COMP220
Graphics & Simulation

20 credits
Compulsory for BSc Computing for Games
Brian McDonald

FALMOUTH
UNIVERSITY

Introduction

On this module you will develop your understanding of 3D graphics rendering and physics simulation used in modern computer games. Using Modern Graphics APIs, you will develop your coding skills in the context of graphics technologies and pipelines. You will also engage practically and creatively to develop physics simulation and rendering pipelines in order to support your individual or group game concept.

Aims

This module aims to help you:

- ► Gain an understanding and knowledge of graphics and simulation technology
- ► Build an understanding of rendering and physics pipelines
- ► Gain experience of how to creatively leverage the capabilities of graphics and simulation technologies

LO	Learning Outcomes	Assessment Criteria
1	Show a basic understanding of creative computing solutions using professional techniques.	Change the way that a graphics engine behaves and demonstrate an understanding of graphics rendering engines.
2	Show a basic understanding of how to communicate effectively with stakeholders in writing, verbally and through adherence to coding standards.	Show a basic understanding of how to communicate effectively with stakeholders in writing, verbally, and through adherence to coding standards. Annotate software to communicate with others effectively.
3	Show a basic development of the ability to reflect critically on and evaluate working methods and solutions.	Reflect critically on the behaviour change intended and its visual structure and explain the rationale for working method and graphics-based solution.
4	Show a basic understanding of the ability to conduct research, present knowledge in an academic format and apply that research to practice.	Understand and apply knowledge of rendering pipelines used to produce changes in graphics engine behaviour.
6	Show a basic understanding of methods used to help set goals, manage workloads to meet deadlines and to work collaboratively.	Show understanding of how to plan and organise time to meet deadlines and fulfil a brief.

Academic Staff	Brian McDonald	
	Dr Edward Powley (Moderator)	
Assignments	Portfolio of Game Engine Components	90%
	Research Journal	10%
Indicative Hours	Sessions	36 hours
	Directed Reading	18 hours
	Portfolio of Game Engine Components	55 hours
	Integration into Collaborative Game	20 hours
	Research Journal	7 hours
	Self-Directed Study	24 hours
	Self-Directed Studio Practice	40 hours
		200 hours

Each study block represents 600-hours of study. This means that 40 hours of study per week (including contact time) is expected, alongside a further 120-hours of studio practice across the assessment period.

Additional Resources

Session Plans & Materials:
```
http://learningspace.falmouth.ac.uk/course/
view.php?id=1255
```

Assignment Briefs:
```
http://github.com/falmouth-games-academy/
bsc-assignment-briefs/tree/2018-19/comp220
```

Reading List:
```
http://resourcelists.falmouth.ac.uk/modules/comp220
```