

Module specification

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Module code	CMT535
Module title	Interactive Music Systems
Level	5
Credit value	20
Faculty	FAST
Module Leader	Mike Wright
HECoS Code	100221
Cost Code	GACT

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BSc (Hons) Music and Sound Technology.	Core

Pre-requisites

None

Breakdown of module hours

Type of Module hours	Amount
Learning and teaching hours	30 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	30 hrs
Placement / work based learning	0 hrs
Guided independent study	170 hrs
Module duration (total hours)	200 hrs

For office use only	
Initial approval date	September 2021
With effect from date	September 2021
Date and details of revision	
Version number	1

Module aims

To develop concepts of computer developed music. Music structures embedded in systems will be investigated. Control of systems will be investigated and implemented using Arduino control over firmware for hardware solutions.

Module Learning Outcomes - at the end of this module, students will be able to:

1	Demonstrate detailed knowledge to enable sound manipulation by application of software, such as MAX/MSP/Jitter.
2	Creatively design specific software and firmware applications to manipulate media interfaces.
3	Evaluate and design suitable techniques to exploit algorithms for the manipulation of media.

Assessment

Indicative Assessment Tasks:

Assessment will be based on a range of algorithmic possibilities. Designing media manipulation from various concepts such as:

Lorentz Sequence

Earthworm Sequence

Morse-Thue fractals

Fibonacci derived composition.

Control of external hardware by use of the Arduino family. Choice of Arduino to be suitable for interface.

Design and implementation of fully notated Arduino patch.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1-3	Portfolio	100

Derogations

N/A

Learning and Teaching Strategies

The Active Learning framework (ALF) embraces accessible, engaging and flexible approaches to learning, teaching and assessment in order that students are afforded the very best opportunities to engage actively with their learning.

- Flexible, innovative, relevant and accessible assessment and feedback practices that optimise student engagement and achievement within a healthy learning environment;
- An approach to research informed-teaching that champions active and engaged inquiry and curiosity through useful, active, applied research and scholarship.

Ref Glyndwr Staff handbook 2021

The module will be delivered to engage with ALF. The ALF model will be used to deliver asynchronous and synchronous lectures and content. The module will be delivered using an appropriate range of teaching and learning strategies

The module will be delivered by a series of interactive classes, supported self-learning exercises and tutorials. Various programming packages will be explored and demonstrated.

Indicative Syllabus Outline

Context of Computer-based music composition.
Historic background of computer production technologies.
Programming software;
MAX/MSP/Jitter/GEM
Arduino sketches
Algorithmic Production
Walsh synthesis programme

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads

www.cycling74.com

www.arduino.cc

Other indicative reading

Journal of the Audio Engineering Society.

Journal of Organised Sound.

Roads, C. (2015). Composing Electronic Music: A New Aesthetic. OUP US

Employability skills – the Glyndŵr Graduate

Each module and programme is designed to cover core Glyndŵr Graduate Attributes with the aim that each Graduate will leave Glyndŵr having achieved key employability skills as part of their study. The following attributes will be covered within this module either through the content or as part of the assessment. The programme is designed to cover all attributes and each module may cover different areas.

Core Attributes

Engaged

Enterprising

Creative

Key Attitudes

Commitment

Curiosity

Resilience

Confidence

Adaptability

Practical Skillsets

Digital Fluency

Organisation

Critical Thinking

Communication