Introduction to COSC342

COSC342

Lecture 1
28 Feb 2017

In this Lecture

- ▶ Administration and stuff
    - ▶ Staff, lectures, labs, tutorials
    - ▶ Assessment details
- ▶ Course overview
    - ▶ What to expect from COSC342
    - ▶ What we expect of you
- ▶ Some graphics
    - ▶ A quick history of graphics
    - ▶ Videos (time dependent)

Staff and General Info

- Steven Mills
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- Stefanie Zollmann
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- Let us know if you have any complaints/suggestions/feedback

- Most of what you need is online at
  http://www.cs.otago.ac.nz/cosc342
  - Lecture notes, tutorials, lab materials, etc.
- There is no set textbook for this paper.

Lectures, Labs, Tutorials

- Lectures:
  - Tuesdays at 9 AM in Quad 3*
  - Thursdays at 9 AM in Burns 7*
- Tutorials:
  - Tuesdays at 10 AM in MUG5a*
  - Wednesdays at 11 AM in T201*
- Labs: Mondays 4–6 in Lab F (Owheo building)

- *All material* in lectures, labs, and tutorials is examinable
- The three tend to align, so lecture material is expanded in tutorials then you try it out in labs

* Note that locations may change

Wait!. . . What?. . . Where?. . .
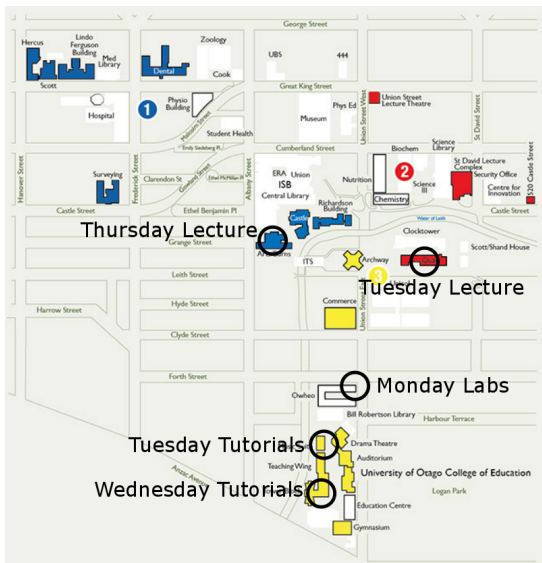
Assessment Details

- 40% of your mark is from assignments
  - Assignment 1 is 3D modelling with Blender
  - Assignment 2 is writing a Ray Tracer or OpenGL Renderer
- 60% of your mark is from the examination
  - 3 hour, short answer exam
 - More details at the end of the course
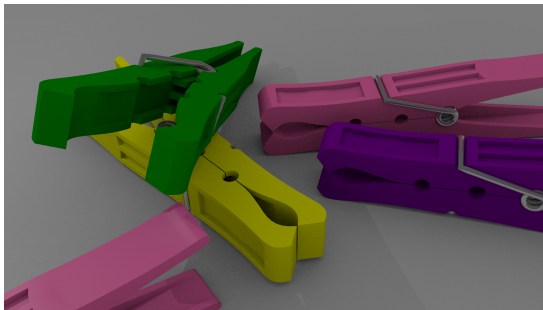
Required Preparation

- COSC242: Algorithms and Data Structures
  - We expect you to be able to write code
  - We expect you to be able to write *well structured* code
  - We expect you to have some knowledge of C and OO programming
- MATH160: Mathematics 1
  - We expect you not to have basic mathematical ability
  - We expect you to be familiar with trigonometry, vectors and matrices
  - A summary of the background mathematics is on the website

What is in COSC342?

- There are some changes from 2016:
  - Steffi has joined us from Animation Research Ltd.
  - Alternatives for Assignment 2
  - More emphasis on OpenGL pipeline
- We'll start off with some basic concepts and mathematics
- We'll look at *image mosaicing*
- We'll spend some time looking at rendering
  - Ray tracing vs. OpenGL and polygon meshes
  - This will be the basis for Assignment 2
- And then finish up with a few other key topics

- But this is Computer Graphics, let's look at some pictures. . .
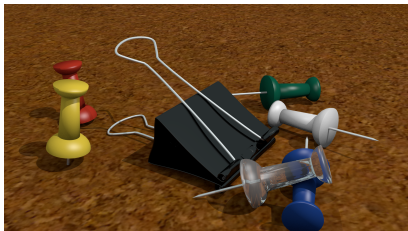
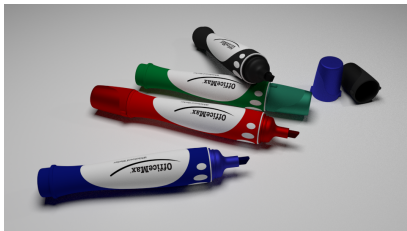# Assignment 1 from Previous Years

2013 – Padlock & key
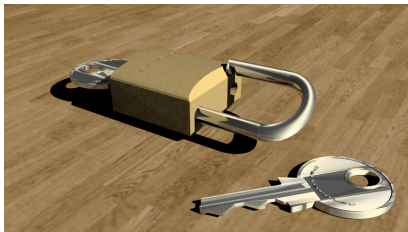
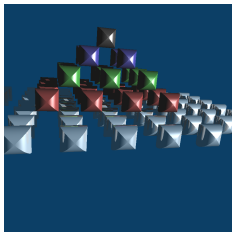2014 – Double adapter
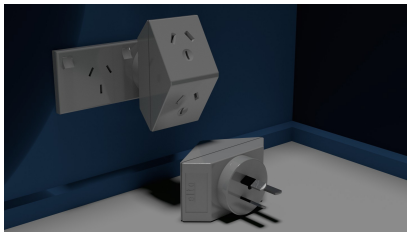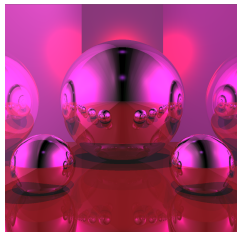

2015 – Paper clip & pins

2016 – Marker pens
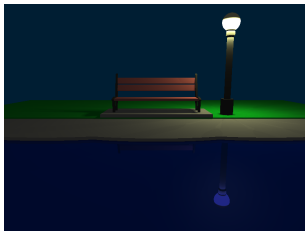
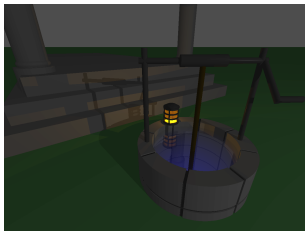# Past Assignment 2 Output

2013 – 'Cowbells'

2014 – Transformed Spheres

2015 – Cubes and Cylinders

2016 – Cubes, Cylinders, CSG

Our Expectations

- ▶ We expect you to work hard throughout the semester
- ▶ We expect you to ask questions if you don't understand something
- ▶ We hope you will have fun
- ▶ We expect that you will avoid *dishonest practice*
  - ▶ You will have heard this before, but every year we have problems
  - ▶ Be familiar with the University's regulations:
    http://www.otago.ac.nz/study/academicintegrity/
  - ▶ *Any* work you do for *any paper* should be your own
  - ▶ If we find evidence suggesting dishonest practice *we have no choice* but to inform the Head of Department
  - ▶ If someone else copies your work, you still go through the process

Tutorials and Labs

- Tutorial this week (Tuesday/Thursday):
  - Blender demonstration
  - AKA "How to pass Assignment 1"
- Lab next Monday:
  - Blender practice
  - Building a building