Module Specification

Introduction to Creative Coding

Version: 2021-22, v3.0, 12 Jul 2021

Contents

Part 1: Information

Module title: Introduction to Creative Coding

Module code: UFCF8L-30-1

Level: Level 4

For implementation from: 2021-22

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: None

Delivery locations: Frenchay Campus

Field: Computer Science and Creative Technologies

Module type: Standard

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: This module will enable students to develop key creative and technical skills.

Outline syllabus: Indicative areas of study will include:

Introduction to creative computer programming

Creative applications programming environments, differences between languages like Java/Javascript (Processing) and C/C++ (OpenFrameworks/Cinder)

Basic drawing functions

Introduction to animation

Data types/ iteration (for and while)/ selection (if and switch) /functions

Introduction to object-oriented programming using particle systems

Classes, objects, and data-encapsulation

Algorithmic particle generation and control

Introduction to creating Graphical User Interfaces

Audio generation fundamentals

Audio Reactivity

Introduction to Creating with Data

Introduction to embedded creative computing

Part 3: Teaching and learning methods

Teaching and learning methods: Developing software using open source and freely available frameworks, students will develop creative practices such as visual design, animation and basic interactivity. This will be balanced with the technical practices that enable them to produce these creative outputs. These skills lie at the core of the industries that graduates will work within.

Module Learning outcomes:

MO1 Understand the foundations of creative programming, discuss uses of both C++ and java based programming environments within the creative applications context

MO2 Research contemporary digital artworks and online resources to aid creative and technical development

MO3 Develop small-scale reactive audio-visual programs that apply understanding of the foundations of both technical and creative approaches

MO4 Understand and use the basic programming constructs and Isolate and fix common errors in custom programs.

MO5 Manipulate various datatypes, such as arrays, strings, and pointers.

MO6 Apply object-oriented approaches to creative software problems

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 204 hours

Face-to-face learning = 96 hours

Total = 300

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ufcf8l-30-1.html

Part 4: Assessment

Assessment strategy: The assessment strategy in this module is based upon the module information covered in lectures, seminars, tutorial sessions and student's self-directed research.

Summative Assessment: Projects are evaluated on subject specific criteria clearly stated on each project brief at the outset of each project. Students will submit:

A 2D generative drawing program that creates graphics based on code-driven drawing techniques (Component A)

A functional, reactive algorithmic audio-visual application working in 2D or 3D and linking with sound generation along with short video presentation demonstrating, explaining and contextualising their work. Students will then take part in an in class

showcase where they will participate in a Q&A. This will authenticate that it is their own work (Component B)

Referral assessment will involve students having to create a generative drawing project for Resit Component A and an interactive audio-visual project for Resit Component B.

Formative Assessment: A mix of individual, peer-to-peer and group tutorials will be provided.

Feedback: Oral feedback will be given through discussions in class, and tutorials. Written feedback will be provided through on assignments and comments on students' research blogs.

Plagiarism: All submissions will checked using the university plagiarism software

Assessment components:

Project - Component A (First Sit)
Description: Generative drawing project
Weighting: 40 %
Final assessment: No
Group work: No
Learning outcomes tested: MO2, MO3, MO4, MO5, MO6

Project - Component B (First Sit)
Description: Creative audio-visual application project
Weighting: 60 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Project - Component A (Resit)
Description: Generative drawing project

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3, MO4, MO5, MO6

Project - Component B (Resit)

Description: Creative audio-visual application project

Weighting: 60 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Digital Media {Foundation}[Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Digital Media {Foundation}[Sep][SW][Frenchay][5yrs] BSc (Hons) 2020-21

Digital Media {Foundation}[Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Digital Media {Foundation}[Sep][SW][Frenchay][5yrs] BSc (Hons) 2020-21