Liverpool John Moores University

Title:	Sound Reinforcement 1
Status:	Definitive
Code:	**4523STE** (124035)
Version Start Date:	01-08-2021
Owning School/Faculty:	Engineering
Teaching School/Faculty:	Liverpool Institute for Performing Arts

Team	Leader
Karl Jones	

Academic Level:	FHEQ4	**Credit Value:**	20	**Total Delivered Hours:**	54
Total Learning Hours:	200	**Private Study:**	146		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	20
Practical	12
Workshop	22

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Presentation	MusicEvent	Plan and execute sound production for live music event	70	
Report	Assignment	Written Assignment	30	

Aims

This module aims to provide the student with the core practical skills and theoretical knowledge required to work in the field of sound reinforcement. Whilst there is some overlap in both theory and practice between this and studio based work, this module will place these in the context of live sound, in addition to introducing the student to new skills and techniques. Particularly importantly, these skills will enable the

student to work effectively collaboratively in a live sound context throughout the rest of the year.
The majority of applications covered in this module centre around small to medium scale portable sound reinforcement systems in the context of popular music performance. In addition to the technical skills required, the learner will also be given the opportunity to develop the interpersonal skills that are equally important in this and other areas of sound production.

Learning Outcomes

After completing the module the student should be able to:

1	Plan for a small to medium live music event including appropriate sound reinforcement system design/deployment and non-technical considerations
2	Demonstrate an understanding of the underlying theories relating to the design and use of sound reinforcement systems
3	Apply a range of technical and creative skills and methodologies in the set-up, commissioning and operation of a sound reinforcement system
4	Discuss the non-technical influences on a live performance and suggest measures to take account of these
5	Analyse their performance in a designated role of a sound reinforcement team

Learning Outcomes of Assessments

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

Plan and execute sound product	1	2	3	4
Written Assignment	2	4	5	

Outline Syllabus

Sound Reinforcement Basics
Background; reinforcement definition; system components and architectures – live sound consoles, amplifiers, crossovers, loudspeakers; signal flow and gain structures; safe working practices
Sound Theory and Listening
Frequency awareness – listening for audible artefacts/feedback; audio theory in the context of live sound – room modes, acoustic coupling, feedback, delay; basic analysis tools (including ears); amplifier and speaker matching – impedance and power; developing a sensible approach to compromise
Mic Technique and Input Strategy
Mic selection and deployment in the live audio environment – dynamic vs. condenser, polar pattern effects, mic techniques for performers; input strategies, channel lists, stage plans, microphone splitting
Mixing
Structure of live mix; techniques to aid clarity and avoid feedback; using FX and processors for FOH purposes; working with audio sub-groups and VCAs for mixing;

introduction to digital mixing consoles for live sound
Monitors
Need for monitoring – approaches to provide monitoring; auxs vs. separate monitor desk; wedges and fills; positioning monitors, voicing and EQ for monitor mixes; relationship between stage sound and FOH sound
Interpersonal Skills and Time Management
Working in a team; working with artists; protocol and procedures for line checks, sound checks and changeovers; planning production schedules and get-in / get-out; technical resource planning
Basic System Design
Matching technical specification to room size; choosing appropriate equipment; common problems and solutions – feedback, dispersion, coverage; tuning FOH systems.

Learning Activities

This module is delivered in both lecture and workshop formats. Lectures will be used to cover underlying theory and broad concepts, whilst workshop sessions will put this theory in practice by working with relevant sound reinforcement technologies.

Notes

Chris Layton is the Module Leader (c.layton@lipa.ac.uk)