Module Code:	COM552

Module Title:	Audio Technology for Games

Level:	5	Credit Value:	20

Cost Centre(s):	GACP	JACS3 code: HECoS code:	I700 100363

Faculty:	Arts, Science and Technology	Module Leader:	Dan Pope

Scheduled learning and teaching hours	30 hrs
Guided independent study	170 hrs
Placement	0 hrs
Module duration (total hours)	200 hrs

Programme(s) in which to be offered (not including exit awards)	Core	Option
BSc (Hons) Computer Game Development	✓	☐
BSc (Hons) Computer Game Development (with Industrial Placement)	✓	☐
BA (Hons) Sound Design	✓	☐

Pre-requisites
None.

Module Aims
The module introduces students to the principles and theories of audio and sound design, particularly as they manifest themselves in computer game situations. The tools, techniques and processes for designing, creating, and manipulating sound and musical assets in games are explored, along with their planning and management in a game context. The module also introduces students to current and future trends in the field. Students will be able to plan, create and deploy sound for games using a variety of software and hardware.

Intended Learning Outcomes

Key skills for employability

KS1   Written, oral and media communication skills
KS2   Leadership, team working and networking skills
KS3   Opportunity, creativity and problem solving skills
KS4   Information technology skills and digital literacy
KS5   Information management skills
KS6   Research skills
KS7   Intercultural and sustainability skills
KS8   Career management skills
KS9   Learning to learn (managing personal and professional development, self-management)
KS10   Numeracy

At the end of this module, students will be able to		Key Skills	
1	Demonstrate an awareness of the range of digital audio technologies, specify format requirements and make critical decisions about the applications of technologies in the game audio environment	KS1	KS3
		KS4	KS5
		KS6	KS8
2	Plan the production and integration of audio assets for a game prototype	KS1	KS3
		KS4	KS5
		KS6	KS8
3	Professionally apply digital audio manipulation and production techniques in relation to a game prototype	KS3	KS4
		KS5	
4	Appraise the effectiveness of a game audio implementation	KS1	KS5
		KS8	KS9

Transferable skills and other attributes

Derogations
None

Assessment:
Indicative Assessment Tasks:
Assessment 1 will focus on the design and justification of audio solutions for the game environment and will typically take the form of a report or electronic document. Assessment 2 will focus on the implementation of audio system solutions for the game environment making use of current digital audio applications and will involve the production of audio assets, usually integrated directly into a game engine or via a piece of game audio middleware.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	1, 2	Coursework	50%	N/A	2000
2	3, 4	Coursework	50%	N/A	

Learning and Teaching Strategies:
The module will be delivered through a combination of formal lectures, tutorials, practical demonstrations and labs. Students will have access to lecture materials, and ancillary resources, via the University's VLE platform.

Syllabus outline:
The role of audio in games Fundamentals of sound and digital audio Linear audio editing Sound design tools and techniques Sound effects and postproduction Music in games Working in the game audio industry Sonic environments and acoustic principles Game sound, character and narrative Game audio systems and middleware Spatial audio and ambisonics Audio and mobile games Digital audio data compression

Indicative Bibliography:
Essential reading
Horowitz, S. and Looney, S. (2014), *The Essential Guide to Game Audio: The Theory and Practice of Sound for Games*. Oxford: Focal Press.   Rumsey, F. and McCormick, T. (2014), *Sound and Recording: Applications and Theory*. Oxford: Focal Press.
Other indicative reading
Collins, K. (2008), *Game Sound: An Introduction to the History, Theory, and Practice of Video Game Music and Sound Design*. Cambridge, Mass: MIT Press.   Marks, A. (2016), *Complete Guide to Game Audio: For Composers, Sound Designers, Musicians, and Game Developers*. Boca Raton, FL: CRC Press.   Stevens. R. and Raybould, D. (2015), *Game Audio Implementation: A Practical Guide Using the Unreal Engine.* Boca Raton, FL: CRC Press   Thomas, C. (2016), C*omposing Music for Games: The Art, Technology and Business of Video Game Scoring*. Boca Raton, FL: CRC Press.