COMP130
Game Architecture & Engineering

40 credits
Compulsory for BSc Computing for Games
Dr Michael Scott

Introduction

This module extends your game development practice by getting you to engage with the principles of professional software engineering in the context of a collaborative multi-disciplinary project. All the while, researching the importance of software quality and applying your findings to shape, measure, and improve the computing solutions that you integrate into your game.

Aims

This module aims to help you:

- ► Acquire knowledge of professional software architecture and engineering in the context of games.
- ► Apply metrics and re-factoring practices to the evolution of a game architecture in a collaborative context.
- ► Implement software design principles and engineering practices at a foundational level.

LO	Learning Outcomes	Assessment Criteria
1	Show a basic understanding of creative computing solutions using professional techniques.	Understand the fundamental use of development tools, how games vary between different architectures, and the importance and methods of reuse and scalability within professional software engineering.
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, 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.	Analyse critically the strengths and weaknesses of your code and develop an ability to respond to the critical judgements of others. Identify recurring problems across diverse examples in order to build collective solutions.
4	Show a basic understanding of the ability to conduct research, present knowledge in an academic format and apply that research to practice.	Apply basic research methodologies to draw upon existing bodies of knowledge in professional software engineering to understand developments in game architectures, notably design patterns as they occur in games development.
5	Show a basic understanding of how to approach computing problems to create innovative solutions.	Demonstrate an understanding of the commercial and enterprise constraints that game markets place on technical decisions through requirements to engineer extensible and adaptable solutions.
6	Show a basic understanding of methods used to help set goals, manage workloads to meet deadlines and to work collaboratively.	Show an understanding of how to plan and manage time, meet deadlines by planning available time effectively.

Academic Staff	Dr Michael Scott	
	Dr Edward Powley (Moderator)	
	Brian McDonald (Moderator)	
Assignments	Software Engineering Essay	30%
	Production Tasks	40%
	Game Demo	10%
	CPD Tasks	20%
Indicative Hours	Sessions	48 hours
	Supervised Studio Practice	94 hours
	Directed Reading	36 hours
	Software Engineering Essay	42 hours
	Production Tasks	56 hours
	Game Demo Preparation	14 hours
	CPD Tasks	28 hours
	Self-Directed Game Development Practice	42 hours
	Self-Directed Studio Practice	40 hours
		400 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:
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https://learningspace.falmouth.ac.uk/course/
view.php?id=2997
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Assignment Briefs:
```
http://github.com/falmouth-games-academy/
bsc-assignment-briefs/tree/2018-19/comp130
```

Reading List:
```
http://resourcelists.falmouth.ac.uk/modules/comp130
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