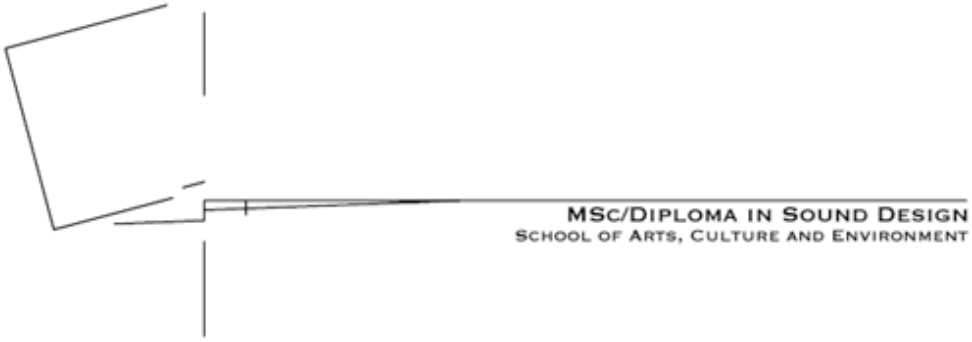

MSc/Diploma in Sound Design
Prospectus 2006/7

PLEASE NOTE:

This prospectus should be read in conjunction with the Edinburgh Postgraduate Prospectus,[1] available in hard copy from Architecture (in the School of Arts, Culture and Environment) or from the University Registry, and on the web at http://www.ed.ac.uk/studying/postgraduate/. Note that all details in this programme prospectus are subject to change, and confirmation with programme staff should be sought where required.

The MSc in Sound Design is targeted at individuals interested in exploring the domain of sound in the wider context of new media theory and technology. A balance between practical project work and theoretical/critical studies contributes to an inspiring and motivating work environment. Throughout the year, we introduce relevant software tools in a project framework. These include industry standard tools that are at the centre of professional work in the areas of sound design for film and animation, sound installation, radio, interactive sound, internet audio and others.

The programme benefits from a long-standing collaboration between Music and Architecture in the School of Arts, Culture and Environment. This collaboration manifests itself in research, teaching and the sharing of facilities. Interactive sound, digital media design, electro-acoustic composition, interactive environments, digital signal processing, web authoring, human-computer-interaction, and artificial intelligence are at the centre of the School's activities and are reflected in the MSc programme.

The MSc in Sound Design is situated within an expanding suite of MSc courses focusing on cutting edge themes in design, art, music, sound and technology. We encourage collaboration with departments and individuals across the University, City and further a field. The MSc in Sound Design also invites practitioners from Sound Design industries to come and talk to students on the course.

There is a vibrant and buoyant digital arts scene in Scotland. The University runs an international festival of interactive digital music called **d i a l o g u e s** and students are encouraged to take part in this project both as designers and performers. **Soundings** is a regular festival of electro-acoustic music staged using an immersive multi-channel speaker system. Again, students are encouraged to get involved.

[1] The Edinburgh Postgraduate Prospectus includes information on the University of Edinburgh Mission Statement, the University and the City of Edinburgh, Levels of Postgraduate Study, Associated Institutions, Applications and Admission, International Students, Accommodation and other Services, Further Information (Including Fees and Terms & Conditions) information on Colleges and degree offerings. The MSc/Dip in Design and Digital Media appears in the prospectus.

Degree Aims and Objectives

The degree aims to provide a rich cross-disciplinary programme of study for its students to develop skills in the area of multimedia, networking, audio production and post-production and other digital technologies applied to sound design. Its graduates will be conversant with appropriate technologies and with the practices and social contexts in which such technologies are developed and used. The programme will impart practical skills within the framework of a critical and reflective appreciation of the impact and influence of digital audio technology.

The programme of study assumes all students are at the beginner level in computing and sound design, but are prepared to advance quickly. The programme is designed to allow students to develop according to their skills and interests.

