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subject catalogue S23 K24

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course code KOE813

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**name of course**

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**Electronic Music Project**

**specification**

Elective course for the Composition specialty

**academic instructor**

H.-G-Lock, M.Maltis, külalislektor

**prerequisite course**

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**no of terms**

2

**contact hr/total**

30.0

**hr/term**

15.0

**hr/week**

0.0

**ECTS/total**

4.00

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**Lect**

0.0

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**Grp**

18.0

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**Ind**

2.0

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**Sem**

0.0

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**Pract**

0.0

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**graded or pass/fail exams**

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A

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**term**

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1

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2

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**ECTS**

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2.00

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2.00

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**aim of the subject**

Under KOE813 it is possible to choose together or separately Acousmonium workshop and/or 3D ambisonic sound workshop. For the first, choose fall semester and for the second, choose spring semester.

Acousmonium workshop   aim:

To provide students with practical experience in sound diffusion and performing electronic music with a loudspeaker orchestra (acusmonium).

3D ambisonic sound workshop aim:

Creative work in a three-dimensional electronic sound environment using appropriate sound software. To Comprehend the

surrounding three-dimensional sound space as a compositional medium.

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## **content**

Acousmonium workshop:

Introduction and history of acousmonium, different types of loudspeakers and their characteristics, sound diffusion techniques, practical technical set-up of acousmonium, live performance of an electronic work at a public concert.

3D ambisonic sound workshop:

Working principles of ambisonic sound, practical tools (plugins, software modules) and composition practice. Practice of setting up a three-dimensional sound system, creating a sound work for a three-dimensional ambisonic sound system and performing it at a concert.

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## **learning outcomes**

Acousmonium workshop:

On completion of the subject the student

- has learned about the history and principles of acousmonium
- has gained practical experience in building up such a system and a live performance

3D ambisonic sound workshop:

On completion of the subject the student

- understands the basic nature of three-dimensional sound
- is able to compose for a three-dimensional ambisonic sound system
- has gained practical experience in setting up such a system

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## **assessment**

Non-differentiated assessment

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## **assessment criteria**

Acousmonium workshop:

- 1) presence at the initial presentation, participation in technical setup and dismantling
- 2) live performance of an electronic work at a public concert

3D ambisonic sound workshop:

- 1) presence at the initial presentation
- 2) participation in the practical setup and dismantling of the sound system
- 3) the independent creative work (work) is finally finished and adjusted in a three-dimensional concert situation and performed at a public concert

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### **course reading material**

Acousmonium workshop:

Gorbach, Thomas. Das Wiener Acousmonium. Ein vibrierender Klangkörper zur Erschaffung ephemere dynamisch-bewegter Klangskulpturen. The Vienna Acousmonium. A Vibrating Instrument to Create Ephemeral Dynamic Motion Sound Sculptures.

<https://theacousmaticproject.at/wp-content/uploads/2020/01/TheViennaAcousmonium.pdf>

Mooney, James (2004). Sound Diffusion Systems for the Live Performance of Electroacoustic Music.

Harrison, Jonty (1999). Sound, space, sculpture: some thoughts on the 'what', 'how' and 'why' of sound diffusion. – Organised Sound 3 (2): 117-27

Vande Gorne, Anette. Space, Sound and Acousmatic Music: The Heart of Research

Wishart, Trevor (2012). Sound Composition.

3D ambisonic sound workshop:

Kronlachner, Matthias (2012). Towards usability of Higher Order Ambisonics in Digital Audio Workstations [presentation slides].

<http://www.matthiaskronlachner.com/wp-content/uploads/2013/01/ambisonics-daw-presentation.pdf>

Hollerweger, Florian (2005). An Introduction to Higher-Order Ambisonic.

[http://decoy.iki.fi/dsound/ambisonic/motherlode/source/HOA\\_intro.pdf](http://decoy.iki.fi/dsound/ambisonic/motherlode/source/HOA_intro.pdf)

Zotter, Franz; Frank, Matthias (2019). Ambisonics: A Practical 3D Audio Theory for Recording, Studio Production, Sound Reinforcement, and Virtual Reality.

Lauritsen, David (2023). Using Ambisonics in the Recording Studio.

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**author of course description**

Hans-Gunter Lock, Malle Maltis