

Mechanical Clock Project

CA 3600 Graphic Programming
Instructor: Krishna Sadasivam

Using the modeling techniques you have been exposed to in the last two Class sessions, your goal is to create a creative **mechanical clock** placed on a pedestal stand of your design.

Your mechanical clock **must** include the following:

- 1) a minute hand cog gear
- 2) an hour hand cog gear
- 3) an hour hand, a minute hand, and (optionally, a second hand)
- 4) a listing of 12 numbers for the face of the clock. These can be roman numerals or standard numerals
- 5) Include a **minimum** of three additional interlocking gears inside your clock
- 6) Use depth of field techniques to add visual interest to your renders.

This project is due at the beginning of Class 4. NO LATE OR INCOMPLETE WORK ACCEPTED.



Consider lighting, shading and color. Use basic textures provided within Hypershade. The goal of this exercise is to get you familiar with many of the NURBS and polygon modeling concepts we discussed in class.

- 1.) **Make 4 renders**, each with the following specifications:

2560 pixels wide
1600 pixels high
300 dpi
TIFF format

- 2) Save each render onto a separate 11" x 17" flatbook page. Use the **FULL PAGE**. Include **your name, CA3600, Fall 2011** and the **instructor's name**.

(continued...)

3) Save your flatbook pages as Lastname_clock1.jpg, Lastname_clock2.jpg, Lastname_clock3.jpg, and Lastname_clock4.jpg

Save your Maya source file as **LastName_Clock.mb** where LastName corresponds to YOUR last name.

Put this folder in the **Class 4 Due** folder in my drop-off box.

Total possible points: 120

Grading Rubric shown below.

	Excellent (4)	Very Good (3)	Good (2)	Average (1)	Poor (0)
References 20 points	Supporting references for 3/4. front, side, back views shown.	At least three references shown.	Two references shown.	Only one reference shown.	References not shown.
Structural Engineering 20 points	Structural engineering is sound . Moving and static parts have logical placement with a strong sense of form following function.	Structural engineering is sound and believable. Moving and static parts have logical placement.	Structural Engineering is sound. Moving and static parts are placed well but lack believability	Structural engineering weak with poor placement and arrangement of parts.	No sense of believable or functional design.
Polygon Modeling 20 points	Project is modeled with excellent polygon flow. Edge loops are placed to facilitate accurate deformation when animated. • 3D models are constructed to accurately represent mechanical structure.	Project is modeled with good polygon flow. Edge loops are placed to facilitate deformation when animated. • 3D models are constructed to represent mechanical structure.	• Project is modeled with competent polygon flow. Edge loops are somewhat scattered. • 3D models are somewhat recognizable as mechanical structure.	Project is modeled poorly and demonstrates little to no understanding of polygon flow or edge loop placement. • 3D models are not recognizable and do not represent mechanical structure.	

Technical Specs followed 20 points	-All technical specifications (file naming convention, project parameters followed) -11" x 17" template used with an attractive layout.	Minor misspelling or folder organization issues. Most of the project parameters were followed. -11" x 17" template used. Layout is good.	Minor misspelling or folder organization issues. Most of the project parameters were followed. -11" x 17" template used. Layout has minor issues.	Major misspelling or failure to adhere to major technical specifications. Few of the project parameters were adhered to. -11" x 17" template not used.	Didn't follow the project specifications at all.
Composition 20 points	camera angles for renders suggest depth (foreground, middle ground, background). Excellent balance between positive and negative space. There is a point of focus that leads the viewer through the entire composition	Solid composition, good contrast between positive and negative space, but composition lacks depth. There is a point of focus that leads the viewer through the entire composition	Solid composition, good contrast between positive and negative space, but composition lacks depth. Missing a point of focus that leads the viewer through the entire composition	Composition is flat, too much negative space. Two competing elements serve as the area of focus.	Composition does not have any area of focus.
Lighting 20 points	Engaging use of color and lights to enhance the composition.	Shading is evident and lighting is utilized to good effect.	The lighting seems adequate but could be improved by a few additional lights, or by adjusting some of the existing lights, color intensity and/or position	The 3D scenes appear to be a bit too light or too dark.	Poor lighting and/or lack of any color theory application.

Please note: Zeros are recorded for projects not turned in.