Aims:

- develop specific knowledge and provide a broadly-based foundation in sound design technologies
- enable the use of existing computer-aided sound design techniques in a creative way
- provide an analytical and critical framework for thinking of sound and its role in a wider creative arts environment
- give students an understanding of the scope and limitations of computer applications in sound design
- engage in cross-disciplinary collaboration in the context of audio-visual practice
- assist students in discovering new creative uses of advanced technologies
- encourage the development of good design in its broadest sense
- foster the ability to work co-operatively in groups in the context of design
- develop an understanding of the potential for new technologies

Programme Outcomes:

The outcomes of the programme fall into several categories, as follows.

(a) Knowledge and understanding

On completing the programme students should be able to:

- advise on the applicability of sound in a professional design context
- critically evaluate digital technologies and their applicability to sound design
- analyse requirements and derive design solutions for presentation and information applications
- demonstrate understanding of the cultural context in which digital technologies are developed and promoted, particularly in the realm of the aural

(b) Intellectual skills

On completing the programme students should be able to:

- think creatively about sound and its design implications
- articulate theoretical considerations relating to all aspects of the sonic world
- develop cross-disciplinary languages that can serve as a basis for establishing collaborative networks in creative projects

(c) Professional/subject-specific/practical skills

On completing the programme students should be able to:

- apply techniques of, recording, audio production and post-production, sound synthesis, digital signal processing, multimedia, video editing and programming of interactive systems
- design effective multimedia presentations
- develop a web site and its sonification

- program interactive behaviours using scripting languages
- relate technological options to considerations of practice
- develop and respond to critical argument on cultural issues relating to the use of digital technologies
- create sound components to formats such as film, games, animation and multimedia
- operate in a digital sound production studio

(d) Transferable skills
On completing the programme students should be able to:

- use information technology creatively in solving problems
- put together presentations using digital media
- assess the value and applicability of developments in digital technology as they emerge
- critically assess the popular and academic literature that accompanies the promotion of digital and sound technologies
- manage time and prioritise work tasks
- follow an independent programme of study through to completion
- present themselves for interview and demonstrate the ability to work in a professional context
- demonstrate that they have a learning and professional development strategy

Entrance Requirements

Admission to the degree is open to candidates with a good first degree or equivalent in a sound-related discipline (such as music, sound engineering, acoustics, film, animation, or art/design) or other relevant discipline (such as computer science, architecture, education, cognitive science, psychology). Qualifications that are not directly related to sound, music or music technology should be supported by a portfolio. Qualifications not listed above can also be considered by the Head of School, subject to submission of a portfolio.

English Language Requirement
If English is your first language, or you have taken your first degree in an English-speaking country, then you will not normally need to prove your English competence. Otherwise, you will need a certificate. There are various testing services whose certificates are recognised here. Currently, the required English score on various of these tests is

- TOEFL paper-based 580 (including at least 55 in all 3 sections and 4.0 in the Test of Written English (TWE))
- TOEFL computer-based 237 (including at least 22 in each section and 4.0 in TWE)
- IELTS 6.5 (including at least 6.0 in all 4 sections)
- Cambridge Certificate of Proficiency in English (CPE) Grade B
- Cambridge Certificate in Advanced English (CAE) Grade A

Further information about English language requirements is available from http://www.hss.ed.ac.uk/Postgraduate/prospective/englang.htm

Note that if you need to take or re-take an English test, you should consider the timing. Results of these tests are often issued in September, which is too late if you are aiming for admission in September of the same year. Please try to take an earlier test, to avoid this problem. Bear in mind also that we will need an original of your certificate, not a copy.

RESIDENCY
You will need to book accommodation in advance of the commencement of the course as the demand on accommodation is high. If you are accepted into the course you will receive an accommodation prospectus

and the associated application form (AF1) with your letter of offer. Further information on accommodation is available in the Edinburgh Postgraduate Prospectus 2006 and on the WWW at http://www.accom.ed.ac.uk/

The following advice is taken from the Edinburgh Postgraduate Prospectus 2002.

