Extended Syllabus
(2014 1st Semester)

Course Title	3D Modeling and Texturing	Course Number	ANT3012
Credit	3	Enrollment Eligibility	2, 3, 4
Class Time	Wed 13:30~14:45, Fri 13:30~14:45	Classroom	X427

Instructor's Photo	Name: HyunKyung (Haru) Ji	Homepage: http://jiharu.github.io/ant3012/
	E-mail: Ji, H <haruoneday@gmail.com>	Telephone:
	Office: X 407 Office Hours: Tue 14:00~16:00, Fri 15:00~17:00	

I. Course Overview

1. Description

The goal of this class is for students to learn both practical and theoretical knowledge in digital modeling and texturing. During the class, we will broadly expand our subjects from modeling to shading, digital cinematography, and special effects in Maya. This approach will widely extend students' creative production abilities.

In the class, we will primarily use Autodesk Maya, which has very strong support for modeling as well as other related stages of the production pipeline.

The class covers beginner to intermediate level. Evaluation will be via quizzes and projects based on creative approach to 3D modeling and texturing expression.

2. Prerequisites

Nothing but willing motivation.

3. Course Format (%)

Lecture	Discussion	Practicum	Field study	Presentations	Other
50 %	10 %	40 %	%	%	%

4. Evaluation (%)

mid-term Project	Final Project	Quizzes	Presentations	Exams	Assignments	Participation	Other
20 %	30 %	10 %	%	%	40 %	%	%

II. Course Objectives

Students will learn:

Theoretical and practical points such as: understanding 3D computer graphics / various kinds of digital modeling methods / production workflow focused on modeler's role / Maya interface and structure / Maya NURBs, Polygon, Subdivision modeling / Shading including Texturing / UV / Deformers & Blend Shape / digital cinematography / Global Illumination.

III. Course Format

(* In detail)

This class takes a workshop format. Half of the class will be lecture-based, showing the theory and practice using presentation media and software (50%) with discussed feedback (10%). The other half will be practice-based, oriented toward work by students (40%).

Students will share their homework through the Tumblr website (**http://2014ant3012.tumblr.com/**). Questions and discussions are encouraged during the class time.

IV. Course Requirements and Grading Criteria

1) Assignments to evaluate how students follow each of the topics (40%).
(When you submit, please name your assignment as the following format: yourschoolid_name_date.extension)
2) Mid-term: one creative modeling & texturing project + quiz (20% + 10%).
3) Final-term: one creative modeling & texturing project (30%).

V. Course Policies

Using the software:

1) You can download Maya software for educational purpose on your personal computer for free: http://students.autodesk.com/?nd=download_center

Create your account and choose Maya2014 to download & install.

2) Support for the disabled: seat support/ Extensions on homework's and project submissions/ TA support etc.

VI. Materials and References

Class website: http://jiharu.github.io/ant3012/
Homework portfolio website: http://2014ant3012.tumblr.com/

Maya Help File (in Maya, F1 key)

The Art of Maya: An Introduction to 3D Computer Graphics
By: Autodesk Maya Press, Pub. Date: April 30, 2007 (2003/ 2005/ 2007 edition)

Introducing Maya
By: Dariush Derakhshani, Publisher: Sybex, Pub. Date: May 3, 2010

Mastering Autodesk Maya 2013
By: Todd Palamar, Publisher: Sybex, Pub. Date: June 19, 2012

Autodesk Maya 2013 Essentials
By: Paul Naas, Publisher: Sybex, Pub. Date: June 5, 2012

[digital] Modeling
By: William Vaughan, Publisher: New Riders, Pub. Date: December 23, 2011

Maya® 2008 Character Modeling and Animation: Principles and Practices
By: Tereza Flaxman, Publisher: Course Technology PTR, Pub. Date: January 01, 2008

Advanced Maya® Texturing and Lighting, Second Edition
By: Lee Lanier, Publisher: Sybex, Pub. Date: August 11, 2008

Professional MEL Solutions for Production
By: Kevin Mannens; Ed Caspersen, Publisher: Jones & Bartlett Learning, Pub. Date: June 23, 2009

Useful links:
http://www.autodesk.com/products/autodesk-alias-products/overview
http://forums.cgsociety.org/
http://www.melscripting.com/
http://www.creativecrash.com/maya/
And more online tutorials

VII. Course Schedule

(* Subject to change)

Week 1	**Learning Objectives**	Understand digital modeling and a digital modeler's role
	Topics	Introduce class and digital modeling
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	[digital] Modeling Chapter 1, 2, 3
	Assignments	Submit your research on inspirational 3D modeling masterworks (except from movie and game genres)
Week 2	**Learning Objectives**	Different modeling methods and fundamental components
	Topics	Digital modeling methods and fundamentals
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	[digital] Modeling Chapter 5, 4

