Liverpool John Moores University

Title:	Desktop Audio 2
Status:	Definitive
Code:	**5532STE** (124040)
Version Start Date:	01-08-2021
Owning School/Faculty:	Engineering
Teaching School/Faculty:	Liverpool Institute for Performing Arts

Team	Leader
Karl Jones	

Academic Level:	FHEQ5	**Credit Value:**	20	**Total Delivered Hours:**	63
Total Learning Hours:	200	**Private Study:**	137		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	20
Tutorial	2
Workshop	40

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Practice	Prac	Demonstration of Practical Project	60	
Exam	Exam	Written Exam	40	1

Aims

This module is designed to build on the skills and knowledge acquired in Desktop Audio One. It aims to provide students with the knowledge and understanding of additional areas that can be incorporated into desktop audio production, and to develop some areas covered in the first year to a higher level. The module embraces 'music technology' in its widest sense by covering the broad theoretical concepts that

underpin sound synthesis and sampling, and provides students with the practical skills to apply these concepts using software devices in arrange of contexts. Advanced areas of MIDI and sequencing are explored and applied, including synchronisation, MIDI timecode and the creation of simple virtual 'environments' for MIDI control.

Learning Outcomes

After completing the module the student should be able to:

1	Demonstrate the structure and practical use of MIDI timecode and MIDI clock.
2	Explain the theoretical concepts which underpin sound synthesis and audio sampling
3	Apply the techniques required to integrate sampling and synthesis within the desktop audio environment, including complex software patching and modulation techniques
4	Design MIDI control environments to control hardware and software devices

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Practical Project	3	4
Written Exam	1	2

Outline Syllabus

Sampling & Synthesis Theory
Sample rates & Nyquist limit; bit depth; time vs. frequency domains; disadvantages of sampling; Understanding waveforms; Building blocks of synthesis – VCAs and VCOs; Envelopes and other modifiers; Filters and resonance; Controlling synthesis by use of modulation; CV and Gates

Sampling Practical
Operation and use and integration of software samplers; understanding and using 'Recycle'

Synthesis Practical
Operation of 'Reason'; synthesis building blocks available; sampling with 'Reason'; integrating 'Recycle' and 'Reason'; drum programming and replacement techniques; using virtual instruments

Synchronisation
MTC structure – quarter frame message protocol; difference between SMPTE and MTC

Advanced MIDI
Use of Logic's MIDI environment; designing a virtual control surface; manipulating

MIDI data with transformers; Automation functions in 'Logic Pro X' Advanced audio sequencing with Pro Tools –advanced automation features – elastic audio

Learning Activities

This module will be delivered using the following teaching and learning strategies: Lectures to introduce key concepts and theories Workshops to apply these concepts using appropriate software and hardware Individual tutorials to support ongoing coursework development Individual study in line with guidance and direction from tutors

Notes

Mark Atherton is the Module Leader (m.atherton@lipa.ac.uk)