Module Specification

Creative Computing

Version: 2027-28, v4.0, Approved

Contents

Module Specification 1

Part 1: Information 2

Part 2: Description 2

Part 3: Teaching and learning methods 4

Part 4: Assessment 5

Part 5: Contributes towards 6

Part 1: Information

Module title: Creative Computing

Module code: UFCFLL-30-2

Level: Level 5

For implementation from: 2027-28

UWE credit rating: 30

ECTS credit rating: 15

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: None

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: Coding for Audio 2026-27, Games in C++ 2026-27, Introduction to Creative Coding 2026-27

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: The connection between physical interaction and creative expression is critical to understanding the fundamentals of creative media.

This module provides students an opportunity to learn and practice design for interactive systems, to learn why and how different contexts change design

constraints, and to build a portfolio of their own prototype designs showcasing engaging interactive experiences designed and developed themselves.

Features: Pre-requisites: students must take one out of UFCFWA-30-1 Games C++ or UFCF8L-30-1 Introduction to Creative Coding or UFCERK-15-1 Coding for Audio

Educational aims: The broad aim is to help students learn about design practices and to run mini-projects, designing prototypes that they gradually iterate and improve.

Building on foundations laid in Level 4, students will assemble a portfolio of prototype designs showcasing their creative application of design principles. Prototype designs may range from systems with screen-based interaction using touch or mouse and keyboard, to hardware responding to tangible manipulation, to experiential art-gallery installation pieces responding to full body movement and social interaction of participants.

Outline syllabus: This module will adopt suitable hardware and software technologies to enable students to achieve the learning outcomes in a variety of creative technology contexts. Content will aim to cover (but is not limited to) the following key areas:

:: Design strategies and concepts indicative content (will be adapted to the most contemporary and relevant methods at the time) ::

Interaction Design principles; Human-centred personas and user journeys; Experience design; Design for Digital Musical Instruments (DMIs); Design for screen-based interactions.

:: Audio and visual system indicative content (will be adapted to the most contemporary and relevant methods at the time) ::

Making systems that react; Audio and sound; Video and graphics; Generation vs Processing vs Playback; Time-based vs frequency-based processing; Considerations for generative emergence; Considerations for expressive control.

:: Electronics indicative content (will be adapted to the most contemporary topics at the time) ::

Rudiments of sensors and actuators; Flex, light, pressure, and proximity sensors; Voltage divider circuits; Light Emitting Diodes (LEDs); Conductive paint and/or fabric.

:: Hardware/Firmware indicative content (will be adapted to the most contemporary methods at the time) ::

Input signal conditioning and processing for (real-time) interactive control; Latency -vs- stability, Microcontrollers and processing; Haptic and tactile feedback; Systems for audio and visual feedback; Networking and communication protocols.

Part 3: Teaching and learning methods

Teaching and learning methods: The syllabus will be explored through lectorials in which some information will be presented formally, with the majority of taught content being presented through workshop challenges and tasks with staff support.

The sessions will contain brief lectures, discussions, group-work tasks and project-based learning.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Identify and critique key concepts and ideas developed by contemporary practitioners.

MO2 Demonstrate critical and creative thinking, through an iterative prototyping, documenting, and implementation process.

MO3 Apply and communicate understanding of design practices through rigorous design research.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

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/ufcfll-30-2.html

Part 4: Assessment

Assessment strategy: Students will submit for assessment a single portfolio demonstrating their design and development work. Students will receive formative guidance on their work during classes and are expected to build upon information and topics covered in lectures, seminars, tutorial sessions as well as their own self-directed research. Students will be required to situate their work in context with other practitioners. Students must demonstrate a reflective design and development process. Students must demonstrate features and functionality of their work with supporting documentation. In the interests of accessible assessment this may be (but is not limited to) video documentation for example.

This assessment has been selected to allow practical hands on knowledge and skill generation. They evaluate student development of skills and both creative and critical thinking, as well as technical implementation, involving both formative and summative assessment.

The resit strategy is the same as the main sit.

Assessment tasks:

Portfolio (First Sit)
Description: Portfolio of mini-project prototyping work and documentation
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Portfolio (Resit)

Description: Portfolio of mini-project prototyping work and documentation

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Digital Media {Foundation} [Frenchay] BSc (Hons) 2025-26

Digital Media [Frenchay] BSc (Hons) 2026-27

Digital Media [Frenchay] BSc (Hons) 2026-27

Digital Media {Foundation} [Frenchay] BSc (Hons) 2025-26

Digital Media {Foundation} [Frenchay] BSc (Hons) 2025-26

Audio and Music Technology [Frenchay] BSc (Hons) 2026-27

Creative Music Technology [Frenchay] BSc (Hons) 2026-27

Digital Media [Frenchay] BSc (Hons) 2026-27

Digital Media [Frenchay] BSc (Hons) 2026-27

Digital Media {Foundation} [Frenchay] BSc (Hons) 2025-26

Audio and Music Technology [Frenchay] BSc (Hons) 2026-27

Creative Music Technology [Frenchay] BSc (Hons) 2026-27