Module Code:	CMT608

Module Title:	Audio Networking

Level:	6	Credit Value:	20

Cost Centre(s):	GACT	JACS3 code: HECoS code:	J930 100222

Faculty:	Arts, Science and Technology	Module Leader:	Colin Heron

Scheduled learning and teaching hours	36hrs
Guided independent study	164hrs
Placement	0hrs
Module duration (total hours)	200hrs

Programme(s) in which to be offered	Core	Option
BSc (Hons) Live Sound	☑	☐

Pre-requisites
None

Module Aims
This module aims to equip the student with the necessary knowledge and skills to conceive, design and operate digital networking solutions for the transmission of high quality audio and video content. In the past decade, digital solutions have replaced the analogue signal path to such an extent that even the simplest audio equipment is now integrated and managed in complex digital networks. This has brought about new demands for participants in this field of audio engineering and now requires a converging skill set that includes computer networking protocols, fibre optics and a broad understanding of wide area networks (WANs) and local area networks (LANs). This shift in the knowledge required for audio engineers is similar to other areas of technology and offers opportunities for the development of transferrable skills.

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	Identify the strengths and weaknesses of different digital transmission protocols	KS1	KS3
		KS4	KS6
		KS9	
2	Design transmission systems that synthesise multiple approaches to the transmission of high quality A/V material	KS1	KS3
		KS5	KS6
3	Critically evaluate the quality and performance of a system with quantitative and qualitative methodologies	KS1	KS6
		KS9	KS10
4	Apply relevant research from sources such as the Audio Engineering Society to inform the formulation of a working solution	KS5	KS6
		KS10	

Transferable/key skills and other attributes
Information Technology Project management Technical Analysis Research Skills

Derogations
None

Assessment:
Assignment 1: The project will be the investigation of audio visual networking protocols as applied to a specific are of the A/V industry. The student will identify the leading technologies in the given area and will critically appraise them in terms of market, transmission quality, integral control opportunities, possible future development. Assignment 2: The poster presentation will demonstrate the results of an experiment investigating the quality of the chosen technology by utilising standard test methodologies. The poster will be designed and presented in accordance to the submission policy of a leading audio engineering professional body – The Audio Engineering Society (AES)

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	2, 3, 4	Project	70%		2000
2	1, 4	Poster Presentation	30%		Single A2 Sheet

Learning and Teaching Strategies:
The module will be presented as a series of lectures. Seminars will be conducted to explore the use of associated hardware/software.

Syllabus outline:
Digital Media in context Transmission Protocols Wireless Technologies Audio Test Methodologies Integrated Proprietary Platforms Embedded Control Internet and I/P delivery

Bibliography:
Essential reading
Grimes, B. (2014). Networked AV systems: McGraw Hill Education Robertazzi, T. G. (2017). Introduction to Computer Networking. New York: Springer Zacharoc, N. and Bech, S. (2006). Perceptual Audio Evaluation – Theory, Method and Application: Wiley-Blackwell
Other indicative reading
Valenzuela, J. C (2015) The Complete Guide to Connecting Audio, Video, and MIDI Equipment: Get the Most Out of Your Digital, Analogue, and Electronic Music Setups. New York: Applause Theatre Book Publishers Audio Engineering Society – Journal and e-Library http://www.aes.org