

**CS 232: Computer Modeling and Shading**  
**Class and Assignment Schedule**

**Spring 2001**

<b>Date</b>	<b>#</b>	<b>Class Topic</b>	<b>Assignment</b>
Thu Feb 1	1	First day stuff. 3D pipeline overview and a run-down of what we'll cover in both modeling and shading.	Check the class list Monday at noon. If you're in class, bring a check for the reading packet.
Tue Feb 6		<b>SNOW DAY</b>	
Thu Feb 8	2	Points as the smallest modeling primitive. Creating points, managing selections, translating points. Get comfortable working in Lightwave. How to hand in assignments.	Read O'Rourke pp. 28-34 (coordinate systems and viewing windows), LW 1.1-1.14 (up to backdrop tab), LW 2.1-2.3 (up to polygons), LW 2.12-2.14 (up to making a polygon), LW 4.1-4.2 (up to poly points). A1: make your name in points and copy it, offset.
Tue Feb 13	3	Points to polygons. Triangles and quads. Shared and unshared points. Connectivity. Planarity. 1 vs. 2-sided. Surface normals. (Modeling philosophy. Identifying symmetries, structures. Approach to a rigid model. Shop tour 1: primitives, polygon creation tools like lathe, extrude, bevel, smooth shift.)	Read O'Rourke pp. 13-20, pp. 34-53 LW 2.3-2.12, 2.14-2.21 (the rest of Chap 2) LW 4.2-4.7 (up to molding tools). A2: One letter of your name as a solid 3D model.
Thu Feb 15	4	Tour of the tools and approach, continued. Polygon modification with knife, bandsaw, drill, and whatever didn't get covered last class.	Read LW 3.1-3.7, 3.10-3.15 (up to other tools), LW 4.7-4.11 (up to flex tools), LW 4.11-4.30 (flex tools and others), LW 4.32-4.33 (up to qemLOSS2), LW chapter 5 (auto geometry), LW chapter 6 (adding/subtracting), A3: polygonal/measured model
Tue Feb 20	5	Building good models. Density, technique, statistics. Cleaning the model and rendering a turntable. In-class model demo.	Continue on A3.
Thu Feb 22	6	A3 due. Subdivision surface theory introduced.	Read LW chapter 7 (subpatch modeling, skip material on weight maps) A4: simple organic shape
Tue Feb 27	7	More on subdivision surfaces and modeling organic shapes.	Continue on A4.
Thu Mar 1	8	A4 due. Discuss ray tracing and the idea of illumination models.	Read Foley pp. 722-731 (up to 16.1.5)
Tue Mar 6	9	Phong illumination model. LW shading controls. Assigning, modifying, saving materials.	Read LW pp. 9.1-9.12 (up to texture ed.) A5: simple control of LW materials.
Thu Mar 8	10	A5 due. Illumination model as a function of many variables. Using projection to assign 2-d UV coordinates to a surface.	Read O'Rourke pp. 112-119 (up to bump mapping) Foley 741-744 (section 16.3.2)
Tue Mar 13	11	Using UV coordinates to map an image to the surface.	Read LW 9.12-9.25 (up to proc. tex), LW 9.50-9.57 (on UV texture maps) A6: simple planar texture map on poly.
Thu Mar 15	12	A6 due. Reflect/discuss/quiz, look ahead.	
Tue Mar 20		<b>SPRING BREAK (no class)</b>	
Thu Mar 22		<b>SPRING BREAK (no class)</b>	
Tue Mar 27	13	Solid/procedural texturing and noise. Bump	Read O'Rourke 119-128,

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		mapping.	LW 9.25-9.36 (up to advanced tab), Fruit project (paper, shaded model).
Thu Mar 29	14	TA: tour of LW's layered system of mapping.	Read online LW tutorial on building textures. Continue on fruit project.
Tue Apr 3	15	Hierarchical approach to constructing a shader.	Read Porter, "Writing Surface Shaders" at least through page 63. Read page 69 too. Go further if you like. Continue on fruit project.
Thu Apr 5	16	TA: Demo of some applied procedural textures. Fruit Q&A.	Continue on fruit project
Tue Apr 10		EXAM/ADVISING DAY (no class)	
Thu Apr 12	17	Fruit projects due. Review them in class.	Open final project. Short paper, sketches, shaded model. Proposals DUE next class.
Tue Apr 17	18	TA: Collect final project proposals. Using layers and loading background images in Modeler. Symmetry and mirroring.	Read LW 1.14-1.24. Check email for feedback on proposal.
Thu Apr 19	19	More complicated organic shape modeling. Weights for subdivision surfaces.	Read LW 7.3 (on weight maps) Continue on final project
Tue Apr 24	20	TA: Final project discussion, half of class presenting	Continue on final project
Thu Apr 26	21	TA: Final project discussion, other half of class presenting	Continue on final project
Tue May 1	22	Animation hierarchies. Setting pivots and lineage.	Read O'Rourke pp. 53-60 (hierarchies)
Thu May 3	23	Final projects due.	

This syllabus may change throughout the semester! **Any handouts from class should be considered more current than the information presented here, so if you miss class make sure you are doing the right assignment!**