Music, Technology and Innovation
Music, Technology and Performance
BA (Hons)
2012-2013

Leicester Media School
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Introduction

Music, Technology and Innovation BA (Hons)
Music, Technology and Innovation is a distinctive course that focuses on composition and production and explores the extraordinary musical possibilities offered by new technologies. It is ideal for forward thinking and imaginative individuals whose passion is to create exceptional music and forge a unique voice within the arts and creative industries.

There is a very strong music and arts focus, providing opportunities for developing engineering, computing and various cross discipline and vocational skills through a distinctive range of module choices. We also have an extremely lively musical community with frequent concerts, events, music profession visitors and student exchanges.

Reasons to study Music, Technology and Innovation at DMU:
- Our professional, broad-minded and flexible graduates are well equipped for employment in the thriving and rapidly changing contemporary media industries and have a very strong track record at gaining employment in the thriving contemporary digital media and music industries
- Our highly qualified and experienced staff are internationally known and active as musicians, researchers and experts in electronic and electroacoustic music, electronica and sonic arts
- Our superb facilities allow you to explore areas such as spatialisation, musical computing, sound recording and video.

Music, Technology and Performance BA (Hons)
This unique course will help you to develop new performance approaches and skills, through investigating recent and emerging technologies.

It is aimed at musicians experienced in performance and music technology, who are interested in how technology can enable innovative ways of performing and interacting with other musicians and artists and how it can give rise to new forms of musical expression.

Reasons to study Music, Technology and Performance at DMU:
- Taught by expert staff with international reputations as active Musicians, Researchers and experts in electroacoustic music, sonic arts and electronica
- Our superb facilities allow you to explore areas such as spatialisation, musical computing, instrument building, sound recording and video and live visuals
- Be part of an extremely lively musical community with frequent concerts, events, industry visitors and student exchanges.
Course Structure

Music, Technology and Innovation

Year one modules

- Foundations of Music (core)
- Introduction to Audio Production (core)
- Digital Cultures (core)
- Creating with Technology (core)

Year two modules

- Ideas in Music and Sonic Art (core)
- Composing with Technology (core)
- Audio Production
- Creative Coding for Music (optional)
- Electronic Musical Instrument Building (optional)
- Sound in Space (optional)
- Sound and Image (optional)

Year three modules

- Dissertation or Final Performance Project (core)
- Advanced Creative Projects (optional)
- Installation Art (optional)
- Music, Media and Community Arts (optional)
- Composing with Dance (optional)
- Music Industry Management (optional)
- Media Industry Management (optional)
- Studio Engineering (optional)
- Performance, Interaction and Digital Technologies (optional)
Course Structure

Music, Technology and Performance

Year one modules

• Foundations of Music (core)
• Techniques of Digital Audio (core)
• Digital Cultures (core)
• Creating with Technology (core)

Year two modules

• Ideas in Music and Sonic Art (core)
• Performing with Technology (core)
• Creative Coding for Music (optional)
• Electronic Musical Instrument Building (optional)
• Audio Production (optional)
• Sound in Space (optional)
• Composing with Technology (optional)

Year three modules

• Dissertation or Final Performance Project (core)
• Advanced Creative Projects (optional)
• Installation Art (optional)
• Performance, Interaction and Digital Technologies (optional)
• Music, Media and Community Arts (optional)
• Music Industry Management (optional)
• Media Industry Management (optional)
• Composing with Dance (optional)
• Studio Engineering (optional)
Course overview: Year One

Music, Technology and Innovation and Music, Technology and Performance modules

Techniques of Digital Audio
This module is designed to provide a solid foundation for the technical work that you will do throughout the whole of your degree. You will be introduced to a variety of studio environments and develop your abilities in handling mixers and microphones. This will be followed by exploration of the Digital Audio Workstation, covering digital editing, sequencing, effects processing, mixing and mastering. We will also cover some critical theoretical issues (e.g. the theory of digital audio and the characteristics of file formats and digital storage media). Having explored a range of hardware and software tools that already exist for the digital musician, you will be introduced to a means of developing new tools specific to your own innovative musical interests using a programming environment for musicians (Max/MSP).

Foundations of Music
This module develops your practical musicianship. There are two sections:
1. Dimensions of Musical Experience: This section involves investigating the fundamentals of musical grammar, including melody, harmony, form, timbre, texture, dramaturgy, idea, etc. You will listen to a variety of musical genres and examine different notations to understand how music can be presented and analysed. You will also learn how to make an evocative transcription of a musical work - i.e. how to move between aural and visual art forms.
2. Acoustics: In this part of the module we aim to show you how sound works - whether 'musical' or everyday sounds - and to use this knowledge to be better equipped for practical work you will do in studios and to generally sharpen your listening skills.

Digital Cultures
This module enables you to develop a sense of how your creative work fits into a 'bigger picture', not only of music and the arts but also of society and culture. It involves a lecture series with an exciting range of guest speakers covering a diverse range of issues related to digital (and post-digital) cultures. The module is also an opportunity for you to develop important research and critical thinking skills: you will learn how to find and make use of information from a variety of sources, take part in online discussions related to the topics covered, and be given guidance in conveying your ideas in writing.

Creating with Technology
This module encourages the development of original musical ideas through the realisation of practical projects. It involves the introduction of a wide variety of musical ideas and examples, all designed to inspire you, and to encourage you to be innovative by thinking 'outside the box' in your creative work. You will work both independently and in small groups to create new instruments, perform devised work, and to develop stand-alone compositions for fixed media.
Course overview: Year Two
Music, Technology and Innovation

You will take four of the following modules in Year 2 of the degree:

Ideas in Music and Sonic Arts
This module continues your study of the 'bigger picture' of musical creativity. You will explore the theory and aesthetics of a wide range of musics which have been created using electronic technology, both analogue and digital, focusing on the period since 1945. Lectures, small-group meetings and self-directed study will combine guided learning with opportunities for independent research and discussion, helping to prepare you for more extensive written work required for your dissertation or final projects in the third year.

Creative Coding for Music
In this module, you will build on the basic programming skills learned during the first year, enabling you to program custom composition, sound-processing, and performance tools using Max/MSP. This involves developing your understanding of the theory surrounding sound synthesis and transformation techniques such as additive/subtractive synthesis, modulation/distortion, resampling, granular synthesis and FFT analysis/resynthesis. You will also explore computer-assisted, algorithmic composition and performance techniques, and will consider how these might be used to blur (or even obliterate) traditional divisions between composer and performer. In this way, you will gain entry into a vast new realm of unique and innovative approaches to sonic creation.

Sound and Image
This module explores sound and music within a wide range of audio-visual contexts. You will be set practical projects over the course of the year which will encourage you to develop your skills in both sound design and underscore composition. These will contribute to the development of a portfolio of creative work. Your practical work will be supported by theoretical and analytical sound-image studies which cover many forms of audio-visual production, relevant cultural and aesthetic study, and consideration of historical development and the significance of emerging technologies and practices.

Sound in Space
The module covers the exploration of sound in space in a variety of contexts. It begins by looking at sound spatialisation—both for commercial configurations (5.1 and 7.1) and for more unusual ones (8ch and bespoke arrays). You will explore compositional strategies for different setups and be introduced to the multi-speaker diffusion rig where you will have the opportunity to deploy sound spatially in live performance. The course also covers investigation of the acoustic properties of spaces, environmental space (the soundscape and soundscape composition), compositional space (the space _within_ the music), and other ways in which space can be explored creatively.

Composing with Technology
The intent of this module is to build upon the creative skills you explored in the first year (in particular those developed through the Creating with Technology course), directing you into a compositional focus. Practical work, lectures, workshops and self-directed study lead toward a creative body of work realised for performance or fixed medium, but with greater emphasis placed on the compositional dimension and its related skills.

Audio Production
The audio recording studio forms the backbone of the production process for a range of ‘live’ recording scenarios. Using multichannel audio production techniques it is possible to record both live music and radio drama involving complex microphone set-ups. These live performance sessions
can either be edited in real-time or off-line. This module allows you to develop your intermediary recording skills in the multichannel recording studio. You will have the opportunity to experience the process of capturing ‘live’ performance, making production decisions and employing the range of techniques that the modern recording studio demands.

**Electronic Musical Instrument Building**
This is a practical module which introduces students to building analogue electronic instruments containing for example oscillators, filters and interface sensors. No previous knowledge of electronics is necessary: you will be learning basic electronics theory and practical skills as part of the process. You will be encouraged to think about a variety of aspects of instrument design, including the interface and the way in which the user interacts with the device, as well as its overall functionality. The emphasis is on building, experimentation and creating something playable.
Course overview: Year Three
Music, Technology and Innovation

You will take four of the following modules in Year 3 of the degree:

Dissertation or Final Project
Completing a Dissertation or a Final Project is compulsory in your final year. The Dissertation is an extended piece of written work while the Final Project involves the completion of a large portfolio along with supporting documentation. Both are substantial projects through which you will develop your abilities to research and analyse information, and to communicate your ideas (intellectual and creative) effectively. They will also increase your confidence as a mature, independent thinker/creator and enable you to develop a professional approach to your work.

Advanced Creative Projects
In this module, your individual interests will dictate the direction of your creative focus over the course of the year. You will be encouraged to develop an increasingly professional and independent approach to your work, and self-directed study is therefore very important on the module, supported by comprehensive tutorial supervision. Your practical work will be accompanied by appropriate study of theory and aesthetics, leading towards the completion of a portfolio which should demonstrate a sophisticated approach to the creative use of technology.

Installation Art
This module will focus on the development of skills relevant to the musician producing sound installation work in a variety of contexts from the gallery to public space. You will be invited to develop and present work that aspires to professional quality both aurally and visually. In preparation, a variety of issues relating to the history and conceptual evolution of the installation are explored, along with those surrounding site specificity, public art, sounding space, the acoustic properties of structures, interactivity, intervention, sculpture and multimedia. You will also receive support in developing practical skills according to need (e.g. programming, electronics, instrument building and sculpture).

Music, Media and Community Arts
This module provides the opportunity for you to explore music technology in the wider context of the local community; for example, in schools and colleges, youth groups, on-line and through the Internet, day centres and hospitals; and alongside other arts organisations. Areas covered include investigating how to develop music technology in under-resourced areas, working with disadvantaged groups, and exploring how technology offers a unique way of interacting with the community and music making.

Studio Engineering
The modern recording studio can be an intimidating environment. The quality of audio recordings is heavily reliant on the recording space and the electronic and computing systems that are used. The studio engineer must understand and be able to effectively employ such technologies. This is an advanced module which looks at the theory of acoustics, psychoacoustics, mixing and mastering and its application in the production of sound recordings. It is designed to teach you the most effective techniques in the use of the recording studio.

Composing with Dance
In this module you will work with a choreographer and dancers, creating the music for a collaborative work to be performed at the end of the module. You will expand your knowledge of music and dance work, and explore a variety of practical approaches to integrating sound and movement. Because your music will be created as the choreography evolves, you will gain first hand
experience of the workings of another art form along with the technical, artistic and collegial rewards of working successfully with dancers.

**Music Industry Management**
Music exerts a major influence on our everyday lives and the music industry ranks as one of the most successful elements of the UK's creative economy. This module will increase your understanding of the sector, developing your personal confidence in it as a possible source of future employment. You will be introduced to theoretical and philosophical frameworks for examining the workings of the music industry, the relationships between its many parts and the different styles and genres it produces, as well as exploring how different aspects of the sector are managed e.g. an orchestra or a rock band. The module will also provide an opportunity for students to develop their understanding of particular genres of music and any management issues that these face - e.g. marketing and issues of access.

**Media Industry Management**
Radio, TV, film and journalism exert a major influence on our everyday lives and collectively rank as one of the most successful elements of the UK's creative economy. This module explores the history of the media industry in the UK along with current policy and trends, and management structures/techniques. It will increase your general understanding of the sector, providing practical learning of relevant skills (e.g. developing events programmes) while developing your personal confidence in the industry as a possible source of employment.

**Performance, Interaction and Digital Technologies**
This module enables students to explore new interactive technologies to develop innovative forms of multimedia performance. The module emphasises interdisciplinary team practice, with teams comprised of students in music technology, dance and performing arts. It focuses more on creative process than on final product, encouraging risk-taking in exploring the distinctive aesthetic potentials of cutting-edge performance technologies.
Course overview: Year Two

Music, Technology and Performance

The Music, Technology and Performance modules listed below are just to give you a flavour of what is available in your second year and are subject to change.

You will take four of the following modules in Year 2 of the degree:

Ideas in Music and Sonic Arts
This module continues your study of the 'bigger picture' of musical creativity. You will explore the theory and aesthetics of a wide range of musics which have been created using electronic technology, both analogue and digital, focusing on the period since 1945. Lectures, small-group meetings and self-directed study will combine guided learning with opportunities for independent research and discussion, helping to prepare you for more extensive written work required for your dissertation or final projects in the third year.

Performing with Technology
This module seeks to explore how technology can be used to create new musical performance models, as well as to develop existing ones. Working with tools and materials of your choice - Max/MSP, systems, set instrumentation, control over stipulated parameters - you will be given the opportunity to interpret existing repertoire and approaches, as well as devising new ones of your own. You will be encouraged to reflect on your creative development by documenting the rehearsal process and performance for each project, and by critically evaluating your work.

Creative Coding for Music
In this module, you will build on the basic programming skills learned during the first year, enabling you to program custom composition, sound-processing, and performance tools using Max/MSP. This involves developing your understanding of the theory surrounding sound synthesis and transformation techniques such as additive/subtractive synthesis, modulation/distortion, resampling, granular synthesis and FFT analysis/resynthesis. You will also explore computer-assisted, algorithmic composition and performance techniques, and will consider how these might be used to blur (or even obliterate) traditional divisions between composer and performer. In this way, you will gain entry into a vast new realm of unique and innovative approaches to sonic creation.

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