Extended Syllabus
(2013 2nd Semester)

Course Title	3D Modeling and Texturing	**Course Number**	ANT3012-01
Credit	3	**Enrollment Eligibility**	2, 3, 4
Class Time	**Wed 13:30~14:45, Fri 13:30~14:45**	**Classroom**	AS 111

Instructor's Photo	**Name: HyunKyung (Haru) Ji**	**Homepage:**
	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 digital modeling to shading, digital cinematography, and MEL (Maya Embedded Language) modeling. This approach will widely expand students' creative production abilities.

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

The class covers from a beginner level to an intermediate level. Students will do a small assignment each week, and for the mid- and final-term evaluation, they will submit one Maya modeling project along with quiz respectively.

2. Prerequisites

Nothing but willing motivation.

3. Course Format (%)

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

4. Evaluation (%)

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

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 / simple Mel / digital cinematography / Global Illumination at mostly basic to intermediate level

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 website such as Tumblr. Questions and discussions are encouraged during the class time.

There will be at least one guest lecture.

IV. Course Requirements and Grading Criteria

1) Small assignments to evaluate how students follow the each week's topics (20%).
(When you submit, please name your assignment as the following format:
yourschoolid_name_date.extension)
2) Mid-term: one creative Maya NURBs modeling project + quiz (30% + 10%).
3) Final-term: one creative Maya character modeling project (30% + 10%).

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/

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 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 3D modeling masterwork
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	Reading
Week 3	**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	Practice & Submit your ideas & Create your first project
Week 4	**Learning Objectives**	Overview on 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	Practice
Week 5	**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	Upload your first modeling to Tumblr

Week 6	**Learning Objectives**	Materials (Shaders), Textures
	Topics	Shading and Texturing
	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	Practice
Week 7	**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	Prepare your mid-term project (NURBS rendering)
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**	Understanding polygons, Constructing good polygon modeling, & Lattice & Non-linear Deformers, Coordinate system, 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	Practice & Submit your character design
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	Practice
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	Practice
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	Practice
Week 13	**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	Practice
Week 14	**Learning Objectives**	MEL commands and structure, Using MEL to create recursive modeling
	Topics	MEL (Maya Embedded Language)
	Class Work (Methods)	Lecture/Discussion with presentation materials & practice
	Materials (Required Readings)	Professional MEL Solutions for Production Chapter 1, 2, 7 Maya Help file
	Assignments	Reading & Practice & Submit
Week 15	**Learning Objectives**	Learning from a professional modeler in the industry
	Topics	Guest Lecture
	Class Work (Methods)	Lecture/Discussion with presentation materials
	Materials (Required Readings)	
	Assignments	Prepare your final-term project
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

Created on July 19 2013. This syllabus can be partly modified later.