> The approximate charge for the majority of self-catering places in University accommodation is likely to be around £58 per week, with en-suite accommodation at around £69 per week. These charges include heating.
>
> Charges in lodgings vary considerably. The charge for a single room with bed and breakfast and evening meal is likely to be approximately £80 per week; and from £55 per week for a single room with cooking facilities provided. Charges for shared rooms are generally lower. Heating is normally charged separately, often by coin meter.
>
> The rents charged in privately-rented furnished flats vary widely depending on the size, furnishings and locality. Very few flats -- even for two persons -- are likely to be available for less than £400 to £450 per month. Single students sharing a privately-rented flat will be paying approximately £55 per week, exclusive of the cost of heating, lighting, telephone and food.
>
> The above figures are only estimates and should not be taken as firm indicators.
> http://www.ed.ac.uk/studying/accommodation/

TUITION FEES
The fees for 2005/6 are as follows.
UK/EC students £4,100
Overseas students £9,450
All students also pay a studio/research fee of £800
See also the fees and other costs section at
http://www.ed.ac.uk/studying/postgraduate/fees_finance/

APPLICATION PROCEDURE
The following essential documentation **must** be submitted with your application:

1. An official transcript of your results
2. A copy of your degree certificate
3. Two letters of reference (References must be signed by the referee and returned with your application in a sealed envelope, with the referee's signature across the seal. Alternatively, they may be addressed to "MSc Admissions" and sent directly to the School of Arts, Culture and Environment, Architecture.
4. Evidence that you have satisfied the University's English Language Requirement (see page 8 of the Postgraduate Prospectus for the minimum TOEFL / IELTS requirement)
5. A portfolio of sound based work if your first degree was not sound related. The portfolio can be a CD of sound works, an essay about sound, software you have designed or other sound related project. The portfolio does not need to be large but should show your best work in order that we can evaluate your current sound skills accurately.

Please ensure that the application form is complete and that you have included the essential documentation listed above before returning your application. We are unable to process your application until all essential documentation has been supplied.

Content of the Programme

The course is a one-year full-time or two year part-time programme that gains its impetus from a series of structured design-oriented projects. So the course is highly practical but with a strongly reflective and theoretical component that draws on contemporary philosophical and cultural themes. This makes the MSc in Sound Design unique. Students will be expected to spend at least 10 hours per week on project work outside of formal study time.

The course will commence in September 2005.

Semester 1: Introduction and Orientation		*year taken if part time*
P00185	Introduction to Sound Design Media	1
P00188	Sonic Structures	1
P00175	Media and Culture	2
Semester 2: Practice, Reflection and Action		
P00189	Interactive Sound Environments	1
P00190	Sound and Fixed Media	1
P00179	Digital Media Studio Project	2
Summer period (Vacation): Integration		
P00191	Sound Design Final Project	2

ORGANISATION OF TEACHING

The programme is taught by a combination of lectures, seminars, tutorials, practical sessions and studios. However, much of the responsibility for study will be your own and you will be encouraged to form study groups. Initially, each taught core course provides advanced tuition in a specialised aspect of the subject. In most courses there is also a strong emphasis on short creative production projects which exemplify and integrate the taught matter. Some of the project work will be team based with teams whose composition must be balanced over the subject areas. Projects are required to display evidence of original thinking, independent achievement within a framework of team-working, and creative ability. Collaborative team-based projects will be structured so that the individual contribution of each student in the group can be identified and assessed. Special consideration will be given to this point before group proposals are agreed.

ASSESSMENT
In common with general design education practice, assessment of progress will be by means of project-work (some of it group project-work).

Assessors will take into account:

- the extent to which a student has contributed original ideas to the projects
- the creative ability displayed
- the depth and breadth of coursework understanding revealed
- the extent to which the intention of the project has been revealed
- skills in aural communication of the project ideas

In all cases the limitations and potential of the available resources will be taken into account.

