

# EGR 106

## Foundations of Engineering II

Week 12 Lecture - Part A

Announcements

THINK BIG  WE DO<sup>SM</sup>



# Design Project Schedule

10	April 4-7	Project - Week 1	Assign. 8
11	April 11-14	Project - Week 2	Assign. 9
12	April 18-21	Project - Week3	Assign. 10
13	April 25-28	Project - Week 4	
14	May 2	Monday - Student evaluation and course survey	
-	April 30, May 3-7	<b>Project Presentations (during finals week)</b>	

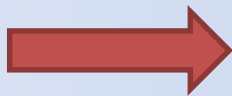
Week 10 (4/4-7)

Introduction to creating shapes

Week 11 (4/11-14)

More shape tools

Creating and viewing 3D models



Week 12 (4/18-21)

Adding color/texture

Week 13 (4/25-28)

Preparing your final presentation

# Design Project (cont.)

Deliverables (due last week of classes):

- Matlab code

- Graphic files (.obj, animated .gif and color/texture definition files)

Project Presentation

- Dates & Time: Finals Week

  - (based on lab section meeting time)

- Location: Varies with section (see next slide)

# Design Project Presentation Schedule (updated)

Lab Section Number & Meeting Time	Instructor	Project Presentation Date, Time and Location
1. Tuesday 9:30-10:45	Sumanta Das	Thurs. May 5, 8-10 AM, Kirk 212
2. Tuesday 8:00-9:15	Angelo Lucia	Tues. May 10, 8-10 AM, Kirk 212
3. Tuesday 12:30-1:45	Ramdas Kumaresan	Tues. May 10, 11:30 AM-1:30 PM, Kirk 212
4. Tuesday 2:00-3:15	Ramdas Kumaresan	Thurs. May 5, 3-5 PM, Kirk 212
5. Tuesday 3:30-4:45	Musa Jouaneh	Thurs. May 5, 6:30-8:30 PM, Kirk 212
6. Thursday 2:00-3:15	Sumanta Das	Thurs. May 5, 3-5 PM, Kirk 203C
7. Thursday 8:00-9:15	Jyh-Hone Wang	Tues. May 10, 8-10 AM, Kirk 203C
8. Thursday 9:30-10:45	Ryan Poling-Skutvik	Thurs. May 5, 8-10 AM, Kirk 203C
9. Thursday 11:00-12:15	Hamouda Ghonem	Thurs. May 5, 11:30 AM-1:30 PM, Fascitelli 130
10. Thursday 12:30-1:45	Benjamin Rahming	Tues. May 10, 11:30 AM-1:30 PM, Kirk 203C
11. Tuesday 11:00-12:15	Dhaval Solanki	Thurs. May 5, 11:30 AM-12:30 PM, Kirk 212
12. Thursday 11:00-12:15	Dhaval Solanki	Thurs. May 5, 12:30 AM-1:30 PM, Kirk 212
14. Tuesday 9:30-10:45	Zongqin Zhang	Thurs. May 5, 8-10 AM, Fascitelli 130

# Project Assignment

Working in teams of approximately 3 members\*:

- Select a unique 3D component that you would like to design
- Submit a proposal to your lab instructor
- Develop a design, taking into consideration available shapes, component functionality and aesthetic appeal
- Write a Matlab program that generates your design
- Submit Matlab program (.m) and output files (.obj, .gif, .mtl and .jpg) to the Brightspace (lecture) site
- Prepare a Powerpoint presentation and give presentation to your lab section during finals week

\* Team selection / assignments will be coordinated by lab instructors

# Design Project Presentation Rubric

Your team presentation will be graded based on the following components:

1. Recognition and comprehension of the design process
2. Creative and/or functional aspects of your design
3. Aesthetic principles and use of texture
4. Ability to use Matlab tools
5. Overall quality of presentation

# Aesthetics

- “designing is the act of making things that are intended to be both sensible and beautiful”

*Paola Antonelli, curator, Dept. of Architecture and Design,  
Museum of Modern Art*

- “design is a process for making things right, shaping what people need”

*Ralph Caplan, Cooper Hewitt Award, “Design Mind” 2010*

- “objects are aesthetically valuable if they have the capacity to produce pleasure in those who experience or appreciate them”

*[https://www.academia.edu/6325207/Eight\\_Aesthetic\\_Principles](https://www.academia.edu/6325207/Eight_Aesthetic_Principles)*

# Use of Texture

- “texture is the element of art that refers to the way things feel ... visual texture is an illusion of texture created by an artist

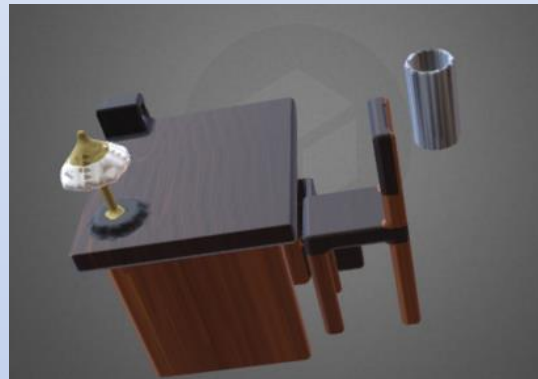
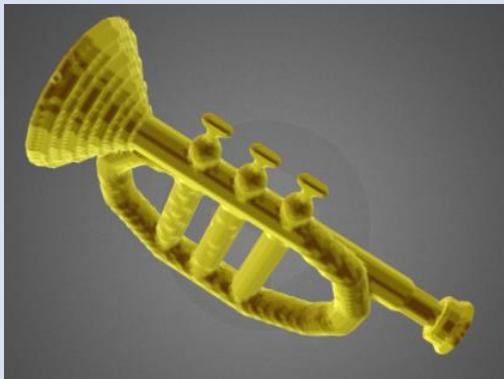
*<http://visualartspdsf.blogspot.com/2012/04/textures.html>*

- “designers ... understand that texture ... can have a strong visual and tactile impact. The visual aesthetics of a particular material and the surface texture ... contributes to how the user perceives the material”

Zuo et al. "Sensory perception of material texture in consumer products."  
*The Design Journal* 19.3 (2016): 405-42



# Samples from Previous Years



# Week 12 Activities

## In Tuesday / Thursday classes

- Form design teams (instructors to coordinate)
- Develop a project proposal (Assignment # 10)
- Begin work on Design Project

# Week 12 Quiz

- Must be completed by 8 AM, Tuesday, April 19.
- Don't wait to the last minute
- You may take it **up to 10 times**
- Your highest score will be recorded in Brightspace Grades