

# COSC363 Computer Graphics

## Course Outline (2012)

### Course Synopsis:

The course focuses on all aspects of fundamental computer graphics, including 2D/3D object representations, transformations, modeling and rendering algorithms. Particular emphasis is given on rendering algorithms for generating photo-realistic scenes with the help of illumination and reflection models and texture mapping techniques. The course also aims to provide a good foundation of OpenGL programming, which is a widely accepted standard for developing graphics applications.

### Lecturer and Course Supervisor:

- Dr. R. Mukundan  
Associate Professor, Dept. of Computer Science & Software Engineering,  
University of Canterbury, Christchurch, New Zealand.  
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### Tutor:

- Robin Candy  
[rpc40@uclive.ac.nz](mailto:rpc40@uclive.ac.nz)

### Prerequisites:

45 points of 200 level Computer Science including ENCE260.  
30 points of Mathematics or Statistics.

### Timetable for Lectures and Labs:

Lectures:      Wed 11:00am – 11:50am  
                    Thu  2:00pm – 2:50pm

Labs:            Mon  3:00pm – 4:50pm  
                    Mon 11:00am – 12:50pm

Students are expected to attend both lecture sessions in each week. There will be two lab streams per week and you should attend one of them each week. There will be no lab session in the first week of Term-1.

## Course Assessment:

Assessment Item	Worth	Date/Time
Test-1	25%	TBA
Assignment -1	20%	March 30, 2012
Test-2	25%	TBA
Assignment-2	20%	June 1, 2012
Quizzes	10%	Weekly

No assignments will be accepted after the drop-dead date. The penalty for the late submission of an assignment will be an absolute deduction of 15% of the maximum possible mark. For assignments, students **must not** work with anybody else on the assignment details. In particular, students are not permitted to share program source code in any way (including giving or showing either paper or electronic copies of source code).

The Computer Science department has the following grading policy. In order to pass a course you must meet two requirements:

- a) The university has adopted a common scale for converting marks to grades. According to this scale, an average mark of 50% is sufficient to pass the course (i.e. to achieve a C-), with an average mark of 55% a C grade is achieved and so forth. We apply this conversion scale to the average marks students achieve over all assessment items.
- b) You must achieve an average mark of at least 45% on invigilated assessment items.

Marks are sometimes scaled to achieve consistency between courses from year to year.

## Other Important Documents:

There are several important documents available online about departmental regulations, policies and guidelines at the following site. We expect all students to be familiar with these.

<http://www.cosc.canterbury.ac.nz/regulations/>

Notices about this class will be posted to the class forum in the Learn system ([learn.canterbury.ac.nz](http://learn.canterbury.ac.nz)). COSC students will also be made members of “CSSE Notices”, where general notices will be posted that apply to all classes (such as information about building access or job opportunities).

## Recommended Texts:

1. F.S. Hill, S.M. Kelley, **Computer Graphics Using OpenGL**, Prentice Hall 2006.
2. Edward Angel, **Interactive Computer Graphics**, 4<sup>th</sup> ed., Addison Wesley, 2006.
3. Woo M, Neider J, Davis T, **OpenGL Programming Guide**, 6/e, Addison-Wesley, 2007.