

Module 3: Multimedia Programming

Stage				1			
Semester				2			
Module Title				Multimedia Programming			
Module Number				3			
Module Status				Mandatory			
Module ECTS Credits				5			
Module NFQ level				9			
Pre-Requisite Module Titles				None			
Co-Requisite Module Titles				None			
Capstone Module?				No			
List of Module Teaching Personnel				Ruairi Murphy, Eoin Carroll, Barry Denby			
Contact Hours				Non-contact Hours			Total Effort (hours)
36				64			100
Lecture	Practical	Tutorial	Seminar	Assignment	Placement	Independent Work	
12	12	12		36		36	
Allocation of Marks (Within the Module)							
	Continuous Assessment	Project	Practical	Final Examination	Total		
Percentage Contribution	70			30	100%		

Intended Module Learning Outcomes

On successful completion of this module the learner will be able to:

1. Understand and demonstrate advanced knowledge of programming principles
2. Employ advanced programming skills in the production of interactive digital media to create and control interactive products
3. Demonstrate a detailed understanding of technical issues (graphics, interactivity, platforms) pertaining to interactive digital media.

Module Objectives

The ability to understand advanced programming issues and develop complex interactive digital media products is a huge advantage for anyone in the digital media field. Learners learn fundamental programming concepts and use them to develop rich, interactive applications that feature both generated graphics and image manipulation in desktop, web and mobile environments.

Module Curriculum

The Processing Programming Environment

History / Use / IDE / Processing JS / Android

Fundamental Programming Concepts

Variables / Functions / Loops / If...

Advanced Programming Concepts

Object Oriented Programming / Modelling Nature/Physical Forces / Randomness

Graphics

2D graphics / 3D / Image manipulation / bitmap imagery

Interactivity

Input devices / GUI

Reading Lists and other learning materials

Recommended Reading

Getting Started With Processing	Reas & Fry	O'Reilly	2010
Processing: A Programming Handbook for Visual Designers and Artists	Reas & Fry	MIT	2007

Secondary Reading

Generative Design: Visualize, Program, and Create with Processing	Bohnacker, Gross, Laub & Lazzeroni	Princeton Architectural Press	2012
The Nature of Code	Daniel Shiffman	Natureofcode.com	2012

Additional reading as recommended by lecturer, appropriate to topic.

Module Learning Environment

Lectures are carried out in class rooms / lecture halls in the College. Lab tutorials are carried out in computer labs throughout the Campus. All have the software required to deliver the programme.

Library

All learners have access to an extensive range of physical and electronic (remotely accessible) library resources. The library monitors and updates its resources on an on-going basis, in line with the College's Library Acquisition Policy. Lecturers update reading lists for this course on an annual basis as is the norm with all courses run by Griffith College.

Module Teaching and Learning Strategy

Learners are taught using a combination of lectures and practical tutorials. The lectures explore the various core programming concepts and ideas. Tutorials are Lab-based and are used to develop the learners understanding of these ideas and for problem solving and practical implementation of programming concepts and projects.

Module Assessment Strategy

Assessment is 70% continuous, with a final practical exam worth 30%. The continuous assessment consists of a series of shorter problems, covering various aspects of programming, graphics, and visual interactivity and one larger project.

Element No.	Weighting	Type	Description	Learning Outcomes Assessed
1	40%	Assignment	Through a series of increasingly complex problems, learners will create various applications from simple generative art pieces, to more complex interactive experiences.	1,2,3
2	30%	Project	Learners will create a computer game. This can be an update of a classic game (such as Pong) or an original idea. For this assignment learners will need to demonstrate a range of skills and ideas touched on over the semester including: user interaction, simulated physics, loading in images and other content (text etc.)	1,2,3
3	50%	Closed Book Examination	End of Module Examination	1,3