

Module specification

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Module code	CMT614
Module title	Live Systems
Level	6
Credit value	20
Faculty	FAST
Module Leader	Colin Heron
HECoS Code	100222
Cost Code	GACT

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BSc(Hons) Music and Sound Technology	Core
BSc(Hons) Professional Sound And Video	Core

Pre-requisites

N/A

Breakdown of module hours

Type of Module hours	Amount
Learning and teaching hours	24 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	24 hrs
Placement / work based learning	0 hrs
Guided independent study	176 hrs
Module duration (total hours)	200 hrs

For office use only	
Initial approval date	September 2021
With effect from date	September 2021
Date and details of revision	
Version number	1

Module aims

The aim of this module is to equip the student with the necessary skill set and knowledge to design and optimise large scale installed and touring sound systems.

This will be delivered by investigating the science of building speaker systems at component level. The focus of the module will then address DSP driven systems that rely heavily on new and emerging network/software protocols for the delivery of high quality audio. The module will take the underlying theories and apply them to real world scenarios such as arena and festival sound systems.

Module Learning Outcomes - at the end of this module, students will be able to:

1	Analyse the fundamental science of loudspeaker design and operating principles as applied to small scale systems.
2	Conceptualise and define large scale sound systems with reference to environmental and quality criteria.
3	Critically evaluate a broad range of approaches and technologies to synthesise solutions to real world scenarios with regard to high-quality audio systems.
4	Apply relevant research from sources such as the Audio Engineering Society to inform the formulation of a working solution.

Assessment

Indicative Assessment Tasks:

Assignment 1:

The project will be the evaluation of a broad range of research materials regarding large-scale sound system design and implementation. The work will evaluate the possible theoretical approaches adopted by the industry and will be supported by detailed analysis of the technological and environmental factors that influence the design process for given scenarios. During this exercise the student will also discuss the role of digital signal processing (DSP) solutions that have evolved to optimise the performance of the system.

Assignment 2:

The poster presentation will demonstrate the results of an experiment regarding the performance of a speaker system. It will demonstrate the predicted performance of the system and then compare this data to the actual measured values.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	2-4	Coursework	70
2	1,4	Presentation	30

Derogations

None

Learning and Teaching Strategies

The Active Learning framework (ALF) embraces accessible, engaging and flexible approaches to learning, teaching and assessment in order that students are afforded the very best opportunities to engage actively with their learning.

- Flexible, innovative, relevant and accessible assessment and feedback practices that optimise student engagement and achievement within a healthy learning environment;
- An approach to research informed-teaching that champions active and engaged inquiry and curiosity through useful, active, applied research and scholarship.

Ref Glyndŵr Staff handbook 2021

The module will be delivered to engage with ALF. The ALF model will be used to deliver asynchronous and synchronous lectures and content. The module will be delivered using an appropriate range of teaching and learning strategies. To include a series of lectures. Seminars will be conducted to explore the use of associated software.

Indicative Syllabus Outline

- Thiele Small parameters
- Enclosure design and principles
- Transmission Principles
- Environmental Factors
- Evaluation
- Principles of Prediction
- Variance
- Advanced System Specification
- System Optimisation
- Calibration and Verification

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads

The student is not expected to read whole texts. Suitable sections will be selected by those delivering lectures.

Everest, F. A. (2015). Master Handbook Of Acoustics. McGraw Hill

Grimes, B. (2014). Networked AV systems: McGraw Hill Education

McCarthy, Bob. (2016). Sound System Design and Optimization: Modern Techniques and Tools for Sound System Design and Alignment. 2nd Edition. Oxford: Focal Press

Toole, Floyd. (2008). Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms. New York: Elsevier

Other indicative reading

Eargle, John.(2003) Loudspeaker Handbook. Massachusetts: Kluwer Academic Publishers

Forman, John Eargle Chris. (2002) Jbl Audio Engineering for Sound Reinforcement.

Milwaukee: Hal Leonard Audio Engineering Society –Journal and e-Library

Employability skills – the Glyndŵr Graduate

Each module and programme is designed to cover core Glyndŵr Graduate Attributes with the aim that each Graduate will leave Glyndŵr having achieved key employability skills as part of their study. The following attributes will be covered within this module either through the content or as part of the assessment. The programme is designed to cover all attributes and each module may cover different areas.

Core Attributes

Creative

Key Attitudes

Curiosity

Adaptability

Practical Skillsets

Digital Fluency

Organisation

Critical Thinking

Communication