

Liverpool John Moores University

Title: SOUND AND ACOUSTICS
Status: Definitive
Code: **6040TECH** (105437)
Version Start Date: 01-08-2011

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

Team	Leader
Tony Moore	Y

Academic Level: FHEQ6
Credit Value: 12.00
Total Delivered Hours: 38.00
Total Learning Hours: 120
Private Study: 82

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	30.000
Practical	6.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Exam 4 from 6 Questions	60.0	2.00
Essay	AS2	Coursework	20.0	
Essay	AS3	Speaker Design	20.0	

Aims

*To understand the behaviour of sound in a studio environment.
To investigate microphones and loudspeakers and noise reduction systems.*

Learning Outcomes

After completing the module the student should be able to:

- 1 Carry out decibel calculations
- 2 Apply concepts such as standard pressure level, intensity level, acoustic impedance
- 3 Calculate acoustic transmission levels through walls, reverberation times
- 4 Design the acoustic treatment of a room
- 5 Describe the best placement of microphones
- 6 Design a speaker

Learning Outcomes of Assessments

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

EXAM	1	2	3	4	5
CW	5				
CW	6				

Outline Syllabus

The nature of sound: wavelength, sound pressure and intensity.

Sound in rooms and buildings: standing waves, reverberation time, transmission, Sound directivity

Use of decibels, octaves, semi-tones

Microphone types, directivity and placement; loudspeaker design principles

Learning Activities

By a series of lectures, supported by practical workshops.

References

Course Material	Book
Author	Howard,D.M. and Angus,J.
Publishing Year	2000
Title	Acoustics and Psychoacoustics
Subtitle	
Edition	
Publisher	Focal Press
ISBN	0240519957

Course Material	Book
Author	Everest, F.
Publishing Year	2000
Title	Master Handbook of Acoustics
Subtitle	

Edition	
Publisher	McGraw Hill
ISBN	0071360972

Notes

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