Module Template for New and Revised Modules[1]

Module Code	EEPMMT07
Module Name	AUDIO ENGINEERING
ECTS Weighting[2]	5 ECTS
Semester taught	Semester 1
Module Coordinator/s	DR JIMMY EADIE
Module Learning Outcomes with reference to the Graduate Attributes and how they are developed in discipline	On successful completion of this module, students should be able to: LO1. Acquire critical listening skills that will enable audition of audio material for optimum spectral and dynamic content. Recognise recording errors such as noise/phase/distortion and implement appropriate solutions. LO2. Gain insights into measurement techniques for room acoustics to critique the acoustic properties of a space for audio production. LO3. Proficiently record material using a variety of DAW and hardware, understanding signal flow and implementation of correct metering to deliver a broadcast ready master file. LO4. Work competently and safely in a studio environment as part of a team in a creative and technical capacity. **Graduate Attributes: levels of attainment** To act responsibly - Attained To think independently - Attained To develop continuously - Attained To communicate effectively - Attained

[1] An Introduction to Module Design from AISHE provides a great deal of information on designing and re-designing modules.
[2] TEP Glossary

Module Content	This module is designed to introduce students to the theory and practical skills needed for audio engineering practice. The acquired skill set will enable the student to undertake recording, mixing and mastering tasks competently. Listening critically and analytically is a skill that can be honed through practice. Students will learn how to improve their ability to distinguish, program frequency response, timbre, spatial and spectral content, and how to dynamically control audio signals. Furthermore, the module seeks to provide both practical and theoretical knowledge in the areas of studio design and acoustic measurement and propose solutions needed for listening rooms. Stereo recording techniques will also be extensively researched, as will practical listening tests to determine preferred systems. Finally, students on this module will gain valuable insights and understanding of the technical standards required for creating media for a variety of platforms such as radio, vinyl, television, and digital streaming platforms.
Teaching and Learning Methods	This module is delivered through a combination of lectures on audio engineering fundamentals, workshops and practice-oriented tutorials. Throughout the semester, critical and analytical listening sessions will be held culminating with an in-class test. Studio orientation will be held at the start of the semester to provide students with the knowledge and skills needed to operate recording studio equipment safely and competently. Acoustic measurement and analysis will be taught as a workshop with each student working with industry standard software to gain an understanding of concepts such as reflection, diffusion, and absorption. Students will also learn to identify problems within a space, such as flutter echo, excessive reverberation or absorption, and inadequate sound transmission setup. Recording techniques will be presented, with an emphasis on microphone type/operation, signal phase/polarity, audio connections, analogue/digital, and spectral/dynamic processing.

Assessment Details[3]

Please include the following:

- **Assessment Component**
- **Assessment description**
- **Learning Outcome(s) addressed**
- **% of total**
- **Assessment due date**

Assessment Component	Assessment Description	LO Addressed	% of total	Week due
Assessment 1	In-class critical listening test.	1	10%	n/a
Assessment 2	In-class acoustic analysis test.	2	20%	n/a
Assignment 3	Stereo Recording Project	34	35%	n/a
Assignment 4	Acoustic Measurement and Analysis.	234	35%	n/a

Reassessment Requirements

Contact Hours and Indicative Student Workload[3]

Contact hours: 11X2 hour lectures.
Independent Study (preparation for course and review of materials): 50
Independent Study (preparation for assessment, incl. completion of assessment):50

Recommended Reading List

Corey J, Audio Production and Critical Listening
Technical Ear Training, 2017.

Ballou, G., 2008. Handbook for Sound Engineers, 4th edition Streicher R. & Everest F.A., 2006.

The New Stereo Sound book, 3rd edition. Everest, F, Master.

Handbook of Acoustics Rumsey, F. & McCormick, T., 2009.

Sound and Recording: An Introduction; 6th edition Katz, B., 2014.

Mastering Audio: The Art and the Science; 3rd edition Huber, D., 2013.

Modern Recording Techniques, Owsinski, B., 2009.
The Mix Engineers Handbook, 3rd edition.

[3] TEP Guidelines on Workload and Assessment

Module Pre-requisite	An interest in audio technology and engineering, music and media production.
Module Co-requisite	None
Module Website	Blackboard
Are other Schools/Departments involved in the delivery of this module? If yes, please provide details.	No
Module Approval Date	
Approved by	
Academic Start Year	
Academic Year of Date	