

# COMP 3006 COMPUTER GRAPHICS

**Credit Points** 10

**Legacy Code** 300093

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

**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
Practical	2 hours for each session	15	N	Individual
Applied Project	A 2D Computer Graphics Program. The program may require a few hundred lines of code	20	N	Group
Applied Project	A 3D Computer Graphics Program. The program may require a few hundred lines of code	15	N	Group
Final Exam	2 hours	50	N	Individual

Teaching Periods

## Autumn (2024)

### Parramatta - Victoria Rd

#### On-site

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

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP3006\\_24-AUT\\_PS\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP3006_24-AUT_PS_1#subjects))