MSc AND DIPLOMA AWARD REQUIREMENTS

1 All courses and projects will be marked on the University of Edinburgh's common postgraduate marking scheme.
2 Students must achieve an average of at least 50% for each course in the first two semesters' work before being eligible to proceed to the Final Project, for which at least 50% must also be achieved to qualify for the award of MSc.
3 Students who pass courses at diploma level only, or who pass at MSc level but do not wish to proceed to the summer semester are eligible for the award of the Diploma in Sound Design.

STAFF

The following staff are the main contributors to the programme:

Dr Martin Parker is a composer and sound designer with expertise in real-time sound processing, interactive technology, installation and computer-based performance systems. He has taught on a casual basis for the music technology BMus(Hons) degree and is full-time lecturer for the MSc in Sound Design.

Professor Richard Coyne has researched and taught extensively in the area of digital media applied to design and has published several important books on the cultural and practical implications of digital media.

Dr John Lee is Deputy Director of the ESRC-funded HCRC and Coordinator of the Stanford Link for Informatics. He divides his time between the School of Arts, Culture and Environment and Informatics. He is Programme Director of the MSc in Sound Design and the MSc in Design and Digital Media.

Peter Nelson is Senior Lecturer in Music, a highly published composer and a specialist in interactive computer systems, sound synthesis, and music and AI. He is leader for the electro-acoustic composition and music technology stream in the BMus(Hons) degree.

Dr Michael Edwards is Lecturer in Music specialising in algorithmic composition and internet audio. He is course organiser for the new MSc in Digital Composition and Performance.

Ian Gunn
Computer systems administrator and specialist in visual communication

COURSE DESCRIPTIONS

Sound Design Media P00185

Semester 1, block 1; 20 credits. Course organiser :Martin Parker
Taken in year one part-time.

Synopsis
In this course students will become acquainted with the technologies that are used in digital sound design. Of particular emphasis will be the possibilities of sound production in the recording studio and editing in the digital domain. This course will be workshop based and hands on in its teaching approach.

Learning Outcomes
- Ability to work with professional sound design software tools.
- Ability to work in a collaborative context of group review and critique.
- Ability to engage in a creative task within tightly constrained bounds and to present the outcome to conform to precise specifications.
- Ability to interpret and apply a set of requirements pertaining to a sound design task.

Lecture Topics
- The Sound Designer's Tool Kit, building a library
- Bling! What is sound design? *
- Digital Audio (Recording and Editing)
- Introduction to Digital Signal Processing
- Sound Gaming *

*these lectures run in parallel to the MSc DDM Lectures
For related course content and lecture notes see http://ddm.caad.ed.ac.uk

Principal Software
ProTools, MAX/MSP, Soundhack, Audacity Logic Audio pro 7
Apple Macintosh OSX

Sonic Structures P00188

Semester 1, block 2; 20 credits. Course organiser :Martin Parker
Taken in year one part-time

Synopsis
Shifting emphasis from the sound studio towards internet applications, multimedia software and interaction, this course will familiarise students with other technologies surrounding digital sound design. Students advance through a series of lectures, demonstrations, practical project work, exercises and critique in a group context.

Learning Outcomes
- The ability to work with professional sound design software tools
- The ability to use applications for design analysis, synthesis and presentation, including sound and image manipulation
- The ability to write simple instructions in Lingo, HTML or similar applicable languages
- The ability to design web pages and their content
- An understanding of the issues involved in human-computer interaction and the ability to design and investigate simple interactions
- Ability to work in a collaborative context of group review and critique

- Ability to engage in a creative task within tightly constrained bounds and to present the outcome to conform to precise specifications
- Ability to interpret and apply a set of requirements pertaining to a design task
- A web-site and demonstration system for showcasing your emerging expertise in sound and digital media

Lecture Topics
- Hypertext Mark-up Language, the WWW and web authoring with Dreamweaver*
- Sonic Structures
- Introduction to Macromedia Director – multimedia integration*
- Scripting – Lingo*
- Beyond the desktop*
- Sound Design in the theatre

