

Sound Technology Theory

Module Information

2022.01, Approved

Summary Information

Module Code	4521STE
Formal Module Title	Sound Technology Theory
Owning School	Engineering
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Liverpool Institute for Performing Arts

Learning Methods

Learning Method Type	Hours
Lecture	40
Workshop	30

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-PAR	PAR	September	28 Weeks

Aims and Outcomes

Aims	To provide the student with a clear understanding of the essential theory associated with audio and acoustic engineering principles. This is an essential theoretical foundation to much of the material covered in other modules throughout the course.
------	--

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Identify and apply the physical principles and metrics associated with basic acoustic, psychoacoustic, electronic and audio systems.
MLO2	2	Perform calculations using the common mathematical quantities relevant to audio systems using both calculators and spreadsheet tools.
MLO3	3	Recall the basic design and operational principles of commonly used audio recording and processing devices.
MLO4	4	Demonstrate the methods and presentation of room acoustic calculations.
MLO5	5	Demonstrate the methods and the presentation of audio measurement parameters.

Module Content

Outline Syllabus	The Physics of Sound Sound Levels and Decibels Human Hearing and Psychoacoustics Comb Filter Theory Electrical Basics (DC) Electromagnetic Behaviour (AC) Microphones and Loudspeakers Passive Audio Circuits (Attenuators, Filters) Digital Audio Theory (Sampling, ADC, Coding, DAC) Stereo Theory Metering (Level, Loudness) Analogue Recording (Vinyl, Tape) Room Acoustics Studio Design Active Audio Circuits (Amplifiers, Filters) Practical Audio Circuits Audio Measurement & Analysis
Module Overview	
Additional Information	Peter Philipson is the Module Leader (p.philipson@lipa.ac.uk)

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Portfolio	Portfolio	50	0	MLO2, MLO4, MLO5
Exam	Exam	50	2	MLO1, MLO2, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
--------------	--------------------------	-----------

Partner Module Team

Contact Name	Applies to all offerings	Offerings
--------------	--------------------------	-----------