THE GLASGOW SCHOOL OF ART

Glasgow School of Art Course Specification
Spatial and Immersive Audio



Image Credit: Alex Bell, 2023. *Bhavishi* (or *What is to Come*)

Please note that this specification is correct on the date of publication but may be subject to amendment prior to the start of the academic year.

Course Code	HECOS Code	Academic Session
USMISIA4		2027-28

Course Title	Spatial and Immersive Audio
Course Contact	Ronan Breslin

Credits	20
SCQF Level	10
When Taught	Stage 4, Semester 1

Associated Programmes	BDes Sound
Lead School	School of Innovation and Technology (SIT)
Other Schools	N/A
Date of Approval	Programme Approval October 2026

Course Introduction

Spatial Audio has become more widely accessible over the last decade, both for content producers and consumers. This accessibility has been driven by the video gaming industry and the emergence of consumer level VR/AR/XR and new cinema (and home cinema) standards. Independent artists, musicians and filmmakers now have access to a wide range of software tools to produce immersive audio-visual experiences. Further, music streaming platforms now offer spatial audio mixes for premium subscribers.

This course builds on existing knowledge and experience of working in two-channel stereo to provide students with an expanded understanding of the more advanced theory and practical methods that underpin spatial audio and immersive media.

Students will apply this understanding to conceptualise, develop and realise an original self-directed immersive media project with a particular emphasis on spatial audio.

Course Aims

This course aims to:

- Provide students with an understanding of immersive media and develop proficiency in the practical application of immersive media tools that enable the conceptualisation, development and realisation of an original piece of immersive work
- Familiarise students with the theoretical framework underpinning immersive media with a particular focus on spatial audio
- Introduce students to specialist tools and workflows for the creative implementation of immersive media with a particular focus on spatial audio
- Enable students to reflect and communicate their use of specialist tools and workflows, and evaluate their project outcome, processes and concepts.

Course Intended Learning Outcomes

By the end of this course students will be able to:

- Conceptualise and develop a self-directed practical project, critically applying the core theories, concepts and principles of Spatial and Immersive Audio.

- Critically reflect on and analyse self-directed practice, researching and referring to the context of Spatial and Immersive Audio.
- Apply and justify the use of contemporary specialist workflows, software and hardware tools for immersive audio-visual production,
- Communicate and present immersive audio-visual project outcomes in a formally structured and accessible manner, to a diverse audience of experts and non-experts.

Indicative Content

The content includes:

- Review of the fundamentals of stereo sound as defined by Blumlein et. al.
- Binaural sound
- Historical contexts of multi-channel audio (Fantasound, Cinerama, Dolby Stereo, 5.1)
- Current paradigms of immersive audio including Ambisonics, Dolby Atmos, Object-Based Audio and Wave Field Synthesis
- Aesthetics of immersive sound including its applications within sonic art contexts and contemporary sound design
- Linear and interactive 3D visual environments

Description of Learning and Teaching Methods

Learning and Teaching methods include classroom-based lectures followed by practice-based workshops where students can explore introductory theoretical and practical concepts using relevant software and hardware tools. The course seeks to consolidate students' knowledge and understanding via an active "making" process, group work, and engagement in critical self-reflection mediated by tutors.

Lectures and seminars are used to disseminate theoretical, contextual and historical knowledge and address specific issues underpinning practical work. Lectures also have the broad aim of generating further debate in seminars, tutorials or further enquiry in self-directed learning or research.

Labs, Tutorials, Workshops, and Practical sessions provide students with hands-on experience. These sessions usually follow or relate to lectures and take place in computer laboratories as practical classes. Lecturers/Demonstrators will be on-hand during the sessions to help students and answer their questions. Tutorials vary between individual student-tutor tutorials, group tutorials and workshops. These provide opportunities for scaffolded problem solving and discussion, and for broader discussion of the programme themes and topics.

This course is supported by a virtual learning environment tool (Canvas) for the dissemination, discussion and access to relevant course information, and signpost to other relevant teaching and learning platforms used by GSA.

Indicative Contact Hours	Notional Learning Hours
33	200

Description of Formative Assessment and Feedback Methods

Students are supported in their learning through a range of formative assessment activities as they progress through the course. These include:

- Engagement in staff-supported peer review activities. Peer review sessions will be embedded within the course structure.
- In-situ feedback from tutors during workshop activities.

Description of Summative Assessment arrangements
This Course has two summative assessment components: **Practical Project** The scope of the practical project will be agreed with course tutors. Students will conceptualise, develop and realise an original installation, film or interactive environment, using a range of spatial and/or immersive audio tools and workflows. **Critical Reflection** An 800-word written critical reflection will assess student's understanding of immersive/spatial audio concepts, and their applications in the student's professional practice. Students are awarded an aggregate grade based on the weighted grade of the two components. Submissions will be assessed and moderated in line with the Code of Assessment. Reassessment opportunities where a student has not passed the course are outlined in the Code of Assessment.

Description of Summative Assessment Method	Weight %	Submission week
Practical Project	70%	Week 12
800-word critical reflection	30%	Week 12

Exchange/Study Abroad	
Can this course be taken by Exchange/Study Abroad students?	Yes
Are all the students on the course taught wholly by distance learning?	No
Does this course represent a work placement or a year of study abroad?	No
Is this course collaborative with any other institutions?	No
If yes, then please provide the names of the other teaching institutions	

Reading and On-line Resources
The course indicative Reading and on-line resource list is accessible via Resource Lists (see the sub-section "Spatial and Immersive Audio" and "Game Audio"). This list will be reviewed and updated annually to reflect course content and subject developments.