STUDENT AND ACADEMIC SERVICES

UWE Bristol | University of the West of England

MODULE SPECIFICATION

Part 1: Information			
Module Title	Introductory Audio Programming		
Module Code	UFCFF4-30-1	Level	Level 4
For implementation from	2018-19		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Contributes towards	Audio and Music Technology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19 Creative Music Technology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19 Creative Music Technology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2018-19 Audio and Music Technology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2018-19 Broadcast Audio and Music Technology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19 Broadcast Audio and Music Technology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2018-19		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
Educational Aims: See Learning Outcomes.

Outline Syllabus: Fundamentals of traditional software development and engineering
The application of programming to audio and music systems
Audio control fundamentals and protocols
Common algorithmic methods and the development of appropriate solutions in context
Fundamentals of signal generation and processing components |

Appropriate mathematical methods, including use of formulae for audio, scaling and shifting and implementation in code

Techniques by which programming problems are tackled, and how to design, express and document suitable solutions

Introduction to event-driven software architectures and their utility within audio systems

Teaching and Learning Methods: Theoretical and conceptual aspects of the module will be introduced by lectures on a weekly basis and, where appropriate, contextualised with practical demonstrations of application. Relevant reading material and sections from the course text should be read in preparation for each lecture. On average this will require a total of 3 hours study each week.

Learners will apply the conceptual elements of taught material in weekly practical sessions where abilities in problem solving, software engineering, program design and implementation will be developed. Learners are required to complete exercises, extend ideas, and develop further understanding independently of the timetabled sessions. On average this will require a total of 4 hours study each week, including attendance at Peer Assisted Learning sessions.

Support will also be provided via email and virtual learning environments.

Four assignments will be staged throughout the year which will require students to complete additional unsupervised learning to implement and debug a solution to a programming brief, which will be on a larger scale than the exercises completed in the practical sessions. Typically this will require 4 hours study each week although it should be anticipated that the majority of this time will be biased towards the assignment deadline.

Contact hours:

Contact time: 72
Assimilation and development of knowledge: 148
Exam preparation: 20
Coursework preparation: 60
Total study time: 300

Part 3: Assessment

The examination will be used to establish learners' understanding of the module content as described in lectures and reading materials.

The assignment will be used to establish the degree of understanding of computer programming in application to music and audio systems. This will involve demonstrating an ability to create an extended piece of work beyond the examples seen in lectures and practicals. The assignment activity will be staged in order to allow progressive development of skills and understanding.

Formative assessment will be provided as part of the practical sessions. Individual feedback will be provided on the assignment and group feedback on the exam.

Assessment criteria will be supplied with the assignment specification and in example exam papers.

First Sit Components	Final Assessment	Element weighting	Description
Set Exercise - Component B		25 %	Assignment 1 (individual work)
Set Exercise - Component B		25 %	Assignment 2 (individual work
Examination - Component A	✓	50 %	Exam (120 mins)

Resit Components	Final Assessment	Element weighting	Description
Set Exercise - Component B		50 %	Assignment (individual work)
Examination - Component A	✓	50 %	Exam (120 mins)

Part 4: Teaching and Learning Methods	
Learning Outcomes	On successful completion of this module students will be able to:

	Module Learning Outcomes
MO1	Write high-level computer programs demonstrating the accurate formulation of the language syntax
MO2	Analyse and breakdown audio/music related problems using a methodical process to design, realise and evaluate algorithmic solutions
MO3	Apply fundamental software engineering and problem solving techniques to organise, interpret and express software designs using appropriate notation
MO4	Operate the development tools and associated environment to maintain, edit, build, test and debug computer programs
MO5	Identify and describe the fundamental components of audio/music signal generation and control protocols, and the associated mathematical methods and operations
MO6	Implement and explain mathematical formulae for audio within the context of computer programming

Contact Hours

Contact Hours	
Independent Study Hours:	
Independent study/self-guided study	228
Total Independent Study Hours:	228
Scheduled Learning and Teaching Hours:	
Face-to-face learning	72
Total Scheduled Learning and Teaching Hours:	72
Hours to be allocated	300
Allocated Hours	300

Reading List	*The reading list for this module can be accessed via the following link:* https://uwe.rl.talis.com/modules/ufcff4-30-1.html