

Liverpool John Moores University

Title: COMPUTER AUDIO TECHNOLOGY
Status: Definitive
Code: **5027COMP** (102971)
Version Start Date: 01-08-2011

Owning School/Faculty: Computing and Mathematical Sciences
Teaching School/Faculty: Computing and Mathematical Sciences

Team	Leader
Martin Hanneghan	Y

Academic Level: FHEQ5 **Credit Value:** 12.00 **Total Delivered Hours:** 38.00
Total Learning Hours: 120 **Private Study:** 82

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	12.000
Practical	12.000
Tutorial	12.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Artefacts	AS1	A group-based task to produce a multichannel audio backing sequence to accompany pre-recorded video footage.	50.0	
Exam	AS2	Examination	50.0	2.00

Aims

- To understand the hardware and software that is used in computer-based audio and music production.
- To explore the techniques employed to digitally edit and manipulate audio and musical performances.
- To demonstrate between the activities

Learning Outcomes

After completing the module the student should be able to:

- 1 Recognise and define the primary components of a computer-based audio production environment.
- 2 Examine the role of audio hardware and software components in computer-based systems.
- 3 Define the techniques used for manipulating both digital audio signals and digital performance data and formulate an appropriate workflow to enable this manipulation to take place.
- 4 Demonstrate a range of audio editing and production techniques to develop custom audio solutions.

Learning Outcomes of Assessments

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

Audio backing	2	4
Exam	1	3

Outline Syllabus

- Computer audio production workflow: capture / sourcing, editing, production, post-production, delivery
- Computer audio technology: hardware interfaces, software platforms and operating system support
- Sampling theory and practice: sample editing, splicing, looping, beat slicing, normalisation
- DSP effects and filters
- Digital Audio Workstations (DAWs)
- The MIDI protocol, MIDI devices and control
- MIDI sequencing
- Virtual instruments and processors
- Timecodes and synchronisation
- Surround sound placement

Learning Activities

Lectures will be accompanied by workshop-based demonstration sessions and hands-on practical sessions. Theoretical knowledge will be assessed in guided tutorial sessions.

References

Course Material	Book
Author	Rumsey, F.
Publishing Year	2004
Title	Desktop Audio Technology
Subtitle	Digital Audio and MIDI Principles
Edition	
Publisher	
ISBN	0240519191

Course Material	Book
Author	Rumsey, F. & McCormack, T.
Publishing Year	2002
Title	Sound and Recording
Subtitle	
Edition	4th
Publisher	Focal Press
ISBN	024051680X

Course Material	Book
Author	Penfold, R.A.
Publishing Year	1995
Title	Practical MIDI Handbook,
Subtitle	
Edition	
Publisher	Cimino Publishing Group
ISBN	1870775368

Course Material	Book
Author	Pohlmann, K.C.
Publishing Year	2007
Title	Principles of Digital Audio
Subtitle	
Edition	
Publisher	McGraw-Hill Education
ISBN	0071441565

Notes

This module explores the role of computer-based audio technology tools and platforms within the field of digital audio, recording and live performance.