

## Liverpool John Moores University

Title: SOUND REINFORCEMENT 1  
Status: Definitive  
Code: **4513STE** (118562)  
Version Start Date: 01-08-2016

Owning School/Faculty: Electronics and Electrical Engineering  
Teaching School/Faculty: Liverpool Institute for Performing Arts

Team	Leader
Karl Jones	Y

**Academic Level:** FHEQ4  
**Credit Value:** 12  
**Total Delivered Hours:** 35  
**Total Learning Hours:** 120  
**Private Study:** 85

### Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	15
Workshop	20

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Practice	LIVE MUSIC	LIVE MUSIC EVENT	60	
Report	EVALUATION	WRITTEN EVALUATION (1000 WORDS)	30	
Portfolio	PORTFOLIO	PRE PRODUCTION PORTFOLIO	10	

### 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 learner*

*to work effectively on collaborative projects later in 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 student 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 Critically evaluate 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:

LIVE MUSIC EVENT	2	3	4
WRITTEN EVALUATION 1000 WORDS	2	4	5
PRE PRODUCTION PORTFOLIO	1		

## **Outline Syllabus**

### *Sound Reinforcement Basics*

*Background; reinforcement definition; system components and architectures – 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 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*

*What's the job?; working in a team; dealing 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 the relevant sound reinforcement systems.

## **Notes**

As assessments consist of providing the live sound support for musical ensembles, the students will also be required to attend ensemble rehearsals so that they can familiarise themselves with the players and the music sets.

In addition it is expected that learners will utilise the indicated study time to develop and cement their theoretical understanding through self-study based around the recommended core texts and additionally supplied references. Also, that they will practise the relevant skills and methodologies through engagement with equipment and live sound activities outside of the taught sessions.