

# Computer Animation I

(CS 174t) Fall 2004 Syllabus

revision date: 9/7/04 23:09

<u>Date</u>	<u>#</u>	<u>Class Topic</u>	<u>Assignment</u>
Tue Sep 7	0	Advising meeting.	Get appointment book. Schedule to meet with a faculty member of your choosing.
Wed Sep 8	1	First day stuff (class overview, student information forms). Overview of history of 3D animation and discussion of the pipeline from the perspective of the camera.	Read Kerlow chapter 1 and 6, skipping sections 6.4, 6.5, 6.7, 6.8, 6.9, and 6.10. Be sure to focus on the rendering technique called ray tracing.
Mon Sep 13	2	Tour of syllabus. Discuss reading. Ray tracing in detail, putting modeling, shading, animation, and lighting in context. Numerical representation of color. ADV: share good class ideas/faculty recommendations	Read Kerlow chapter 7 (pp. 183-198). Sign up for the class email list at lists.hampshire.edu.
Wed Sep 15	3	Discuss reading. Cameras in detail. Orthographic and perspective views. Simple transformations (translate, rotate). Maya: running, loading a scene, camera settings, camera transformations, rendering images. How to hand in assignments.	<b>Assignment 1</b> (camera control), due Monday. Read the relevant sections of the Maya manuals (in the classroom and online) for assistance with the software.
Mon Sep 20	4	Hand in and discuss assignment 1. Expose the wizard behind the curtain: Animating numerical values using keyframes. Curve control, ease-in and ease-out.	Read Kerlow section 11.1. Read about the graph editor in the Maya manual (pages TBA). Revise assignment 1 for Wednesday if necessary.
Wed Sep 22	5	Discuss reading. Keyframe and curve review. Animating with hierarchies. Building your own scene. Maya: using multiple primitives, importing models, positioning models, parents and children. ADV: Today is the Add/Drop deadline!	<b>Assignment 2</b> , due Mon Oct 4 (swinging rope). Read Kerlow sections 10.1, 10.2, 11.5. Read section of Lasseter handout on follow-through.

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Mon Sep 27	6	Principles of animation I (ease in/out, anticipation, arcs, follow through/overlapping action, timing). In-class bunny head exercise. Q&A for assignment 2.	Finish assignment 2 for Monday.
Wed Sep 29	-	NO CLASS (Hampshire advising day)	
Mon Oct 4	7	Hand in and discuss assignment 2. Principles of animation II & III (squash/stretch, exaggeration, silhouette, appeal). Staging to the camera.	<b>Assignment 3</b> (bouncing balls) due Weds Oct 13. Revise assignment 2 for next class if necessary.
Wed Oct 6	8	In-class bouncing ball demo and the layered approach to animating.	Finish assignment 3 for next Wednesday.
Mon Oct 11	-	NO CLASS (October Break)	
Wed Oct 13	9	Hand in and discuss assignment 3. Basics of lighting outside of the computer (key, fill, rim, etc.). Lighting theory from Calahan.	Read Kerlow chapter 8 (pp. 199-226). Revise assignment 3 for Monday if necessary.

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Mon Oct 18 HERE	10	Lighting on the computer. Light types, cheats to simulate diffuse reflection, shadows. Maya: light creation, control.	<b>Assignment 4</b> (light a scene to match), for next Monday.
Wed Oct 20	11	The mathematics of lighting. In-class lighting exercise.	Finish assignment 4.
Mon Oct 25	12	Hand in and discuss assignment 4. In-class animation exercise.	Revise assignment 4 for Wednesday if necessary.
Wed Oct 27	13	Introduce the final project. Modeling with polygons.	Due Monday: three final project pre-proposals. Read Kerlow section 2.1, 10.3, 10.4.
Mon Nov 1	14	Hand-in pre-proposals. Storyboarding, shot breakdown, and other supporting material for final project proposals. Modifying primitives (SRT on part or whole).	Due Wednesday, finished final project proposal. Read Kerlow chapter 3 (pp. 81-102). Don't worry too much about section 3.5.
Wed Nov 3	15	Hand in final project proposals. Discuss reading. Maya: using primitives (sphere, box, cone), managing selections, transforming points and polys. Using backdrops. ADV: Janterm pre-registration	Main final project models due Wed Nov 10. Consult the Maya manual and Josh for assistance.

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Mon Nov 8	16	More on modeling: creating your own polygons. Triangles and quads, shared and unshared points. Planarity, surface normals, 1- and 2-sided polys. Using layers, pivots, and making a hierarchy. Maya: creating polys from points, working with polys.	Finish main models.
Wed Nov 10	17	Hand-in and look at models. Q&A on modeling.	Read Kerlow chapter 4. Layout and do blocking animation for final project. Rough shots due Wed Nov 17.
Mon Nov 15	18	Animation dailies in class.	Read Kerlow sections 9.1, 9.2, 9.4 (skip Reflection Maps and Environment Maps), the first part of 9.5 (skip Color Maps), the first part of 9.7 (skip Transparency Maps). Continue animating.
Wed Nov 17	19	The math that happens when rays hit objects during rendering. Naming the parameters in the Phong illumination model. Smooth vs. faceted shading. Maya: material assignment and surface attributes.	Finalize as much of the animation as possible for Monday's second animation dailies.
Mon Nov 22	20	Animation dailies in class.	Make appropriate animation fixes given comments during review. Before it's too late.
Wed Nov 24	-	NO CLASS (Thanksgiving Break)	

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Mon Nov 29	21	TBD	Add lights to your scene and render a single frame.
Wed Dec 1	22	Lighting review in class.	Finish final projects for Wed Dec 8.
Mon Dec 6	23	Final Project Q&A. Our TA's Division 3, what working in the industry is like, course evaluation forms.	Finish final project.
Wed Dec 8	24	Hand in and screen final projects.	