*these lectures run in parallel with the MSc DDM Lectures

Media and Culture P00175

Semester 1, blocks 1 and 2; 20 credits. Course organiser: Richard Coyne

Synopsis
This is an introduction to the issues that surround the emergence of digital design today. Seminar and lecture sessions cover topics that enable students to discuss the impact of digital technology from its immediate practical application to the long term redefinition of the design professions. The development of a broad social and psychological understanding of the nature and role of information, metaphor and interface will also form an important component of the course. Research methods will be covered in this course. Key texts by thinkers who have contributed new ideas and generated fresh debate about living and working in the digital age will be studied, which will provide the basis for focused discussions about how digital design is developing or could develop. Sessions will therefore be devoted to the major concepts and theoretical approaches which have a bearing on the practice of digital design, canvassing issues such as technological determinism, utopianism, technoromanticism, concepts of language, typology, space and the body informed by digital technology. The course will also incorporate lectures on the practical social, legal and cultural ramifications of digital media: usability, intellectual property and the popular media.

Learning Outcomes

- A forward-thinking, global approach to design and the impact of technology.
- A more developed overview of the key philosophical ideas that have informed understanding of digital media.
- The ability to discuss project work in terms of recent theoretical ideas.
- The ability to be critical of digital technology and aware of its strengths and limitations.
- A re-conceptualisation of the student's own working method/aspirations.

Interactive Sound Environments P00189

Semester 2, block 1; 20 credits. Course organiser :Martin Parker
Taken in year one part-time.

This course allows students to explore further sound-based interaction in the context of digital media and to a lesser degree, product design. Lectures cover a range of areas based on the development of interactive software systems for manipulating, sampling and synthesising sound in real-time. Students will investigate processes and contexts for the use of sound in real-time interactive environments such as virtual reality, audio-visual performance, network-based multi-user applications and immersive simulation environments.

Learning outcomes
- skills in programming interactive sound environments
- understanding of issues of interaction raised in complex multimedia installation environments
- ability to articulate the functions of multiple audio components in media (e.g. music, sound effects, soundscape…)
- ability to translate adventurous design ideas into a plausible end product.
- ability to communicate a complex project idea to a varied audience

Lecture topics
- Web Animation, Flash
- Audio Vision 1 – earcons and auditory icons
- Sound Design under the hood 1 – Sampling and Sequencing with MaxMSP
- Sound Design under the hood 2 - Sound Synthesis with MaxMSP
- Streamed Media
- Volatile voltage. Sensor technology, networking with MaxMSP and Review session.

Sound and Fixed Media P00190

Semester 2, block 2; 20 credits. Course organiser :Martin Parker
Taken in year one part-time.

This course introduces concepts and techniques surrounding sound and fixed media ranging from film and animation to radio plays and documentary. Students are required to analyse examples of film and animation for sound design content and to use these critical studies to inform their own work in this area. Students advance through a series of lectures, demonstrations, practical project work, exercises and critique in a group context.

Learning Outcomes
- ability to design sound for visual formats
- understanding the role of sound in synchronised media (film)
- develop further skills in programming interactive sound environments
- understanding of technologies used in complex multimedia installation environments
- ability to articulate the functions of multiple audio components in media (e.g. music, sound effects, soundscape…)

Lecture topics
- Audio Vision 2 – introduction to film sound analysis
- Music and the moving image
- Real-time sound and image processing using Jitter
- Sound Spatialisation; 5.1 surround and other formats
- Film Sound Design Review Session

Digital Media Studio Project P00179

Semester 2, blocks 1 and 2; 20 credits. Course organiser: Richard Coyne
Taken in year two part-time

Synopsis
This is a semester-long studio project using the computer for design and presentation work. Students will work on a project that brings together their various design skills in the context of a digital installation. The course will be conducted as a studio with iterative development, group discussion, design development, presentations, criticism, and feedback. Tuition will be provided in the use of computer tools and devices where applicable.

