

6.5 Module 5: Live Music and Performance Technology 1

Module Title	Live Music and Performance Technology 1
Module NFQ Level (only if an NFQ level can be demonstrated)	6
Module number/Reference	BAAMT105
Parent Programme	BA (Hons) in Audio and Music Technology
Stage of Parent Programme	1
Semester	2
Module Credit Units (FET/HET/ECTS)	ECTS
Module Credit number of Units	5
List the teaching and learning modes	FT
Entry requirements (statement of knowledge, skill and competence)	Learner has earned Level 5 qualification. No previous experience is required
Pre-requisite module titles	None
Co-requisite module titles	None
Is this a capstone module? (Yes or No)	No
Staff qualifications (academic, pedagogical and professional/occupational) and experience required. (staff includes workplace personnel who are responsible for learners such as apprentices, trainees and learners in clinical placements)	Staff are required to have at least a Bachelor of Arts (Honours) qualification in Music Technology or related discipline. Industry experience would be a benefit but is not a requirement. Staff are expected to have the Certificate in Training and Education qualification from Griffith College or its equivalent.
Staff/learner ratio per centre (or instance of the module)	For lecture load, ratio of 1:50 lecturer to learner is required and in lab sessions the maximum allowed is 1:25 The lecturer will also have 1 hour per week set aside in their timetable for 1:1 contact with learners who require it or have particular items they want to discuss.
Maximum number of learners per centre (or instance of the module)	50
Duration of the Module	One Academic Semester, 12 weeks teaching
Average (over the duration of the module) of the contact hours per week.	3
Physical resources and support required per centre (or instance of the module)	One lecture hall with capacity at least 50 and one computer lab with capacity of 25.

Analysis of Required Learning Effort										
Effort while in contact with staff										
Classroom and Demonstrations		Mentoring and small group tutoring		Other (Specify)		Directed e-learning (hours)	Independent learning (hours)	Other hours (specify)	Work-based learning hours of learning effort	Total Effort (hours)
Hours	Minimum ratio teacher/learner	Hours	Minimum ratio teacher/learner	Hours	Minimum ratio teacher/learner					
24	1:50	12	1:25				89			125
Allocation of marks (within the module)										
						Continuous Assessment	Supervised Project(s)	Proctored practical	Proctored Written Examination	Total
Percentage contribution								80%	20%	100%

6.5.1 Module Objectives

High-end modern productions rely on many cutting-edge audio and visual technologies working together in synchronization. This module introduces the learner to all the technical and electrical aspects of the standard technologies associated with live performances. This module not only covers sound and music production systems, but also basic electronics, health and safety, and the hardware and software systems for controlling lights and visual projections.

6.5.2 Minimum Intended Module Learning Outcomes

On successful completion of this module the learner will be able to:

- MLO 5.1 Correctly set up a small stage production incorporating elements of live instruments and triggered sound using performance software.
- MLO 5.2 Define the basics of audio electronics.
- MLO 5.3 Exhibit an understanding of music performance technologies.
- MLO 5.4 Safely operate sound, lighting, and other equipment associated with live performances.

6.5.3 Rationale for inclusion of the module in the programme and its contribution to the overall IPLOs

Performance technology is an emerging and growing industry. Using the skills and theory learned in Music Technology 1 and Music for Producers 1, this module will equip learners with the skills need to collaborate beyond the recording studio with clients. The learning outcomes of this module contribute to Programme Learning Outcomes 1 and 7 while also contributing to the attainment of Outcome 8.

6.5.4 Information Provided to Learners about the Module

Learners enrolled on this module will receive a copy of the module descriptor and assignment briefs, including an outline of the criteria for assessment.

Previous examples of assignments are also presented to the class.

6.5.5 Module Content, Organisation and Structure

The module is organised to deliver theory through lectures (2 hours) and supervised tutorials (1 hour). During tutorials, each learner will have a workstation allowing the lecturer to work individually with learners to demonstrate and explain the material. Some tutorials will take place in a larger room with P.A. and lighting equipment allowing learners to engage directly in a performance scenario.

The lectures each week will combine lecture delivery and discussion on the material.

Each lecturer has a time allocated for one-to-one meetings with learners as required. These are not mandatory sessions but available either where the lecturer wishes to discuss an element of the module with a learner, or a learner requests a meeting to discuss a particular topic. These sessions focus on academic issues only.

Module Content

Safe operation of live sound equipment

- An understanding of Health and Safety regulations associated with live performance technologies.

Music performance technologies

- An example of integration between musical instruments and performance software.

Audio electronics

- Knowledge of the basic theory of electronics: current, voltage, resistance and capacitance. An understanding of the basic concepts governing power supplies and transformers.

Small stage production incorporating elements of live instruments and triggered sound using performance software

- Good stage layout.
- Good communications skills.
- Full consideration for technical requirements.

