Module Definition Form (MDF)

Module code: MOD007371	**Version:** 2 **Date Amended:** 27/Jul/2021

1. Module Title
Electronics for Music

2a. Module Leader
Tim Webster

2b. School
Cambridge School of the Creative Industries

2c. Faculty
Faculty of Arts, Humanities, Education and Social Sciences

3a. Level
5

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions			
Type	**Module Code**	**Module Name**	**Condition**
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	BSc (Hons) Audio and Music Technology; BSc (Hons) Audio and Music Technology (with placement); BA (Hons) Music and Sound Production; BA (Hons) Electronic Music Production; and appropriate framework award		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module helps you evaluate, select, design and test audio electronic equipment. It covers small-signal and power amplifiers, and the problems of noise, interference and distortion. Designs of filters and crossovers for high-quality audio are explained. There will be an overview of analogue and digital radio broadcasting.

The module provides an introduction to the analysis and design of electronic circuits and reviews the fundamentals of analogue and digital circuit design. Analogue circuits for various amplifier classifications will be introduced with their theoretical models. You will also be introduced to active filters, Bode plots, and phase-locked loops. Advanced combinational logic design is introduced together with synchronous counter design comprising various forms of memory elements. Sequential logic design is discussed and explained. The creative possibilities of circuit bending are outlined.

You will then develop a software or hardware artefact.

6b. Outline Content

- Small-signal and power amplifiers
- Filters, equalisers and crossover units
- Power supplies
- Noise, interference and distortion - measurements
- Radio receivers AM, FM and DAB

- Transfer functions of electronic feedback circuits
- Frequency response of active and passive electronic circuits
- Filters
- Class A/B/C amplifiers
- Synchronous counter design (JK, D type memory elements)
- Sequential logic circuits
- Analogue to digital converters
- Digital to analogue converters

- Introduction to circuit bending

6c. Key Texts/Literature

The reading list to support this module is available at: https://readinglists.aru.ac.uk/

6d. Specialist Learning Resources
Access to music technology studios and electronics laboratory. Suitable hardware and software.

7. Learning Outcomes (threshold standards)		
No.	**Type**	**On successful completion of this module the student will be expected to be able to:**
1	Knowledge and Understanding	Understand the basic designs of audio electronic systems;
2	Knowledge and Understanding	Appreciate the significance of noise, interference and distortion;
3	Intellectual, practical, affective and transferrable skills	Analyse and compare digital and analogue audio systems;
4	Intellectual, practical, affective and transferrable skills	Design, test and evaluate a piece of electronic hardware or software.

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2025/6	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	**Hours**	**Learning Outcomes**	**Details of Duration, frequency and other comments**
Lectures	80	1-3	Tri1: 4-hour lecture/practical in weeks 1-6 and 8-11 Tri2: 4-hour lecture/practical in weeks 1-6 and 8-11
Other teacher managed learning	18	1-3	Tri1: 4-hour feedback session in week 7 Tri1: 4-hour feedback session in week 12 Tri2: 4-hour feedback session in week 7
Student managed learning	202	4	Coursework
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Examination	1-3	60 (%)	Fine Grade	30 (%)
2-hour exam at end of Tri1					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Coursework	1-3	20 (%)	Fine Grade	30 (%)
Logbook - 2,000 word equivalent. Due at end of TRI2.					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
012	Coursework	1-4	20 (%)	Fine Grade	30 (%)
Final report, 2000 words equivalent, due at end of Tri2					

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment as specified above
(b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]