

# COMP 3006 COMPUTER GRAPHICS

**Credit Points** 10

**Legacy Code** 300093

**Coordinator** Quang Vinh Nguyen ([https://directory.westernsydney.edu.au/search/name/Quang Vinh Nguyen/](https://directory.westernsydney.edu.au/search/name/Quang%20Vinh%20Nguyen/))

**Description** Computer Graphics will examine elementary graphics concepts, algorithms and programming skills for producing graphical applications, in both two-dimension (2D) and three-dimension (3D) using Open GL. Techniques and algorithms will be programmed in Processing, which is a very easy-to-learn programming language yet powerful and comprehensive.

**School** Computer, Data & Math Sciences

**Discipline** Computer Graphics

**Student Contribution Band** HECS Band 2 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 3 subject

**Pre-requisite(s)** COMP 2014 OR  
COMP 2015 OR  
COMP 2016 OR  
COMP 2020

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Explain the main concepts employed in two-dimension (2D) and three-dimension (3D) computer graphics
2. Apply colour, geometry, transformation interaction, animation techniques in 2D graphics
3. Evaluate image processing techniques in 2D graphics
4. Apply primitives, geometric objects, transformation and interaction in 3D graphics
5. Apply viewing, materials, lights, modelling, hierarchy, curves and surfaces in 3D graphics

## Subject Content

Processing in context

Colours and shapes including coordinates, primitives and vertices

Variables, data types, arrays, arithmetic, control and functions

Curves, trigonometry, random and transformation

Interaction handling, motion and animation

Image processing techniques

Primitives in 3D

Geometric objects, transformations and interaction in 3D

Viewing, materials, lights and modelling and 3D

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

| Type            | Length  | Percent | Threshold | Individual/ Group Task | Mandatory |
|-----------------|---|---------|-----------|------------------------|-----------|
| Practical       | 2 hours for each session  | 15      | N         | Individual             | Y         |
| Applied Project | A 2D Computer Graphics Program. The program may require a few hundred lines of code | 20      | N         | Group                  | Y         |
| Applied Project | A 3D Computer Graphics Program. The program may require a few hundred lines of code | 15      | N         | Group                  | Y         |
| Final Exam      | 2 hours   | 50      | N         | Individual             | Y         |

Teaching Periods

## Autumn (2025)

**Parramatta - Victoria Rd**

**On-site**

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View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=COMP3006\\_25-AUT\\_PS\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3006_25-AUT_PS_1#subjects))