

Module Specification

Module Summary Information

1	Module Title	C++ Programming for Games
2	Module Credits	20
3	Module Level	5
4	Module Code	CMP5327

5	Module Overview
<p>The study of programming and the development of programming skills are central to any undergraduate course in computing. In recent years, there has been a move towards greater use of object-oriented languages in IT and creative industries. C++ is one of the most important object-oriented programming languages in the game industry and it is also the foundation for several other modern languages. Therefore, this module focuses on C++ programming, helping you to develop your skills in the use of an object-oriented programming language and to learn how to debug, optimise and test C++ programs. The learning and teaching strategy is centred on lab sessions where tutors provide advice, guidance and formative evaluation.</p>	

6	Indicative Content
<ul style="list-style-type: none"> • Software development lifecycle models. • Managing codebases. • C++ syntax • Data structures and algorithms • Class libraries such as STL • Memory management and pointers • Alignment and allocation strategies. • Object Orientation in C++. • Source code and compiler optimisation. • Testing and debugging. 	

7	Module Learning Outcomes
On successful completion of the module, students will be able to:	
1	Create object-oriented programs in C++ making use of class libraries.
2	Develop and apply testing and debugging strategies to C++ programs.
3	Utilise code optimisations, including compiler optimisations, and apply them to a program.
4	Select and use code profilers to determine performance of a program and devise a strategy to optimise the program to meet space and time requirements.

8 Module Assessment			
Learning Outcome			
	Coursework	Exam	In-Person
1 - 4	X		

9 Breakdown Learning and Teaching Activities	
Learning Activities	Hours
Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable	48
Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE	62
Private Study (PS) includes preparation for exams	90
Total Study Hours:	200