COMP 3024 VIDEO GAMES DEVELOPMENT

Credit Points 10

Legacy Code 300862

Coordinator Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

Description This subject provides students with an in-depth understanding of the development and structure of game engines. It provides the student with a unifying overview of the many modules that are incorporated in a game engine as well as a detailed examination of game-play and engine programming.

School Computer, Data & Math Sciences

Discipline Artificial Intelligence

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Pre-requisite(s) COMP 1005

Equivalent Subjects LGYA 6086 - Games Theory and Design

Assumed Knowledge

Understanding of programming concepts and details of programming. Good programming skills in C#, Java or C++. Knowledge of systems analysis methods including object orientated analysis and design. Basic knowledge of vector algebra, matrixes and fundamentals of mathematics.

Learning Outcomes

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

1. Explain the fundamental concepts behind computer game engines
2. Understand the technological details behind various modules that comprise a game engine
3. Write basic modules to interface with a game engine
4. Design modules to meet a given set of requirements
5. Develop their own game using the selected game engine

Subject Content

game architecture, data structures and design patterns
designing your own game from scratch
handling interaction from the player
fundamental and games artificial intelligence techniques
network programming with multiplayer games
2D programming
3D pipeline
animation
texture mapping and shading
particle systems
geometrical algorithms for collision detection, geometry simplification

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
Participation	7 weeks	10	N	Individual	N
Case Study	5 weeks to complete	10	N	Group/ Individual	N
Applied Project	Requires a number of weeks to complete	40	N	Group/ Individual	Y
Final Exam	2 hours	40	N	Individual	Y

Prescribed Texts

- Dalmau, D. S-C. (2004). Core techniques and algorithms in game programming. London, UK: Pearson Education.

Teaching Periods

Spring (2024)

Parramatta - Victoria Rd

On-site

Subject Contact Anton Bogdanovych (https://directory.westernsydney.edu.au/search/name/Anton Bogdanovych/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP3024_24-SPR_PS_1#subjects)

Spring (2025)

Parramatta - Victoria Rd

Hybrid

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View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3024_25-SPR_PS_3#subjects)