above should be members of this group for ACME Transmission Updates

http://groups.yahoo.com/group/SJSU_ACME/

Web sites of interest…

A good place to go for tutorials and plugins.

http://www.highend3d.com/

A great forum for discussions, tutorials and help, especially help!

www.cgtalk.com

Good discussions on rigs and such…

http://www.tweakcg.com/forum/

Great site, lots of industry pros posting work.

http://www.creaturetd.com/forums/portal.php

Obviously not Maya-centric but has a lot of cool stuff, interviews with people working in movies and such, also lots of indirect Maya discussions.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>08/20/15</td>
<td>First day of class. Handle add/drops, review green sheet, Introduce Modeling a Door.</td>
</tr>
<tr>
<td>2</td>
<td>08/25/15</td>
<td>Model of Door Is due</td>
</tr>
<tr>
<td>3</td>
<td>09/01/15</td>
<td>Introduce UV and Color</td>
</tr>
<tr>
<td>4</td>
<td>09/08/15</td>
<td>Color is Due</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Introduce Bump, Normal, Spec mapping</td>
</tr>
<tr>
<td>5</td>
<td>09/15/15</td>
<td>Normal Map, Spec map Due</td>
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<tr>
<td></td>
<td></td>
<td>Introductory High to Low Normal map generation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Introduce Lighting and Rendering</td>
</tr>
<tr>
<td>6</td>
<td>09/22/15</td>
<td>Finish Door is Due.</td>
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<tr>
<td></td>
<td></td>
<td>Start Item project</td>
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<tr>
<td>7</td>
<td>09/29/15</td>
<td>Modeling Review</td>
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<tr>
<td></td>
<td></td>
<td>UV/ Color/Bump/Spec</td>
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<tr>
<td>8</td>
<td>10/06/15</td>
<td>Model with Maps lighting and Rendering Review</td>
</tr>
<tr>
<td>09</td>
<td>10/13/15</td>
<td>Item Project Finish.</td>
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<tr>
<td></td>
<td></td>
<td>Start Group project Italian Hill town</td>
</tr>
<tr>
<td>10</td>
<td>10/20/15</td>
<td>Work on Group Project</td>
</tr>
<tr>
<td>11</td>
<td>10/27/15</td>
<td>Finish Group Project</td>
</tr>
<tr>
<td>12</td>
<td>11/03/15</td>
<td>Start Village House</td>
</tr>
<tr>
<td>13</td>
<td>11/10/15</td>
<td>Add Color/Bump/ Spec/ Light</td>
</tr>
<tr>
<td>14</td>
<td>11/17/15</td>
<td>First House Crit</td>
</tr>
<tr>
<td>15</td>
<td>11/24/15</td>
<td>Start Village Item</td>
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<tr>
<td></td>
<td></td>
<td>Thanksgiving</td>
</tr>
<tr>
<td>16</td>
<td>12/01/15</td>
<td>Final Crit House and Item</td>
</tr>
<tr>
<td>17</td>
<td>12/08/15</td>
<td>Check Houses for integrity and Fit for Unreal Engine</td>
</tr>
</tbody>
</table>
| 18 | Final  \\
|    | 9:45-12:00  \\
|    | Friday  \\
|    | 12/11/15  |
|    | Project Due |

**Note:** All dates and assignments are subject to change! This is a tentative schedule designed to provide you with some basic guidance. Please do not make travel plans, etc. without first consulting me as to the state of the schedule!