6.5.6 Module Teaching and Learning Strategy

This module is delivered through a combination of lectures, tutorials and practical sessions in a performance environment. The emphasis is on developing skills used to make the connection between music technology software and hardware used both for performance and external device control during a live show. These skills need to be applied in a systematic way, so learners will be encouraged to work in a performance setting as often as possible.

Activity	Teaching / Learning Strategy	Learning Environment
Lectures (24 hours)	Lectures / participative discussions / case studies / problem solving exercises / demonstrations of procedures for connecting audio and visual hardware and software / flipped classroom discussion and engagement	College
Tutorial (12 hours)	In-depth practical demonstrations of live sound equipment operation / use of college resources to practice skills / practice safe operation of all equipment	College / Studio
Assignment (48 hours)	Practice learning and perfecting live music performance technology skills	College / Studio
Independent Work (41 hours)	Directed and self-directed learning / home study / use of college live sound equipment	College / Home
Examination (2 hours)	Evaluation of health and safety knowledge and related skills	College

6.5.7 Timetabling, Learner Effort and Credit

The module is timetabled as one 3-hour session to the whole class. This will consist of the 2-hour lecture, and a 1-hour tutorial. In the labs, the learners engage directly with music technology and performance software, allowing development of the skills required to programme music/performance material.

The number of credits assigned to this module is our assessment of the amount of learner effort required. It is our view that 5 ECTS of learner effort is required by learners coming new to the material to achieve the learning outcomes required.

6.5.8 Work-based Learning and Practice-placement.

There is no work based learning or practical placement involved in the module.

6.5.9 E-Learning

The College VLE is used to disseminate notes, advice and online resources to support the learners. The learners are also given access to Lynda.com as a resource for reference.

6.5.10 Module Physical Resource Requirements

Requirements are for a fully equipped lecture hall and access for learners to 1.5 hour sessions in a computer lab. Software required for this module is music tech software. A standard DAW. Performance controllers will be required with a performance area for tutorials and student independent learning.

6.5.11 Reading lists and other Information Resources.

Recommended reading

- Amundson, M. (2007) *Live sound: theory and practice*. Las Vegas: Timeless Communications.
- Davis, D., Patronis, E. & Brown, P. (2013) *Sound system engineering*. Oxford: Focal Press.
- Van Beek, M (2004) *Electrical safety for live events*. Cambridge: Entertainment Technology Press.
- Mort, S. (2015) *Stage Lighting: An On-the-job Reference Tool with Online Video Resources*
Bloomsbury Methuen Drama.
- Pilbrow, R. (2008) *Stage Lighting Design: The Art, the Craft, the life*. Nick Hern Books.
- Fraser, N. and Benninson, S. (2007) *The Handbook of Stage Lighting* The Crowood Press Ltd.
- Yeuda, B. (2016) *Making Music with Ableton Push* Lynda.com
- Velard, J. (2014) *Up and Running with MainStage 3* Lynda.com

Secondary reading

Davis, G. & Jones, R. (1990) *Sound reinforcement handbook*, Milwaukee: Hal Leonard Corporation.
Evans, B. (2011) *Live sound fundamentals*. Boston MA: Course Technology.
Gibson, B. (2011) *The ultimate live sound operator's handbook*, Milwaukee WI: Hal Leonard Books.
Huntington, J. (2013) *Control systems for live entertainment*, Oxford: Focal Press.
Margulies, J. (2013) *Ableton Live 9 Power*. Boston; Delmar Cengage Learning.
Coleman, P. (2003) *Basics – A beginners Guide to Stage lighting* Entertainment Technology Press Ltd.

6.5.12 Specifications for Module Staffing Requirements

For each instance of the module, there will be one lecturer qualified to at least Bachelor of Arts (Honours) level in Music Technology or equivalent and with a relevant third level teaching qualification (e.g. Certificate in Training and Education). Depending on numbers a lab assistant may be required. Where this is the case the assistant will be required to have a sound understanding of object oriented programming, either through industry experience or academic qualification. For example, a final year Bachelor of Music Production (Honours) learner may be suitable to assist the lecturer in lab sessions. Any lab assistant will work under the supervision of the lecturer.

6.5.13 Module Summative Assessment Strategy

The assessment is based on a written examination and a practical demonstration.
For the practical demonstration,

Element No	Weighting	Type	Description	Learning Outcomes Assessed
1	20%	Examination	A written exam covering Health and Safety standards and practices.	5.1, 5.3
2	80%	Practical demonstration	Learners will be required to do a live performance of one of their own compositions, utilising hardware performance controllers. The performance should also incorporate a visual element.	5.2, 5.4

6.5.14 Sample Assessment Materials

Health and Safety exam: Sample Questions:

- 1 What is the general definition of a hazard?
- 2 What is the main function of a fire escape?
- 3 When picking up a heavy load, where should you bend from?
- 4 When discovering someone who has suffered an electric shock, what initial action should you take?
- 5 Why should you not attempt to extinguish a fire among electrical equipment with water?