	Assignments	Assignments will be announced on the class website
Week 3	**Learning Objectives**	Overview of NURBS, Polygon, Subdivision modeling
	Topics	Basic Modeling
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Introducing Maya Chapter 4, 5 Mastering Autodesk Maya 2013, Chapter 3 The Art of Maya: Modeling part Maya Help file
	Assignments	Assignments will be announced on the class website
Week 4	**Learning Objectives**	NURBS Curves / Surface / Modeling Tools,
	Topics	Modeling with NURBS
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Introducing Maya Chapter 5 Maya® 2008 Character Modeling and Animation Chapter 5 Maya Help file
	Assignments	Assignments will be announced on the class website
Week 5	**Learning Objectives**	Understanding polygons, Constructing good polygon models, Lattice & Non-linear Deformers, Coordinate systems, Parent & Group relations
	Topics	Polygonal Modeling
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Introducing Maya Chapter 6 Autodesk Maya 2013 Essentials, Chapter 3, 4
	Assignments	Assignments will be announced on the class website
	Learning Objectives	Materials (Shaders), Textures
	Topics	Shading and Texturing

Week 6	**Class Work (Methods)**	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Introducing Maya Chapter 7 The Art of Maya materials and textures part Maya Help file
	Assignments	Assignments will be announced on the class website
Week 7	**Learning Objectives**	Lighting your scene, Rendering
	Topics	Texturing & Lighting & Rendering
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Autodesk Maya 2013 Essentials Chapter 13, 14
	Assignments	Working on your mid-term project
Week 8	**Learning Objectives**	Mid-term
	Topics	Mid-term project
	Class Work (Methods)	Feedback and evaluation
	Materials (Required Readings)	
	Assignments	Submit and upload your project
Week 9	**Learning Objectives**	Maya Interface and Nodes (Transform and Shape Nodes), and more basic concepts
	Topics	Maya overview
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Mastering Autodesk Maya 2013, Chapter 1 Autodesk Maya 2013 Essentials, Chapter 1 The Art of Maya, 3D Computer Graphics & Exploring Maya
	Assignments	Assignments will be announced on the class website

Week 10	**Learning Objectives**	Using reference, Creating & Refining your Polygon model
	Topics	Polygonal Modeling
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Autodesk Maya 2013 Essentials, Chapter 5
	Assignments	Assignments will be announced on the class website
Week 11	**Learning Objectives**	Understanding the characteristics of subdivision models & Creating your subdivision model, Laying out UVs & Texture mapping
	Topics	Subdivision Modeling and UV texturing
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Autodesk Maya 2013 Essentials, Chapter 6. 7
	Assignments	Assignments will be announced on the class website
Week 12	**Learning Objectives**	Understanding & applying 2D/3D textures, advanced materials
	Topics	Advanced Shading
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Advanced Maya® Texturing and Lighting Chapter 4, 5
	Assignments	Assignments will be announced on the class website
Week 13	**Learning Objectives**	Lighting: 1-, 2-, and 3-point lighting, naturalistic and stylistic lighting, Maya lights and basic Rendering
	Topics	Lighting & Rendering
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice

	Materials (Required Readings)	Autodesk Maya 2013 Essentials Chapter 13, 14 The Art of Maya digital cinematography, rendering part Advanced Maya® Texturing and Lighting Chapter 1, 2 Maya Help file
	Assignments	Assignments will be announced on the class website
Week 14	**Learning Objectives**	Understanding & Exploring Global Illumination, Applying MentalRay shaders, Create and render The Cornell Box
	Topics	Global Illumination
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Advanced Maya® Texturing and Lighting Chapter 12
	Assignments	Assignments will be announced on the class website
Week 15	**Learning Objectives**	Applying Paint effects and Dynamics in Maya Preparation & feedback on the final project
	Topics	Paint effects and Dynamics Progressing the final project
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice Individual feedback
	Materials (Required Readings)	Maya Help Student's working projects
	Assignments	Assignments will be announced on the class website
Week 16	**Learning Objectives**	Final-term
	Topics	Final project
	Class Work (Methods)	Feedback and evaluation
	Materials (Required Readings)	
	Assignments	Submit your final project

VIII. Special Accommodations

Update notice:

Students need to bring **their laptop with a three button mouse for all class times.** And each student will

register, download, and install Autodesk Maya on the laptop:
http://students.autodesk.com/?nd=download_center
* Regulation related to Autodesk Education Community License:
http://students.autodesk.com/?nd=license_update#