

Advanced 3-D Animation Techniques

Art 484 / Art 649 (3 Credit Hours)

Fall 2009

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Prerequisite: Art 384: Introduction to 3D Compute Animation

Course Description and Rationale:

This is the second 3D animation course at UMBC. The equivalent of one semester's worth of familiarity with Maya is assumed.

This class focuses on two subjects: animation and rigging, but mostly animation.

Textbook: Introducing Maya 2009, by Dariush Derakhshani, ISBN 978-0-470-37237-1

This is the book to get for both Art 384 and Art 484. It is a book of technical tutorials, not a guide to how to make animations.

Additional Texts, also not required:

There are many, many "Mastering Maya 5" (or 8.5 or 4.5, or 3) books, or "Learning Maya 3.14" and the like, most by Alias, all more or less technically helpful.

I've ordered a lot of them for the library; check to see whether they're there.

Body Language Eric Allen & Kelly Murdock, ISBN 978-0-470-17387-9

The Art of Rigging Kieran Ritchie, ISBN 0-9768003-0-6

There are many books about the making of movies under the title set "The Art Of ..." (X-Men, Monsters Inc., Toy Story 2)-- good for knowing the field. Mostly they are advertising.

Puppetry, by Eileen Blumenthal-- good for inspiration.

Prerequisites: Art 384

Required Materials:

If you are going to use computers other than the ones in ENG005 to do your work, you must use Maya 2009. If you used Maya PLE or Maya 2010, you will not be able to use the lab computers to open your files, which is unacceptable.

I recommend owning a digital camera and a flash drive (minimum 4GB).

Lab:

You will have swipe access to the lab, so there are no lab hours.

Please make sure that the door closes behind you when you leave.

Special Assistance Notice (from the *Americans with Disabilities Act*):

If you have a disabling condition that will require an accommodation in tests or class structure, please advise the instructor or the department accordingly.

Academic Integrity

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, or the UMBC Policies section of the UMBC Directory [or for graduate courses, the Graduate School web site].

Bottom Line: If you wish to use work that it not your own, give attribution.

Evaluation:

Technical proficiency gets a B; good art gets an A. Work that is merely a copy of work that you admire will not get you an A, no matter your skill.

All assignments are weighted equally.

1) Projects: There will be 6 projects. Each one counts equally toward your final grade.

2) Writing Assignments: There will be two writing assignments: cover letters.

2) Attendance: You have one attendance grade, which starts at 100 and drops 3 points every time you miss class. Being 10 minutes late is the same as being absent. Absence due to illness is excused, but you need to let me know before class starts.

This comes to a total of 9 grades. I grade on a 10-point scale: 90 is an A, 89 is not.

H1N1:

There will probably be a bad flu season this year. If you are sick, please tell me, and **stay home**. If you look sick, you will be excused. If you are so sick that it starts to impact coursework, come talk to me.

Now, go wash your hands!

Tentative Class Schedule			lecture topic	assignment due
week	date			
1	1-Sep	T	syllabus, Maya	
		R	NURBS	
2	8-Sep	T	More NURBS-- patch modeling?	
		R	poly head modeling	
3	15-Sep	T	more heads	A: NURBS prop
		R	blend shapes and visemes	
4	22-Sep	T	Ekman and expressions	
		R	lab	
5	29-Sep	T	rigging: overview, groups, IK -- crit	B: Polygon head
		R	rigging: joint and IK tips and tricks	
6	6-Oct	T	rigging: connection editor	
		R	rigging: lattices and binding lattices	
7	13-Oct	T	rigging: weight painting -- crit	C: Blend shape expressions
		R	rigging: constraints, controls	
8	20-Oct	T	rigging: expressions and MEL	
		R	rigging and the hypergraph	
9	27-Oct	T	rigging: MEL I	
		R	TRAX: making a character	
10	3-Nov	T	TRAX: importing and exporting	
		R	TRAX: getting characters to match	
11	10-Nov	T	Crit	D: TRAX input animations
		R	Dynamics: rigid bodies, active/passive	
12	17-Nov	T	Dynamics: constraints	
		R	Dynamics: controlling the simulator	
13	24-Nov	T	Crit	E: Compliant human figure
		R	Thanksgiving vacation	
14	1-Dec	T	LIVE: setup	
		R	LIVE: shooting, converting frames	
15	8-Dec	T	LIVE: markers	
		R	Lab, review, crit	
16	15-Dec	T	Study Day, no class	
	22-Dec	R	Final Exam, 3:30PM	F: TRAX composition