Learning Outcomes

- Consolidation of the use of digital design tools and techniques in the context of a design project.
- Appreciation of the collaborative and integrative nature of design projects that involve digital media, and further development of appropriate group working skills.
- An awareness of and some capability in working with digital media beyond the constraints of the desktop, particularly through software and hardware that supports digital installations.
- Consideration of modes of presentation appropriate to external and large-scale presentation formats.
- Skills in responding to and progressing a theoretical position about some aspect of the urban context.

Practical Outputs

The design of a multimedia interactive or other artefact using digital media. Further contribution to a portfolio of work showing the student's capability with digital media and familiarity with the issues of presentation on handheld and mobile devices, media walls, and other external and large scale media. Awareness of the methods and constraints of working towards a public exhibition or showcase of digital design work. An interactive exhibition/installation.

Lecture Topics

- Digital Media studio project welcome pack; realtime 3D, sensor technology, handheld technology and museums.
- Cross mapping and real-time systems.
- Hardware 'hacking'
- Plus showcases from practitioners and technology developers

Final Project

Summer Semester, 5 hours tutorial total. Course organiser: Martin Parker

Synopsis

This is a project using digital sound media that will be a product of individual or group working. Work can commence in week 7 of semester 2, though approval to proceed will depend on the outcome of the Examination Board meeting at the end of semester 2. Work should continue to the September submission date.

Aims

- To allow students to demonstrate how they have integrated knowledge and skills achieved in the MSc
- To develop particular applications of sound design
- To employ investigative methods of creative problem-solving

Outcomes

- A detailed project bringing together many elements of the programme
- A thorough understanding of the way in which a working digital project progresses from start to completion
- An appreciation of the role of information technology in current design

Facilities

Students currently enjoy 24 hour access to facilities and we aim to run the programme with approximately one dedicated audio computer between two. This facility is often augmented by student's laptops, that can connect to the University network wirelessly.

Studio:
The Russolo Room boasts a dedicated 5.1 Genelec Surround sound design studio located in the Music Department. This space runs a Macintosh G5 2gHz dual processor with 1Gb ram and 500GB of dedicated Hard Disk space.
The machine runs Pro-Tools with an 8-channel Digidesign 002r sound card and Logic Pro 7.1

Other software includes;
Waves platinum bundle
Logic Audio 7 Pro
Nuendo
Peak DV
MaxMSP and Jitter
Absynth 2
Reason 2.5
T-Racks
Amplitube
Pluggo
Mode

We also run a lab of 10 emacs each running Pro-Tools 6.9 , logic Pro 7.1 MaxMSPJitter, AUDICITY, PD, Supercollider and CSound with an Mbox and Professional BeyerDynmic DT770 headphones. We have a Digital Video dedicated G5 running Final Cut Studio and Peak DV.

Students also have access to Macromedia Flash MX, Dreamweaver MX, Director MX, Cold Fusion, Photoshop elements, Proce55ing and Maya 6.

Microphones:
Pair Neuman KM 184
Pair Neumann KM140
Beyer Dynamic shotgun
Audio Technica Stereo Field
AKG instrument mic
AKG 414
Rode NT4
Rode NTA
Beyer Dynamic Boundry Mic
SoundMan in ear headphone mics * 4
Sony Field Mic
Windpac and pole for field recording

Recording:
HHB Portadisc
Fostex FR2 – solid state hi resolution audio recorder
M-AUDIO solid state portable recorders (MicroTrack 24/96) * 3
TASCAM DA78, 8 channel digital recording to tape
ALESIS ADAT, 8 channel digital recording to ADAT tape

Other hardware includes reel to reel tape recording, hardware samplers, midi interfaces a Mackie VLZ 1202 portable mixer and a Mackie ONYX 1602 with high quality pre-amps.

CONTACT

If you wish to talk about the programme you can contact

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For inquiries about admissions procedures contact the MSc secretary

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