Sound Technology

Module Information

2022.01, Approved

Summary Information

Module Code	4305AMP
Formal Module Title	Sound Technology
Owning School	Engineering
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Engineering

Learning Methods

Learning Method Type	Hours
Lecture	24
Practical	8
Tutorial	12

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

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

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Calculate relevant acoustic properties of typical environments and equipment
MLO2	2	Propose solutions to problematic environments and equipment
MLO3	3	Manipulate acoustic properties such as standard pressure level, intensity level, acoustic impedance etc to solve technical and practical problems

Module Content

Outline Syllabus	The nature of soundWavelength / Frequency SpectraSound pressure and intensityInverse square lawtemporal considerations, Haas effectSabine's equation, RT60Room modes, standing waves, resonance, harmonicsSound proofing and sound treatmentLoudness perception / fidelitySound intensity, power and pressure levelsDecibels (for acoustics) and standardsSound reproductionLoudspeaker design & testingIndustry-standard software for emulating loudspeaker performance
Module Overview	**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.**
Additional Information	This module presents the fundamentals and principles of acoustics and audio systems.This module aligns to the following UN Sustainable Development Goals:4 Quality Education5 Gender Equality8 Decent Work and Economic Growth10 Reduced Inequalities

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Practice	Room & equipment calculations	70	0	MLO2, MLO1
Technology	Acoustics	30	0	MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Colin Robinson	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings