

MSc Acoustics and Music Technology





Dr. Thomas McKenzie

Welcome live from Edinburgh!

- Audio Check
- Recording of the session
- Presentation
- Question and Answer
- Next steps







Audio check

- Can you hear the presenter speaking?
- Please type "no" in the Chat area if you cannot hear the presenter

01:07

- If you can't hear:
 - Check your settings by clicking on the three little dots on the options bar and then 'show device settings'. Here you can check and change your speakers.
 - Try signing out and signing back into the session
 - Don't worry, the session is being recorded







Live captions

You can turn on automated live captions as follows:

- More > Language and speech > Turn on live captions
- These are automated therefore won't be 100% accurate











- Today's session is being recorded
- Any information that you provide during a session is optional and in doing so you give us consent to process this information
- If you don't want your question or name read out in public, you can email your question to <u>futurestudents@ed.ac.uk</u>
- Please note a few attendees' names may be visible in the recording, if it is important that your name not be visible in the recording, please exit the session and re-enter using an incognito browser and typing in a pseudonym for yourself
- The session will be stored by the University of Edinburgh and published on our website after the event on a non-indexed web page
- You will be emailed with a link to watch the session recording by the end of next week





Asking questions

Type your question into the Chat Area









MSc Acoustics and Music Technology





Dr. Thomas McKenzie

Investing in our facilities

Edinburgh College of Art (ECA) is excited to be undertaking a capital redevelopment of ECA's Lauriston Campus over the next 3 years, from April 2024 – April 2027.

The project aims to maximise the use of existing space, improve accessibility, and create a vibrant campus that fosters collaboration and innovation.

The project involves refurbishing and repurposing various spaces across the Lauriston campus, including technical facilities, student and teaching spaces, and the relocation of the Reid School of Music from Alison House to the Lauriston Campus. New social spaces, seminar rooms, and studios are being created to accommodate our growing community. You can find more about the project at the below link:

Building work starts at ECA's Lauriston Campus Edinburgh College of Art









MSc Acoustics and Music Technology

- Everything to do with acoustics and audio signal processing...
- Running since 2006, with approx. 150 graduates
- Small, intensive programme, with approx. 10-15 students/year
- Admissions is competitive: 84 applications for 2021/22, 26 acceptances
- Virtually all graduates go on to further employment/study in acoustics/audio engineering





MSc Acoustics and Music Technology

Staff:

- Thomas McKenzie (spatial audio, psychoacoustics) <u>thomas.mckenzie@ed.ac.uk</u>
 - Programme director, point of contact for all programme-wide questions / concerns
- Stefan Bilbao (computational acoustics, sound synthesis) <u>sbilbao@ed.ac.uk</u>
- Michael Newton (hearing, microphone design) <u>michael.newton@ed.ac.uk</u>
- Tom Mudd (audio programming) <u>tom.mudd@ed.ac.uk</u>
- Alec Wright (audio machine learning) <u>alec.wright@ed.ac.uk</u>





Graduate Trajectories: Employment

MSc Acoustics and Music Technology graduates have gone on to employment at many companies worldwide:

- AKRF (New York)
- Applied Research in Acoustics (Washington D.C.)
- Arturia (Grenoble, France)
- Arup (UK, Singapore)
- Apple (Cupertino, USA)
- Atlal AI Qurum Trading and Contracting (Oman)
- AudioKinetic Cass Allen (Milton Keynes, UK)
- Cereproc (Edinburgh, UK)
- Clement Acoustics (Bristol, UK)
- Corti (Copenhagen, Denmark)
- Facebook (California)
- Goodhertz Inc. (Pasadena, California)
- GN (Copenhagen, Denmark)
- Hann-Tucker Assoc. (London, UK)
- Hoare Lee (London, UK)



- Krotos (Edinburgh, UK)
- LG Electronics (Seoul, South Korea)
- Liveworks (Latnikar, Nepal)
- KPMG (London)
- Meridian Audio (Cambridge, UK)
- Metropolitan Acoustics (Philadelphia, USA)
- Microsoft (Redmond, Washington)
- Moog (Philadelphia, USA)
- MQA Ltd. (Edinburgh, UK)
- Native Instruments (Berlin, Germany)
- NUGEN Audio (Leeds, UK)
- Photonic Solutions (Aberdeen, UK)
- Piezo Composite Ltd (Aberdeen, UK)
- Prase Engineering (Venice, Italy)

- Qinetiq (Farnborough, UK)
- RMP Acoustics (Edinburgh, UK)
- Royer Labs (Los Angeles)
- Signum Audio (Edinburgh, UK)
- Spectral Labs (San Diego, USA)
- Swell Energy (San Francisco, USA)
- Talayman Acoustics (Istanbul, Turkey)
- Two Big Ears (Edinburgh)
- Vanguardia (London)
- Viacoustics
- Wooptix (Spain)
- Xi Acoustics (Edinburgh)
- Wood Acoustics (Edinburgh)
- WSP (UK)
- Yamaha (Hamamatsu, Japan)



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Graduate Trajectories: Academia

MSc Acoustics and Music Technology graduates have gone on to PhD studies at:

- University of Edinburgh
- University of Cambridge
- University of Essex
- University of Plymouth
- University of Glasgow
- University of York
- Sorbonne University
- University of California San Diego

- Technical University of Athens
- Eindhoven University
- Aalto University (Helsinki, Finland)
- Queen Mary University of London
- University of Strathclyde
- Leibniz University Hannover
- University of the Basque Country
- University of Bath





Admissions

• We **require** an undergraduate degree in a numerate discipline such as

- Physics
- Mathematics
- Computer Science
- Engineering
- We sometimes admit students with other degrees, but only if they have substantial training in mathematics and/or physics, through coursework such as
 - Calculus through multivariable
 - Linear Algebra
 - Complex Analysis
 - Classical Mechanics
 - Wave Mechanics







Admissions

- Students without this background are encouraged to take a year before applying, and complete this coursework through, e.g., online courses or night school.
- We **do not** require a creative portfolio
- We do not require programming experience, but whatever you have will be useful!





Programme Structure

- Three semesters: 60 credits each
- Most courses are 20 credits, some (in science/engineering) are 10
- Semester 1: taught coursework, Sept. → Dec
- Semester 2: taught coursework, Jan.→ April
- Semester 3: Dissertation only (independent study), April→Aug
- NB: up to 30 credits at level 10 allowed in total over the degree
- You can search courses at <u>drps.ed.ac.uk</u>





Semester 1

Required modules:

- Acoustics (20 credits)
- Musical Applications of Fourier Theory and Digital Signal Processing (20 credits)

You need to select a further 20 credits in semester 1, selected from postgraduate/advanced undergraduate options across the university. These are free to you to choose. Some popular choices:

- Audio Crafting (Music)
- Applied Machine Learning (Informatics)
- Creative Coding for Sound (Music)
- Introductory Applied Machine Learning (Informatics)
- Honours Differential Equations
- Speech Processing



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Semester 2

Required modules:

Physics-based Modeling of Musical Instruments (20 credits)

You need to select a further 40 credits in semester 2, selected from postgraduate/advanced undergraduate options across the university. These are free to you to choose. Some popular choices:

- Audio Programming (Music, highly relevant!)
- Audio Machine Learning (Music, highly relevant!)
- Interactive Sound Environments (Music)
- Numerical Partial Differential Equations (Math.)
- Speech Synthesis









Semester 3: Dissertation

- Independent study, leading to a written dissertation (usually 40-60 pages)
- Choice of subject: up to you, but must have a significant basis in acoustics, or audio signal processing, and must fit the research expertise of our of the staff members...to be negotiated!
- 1-1 supervision (4 hours total over semester)
- Presentation





Extra-curricular

MusICA Seminars (<u>musica.ed.ac.uk</u>)

- Research seminar series
- Talks cover a wide range of current research topics in science of music

Facilities in Reid School of Music

- I7 practice rooms with Steinway pianos
- Reid Concert Hall with 21-stop 2-manual German organ
- Music studios with a large range of microphones Neumann, Schoeps, AKG

Open mic nights, concerts, societies...









Next steps...

https://virtualvisits.ed.ac.uk/pg https://edin.ac/student-chat-pg Ask Chat us about about part-time studying Chat online community, t0 ** us! Ask us Ask us Chat about about our about my subject experience studying online **** *** *** The Pentlands -Chi *** *** City Bypy





Contact details for follow-up questions

- We apologise if we did not get through all of your questions in the time allotted for this session. If you have further questions that have not been answered, please email: <u>futurestudents@ed.ac.uk</u>
- Alternatively, provide Programme/Department/Service/School/College contact details as appropriate





Thank you – click 'Leave' when the session ends

 Return to your 'e-ticket' to find and attend other sessions you've booked – by clicking on the button in the email we sent you...



- ...and visit the events hub:
- <u>https://edin.ac/4gZuP3G</u>









Thank you!

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