

Liverpool John Moores University

Title: Coding for Audio
Status: Definitive
Code: **6540STE** (124053)
Version Start Date: 01-08-2021

Owning School/Faculty: Engineering
Teaching School/Faculty: Liverpool Institute for Performing Arts

Team	Leader
Karl Jones	

Academic Level: FHEQ6
Credit Value: 10
Total Delivered Hours: 40
Total Learning Hours: 100
Private Study: 60

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Tutorial	10
Workshop	30

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Technology	Technology	Practical Coursework - Audio plugin or iOS application	100	

Aims

This module is designed to provide an introduction to object oriented-coding with a particular emphasis on developing audio applications and plug-ins. It builds on core aspects of DSP covered at Levels 4 and 5, but positions this within the context of lower level development tools such as X-Code

Learning Outcomes

After completing the module the student should be able to:

- 1 Combine real-time signal processing and software design concepts to produce a software plug-in compatible with commercial audio host applications
- 2 Solve problems to generate bug-free code
- 3 Demonstrate an understanding of object oriented programming techniques and development tools

Learning Outcomes of Assessments

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

Practical Coursework	1	2	3
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Outline Syllabus

Compilers; basic program structure; variables and types; writing a simple program with user I/O

Operators, statements and flow control; function; scope

Object Oriented principles

File I/O

Version Control; class inheritance, basic debugging techniques, enumeration

Pointers and references; dynamic memory; circular buffers; offline audio processing

Using Audio Units

GUI considerations

Learning Activities

This module will be delivered using extended practical workshops which explore specific techniques and approaches. A combination of prepared exercises and students' own work in progress will be used as the basis of these workshops. Individual tutorial sessions throughout the module will provide formative feedback and advice in the completion of the assessment. Students are also expected to undertake their own research under the guidance of the tutor.

Notes

Jon Thornton is the Module Leader (j.thornton@lipa.ac.uk)