

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 HECS Band contribution amount via the 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 (2022)

Parramatta - Victoria Rd

Day

Subject Contact Hanh Vo ([https://directory.westernsydney.edu.au/search/name/Hanh Vo/](https://directory.westernsydney.edu.au/search/name/Hanh%20Vo/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP3006_22-AUT_PS_D#subjects)

Autumn (2023)

Parramatta - Victoria Rd

On-site

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View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3006_23-AUT_PS_1#subjects)