

Liverpool John Moores University

Title: Sound Technology
Status: Definitive
Code: **4205AMP** (121882)
Version Start Date: 01-08-2021

Owning School/Faculty: Engineering
Teaching School/Faculty: Engineering

Team	Leader
Colin Robinson	Y

Academic Level: FHEQ4 **Credit Value:** 20 **Total Delivered Hours:** 44
Total Learning Hours: 200 **Private Study:** 156

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	28.5
Practical	5
Tutorial	10.5

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Room & equipment calculations	70	
Test	AS2	Acoustics	30	

Aims

To introduce the principles of sound systems and sound waves, which can be applied to a wide range of acoustics and audio subjects.

Learning Outcomes

After completing the module the student should be able to:

- 1 Calculate relevant acoustic properties of typical environments and equipment
- 2 Propose solutions to problematic environments and equipment
- 3 Manipulate acoustic properties such as standard pressure level, intensity level, acoustic impedance etc to solve technical and practical problems

Learning Outcomes of Assessments

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

Room & equipment calculations	2	1
Acoustics	3	

Outline Syllabus

The nature of sound

Wavelength / Frequency

Spectra

sound pressure and intensity

Inverse square law

temporal considerations, Haas effect

Sabine's equation, RT60

Room modes, standing waves, resonance, harmonics

Sound proofing and sound treatment

Loudness perception / fidelity

Sound intensity, power and pressure levels

Decibels (for acoustics) and standards

Sound reproduction

Loudspeaker design & testing

Industry-standard software for emulating loudspeaker performance

Learning Activities

Attend all lectures, tutorial and practical sessions.

Engage with on-line learning materials via Blackboard.

Research and produce the output for the practical assignment

Notes

This module presents the fundamentals and principles of acoustics and audio systems.