Technology
Arts Sciences
TH Köln

Course Manual EM1

Electronic Media 1

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General information

Long name	Electronic Media 1
Approving CModule	EM1_BaMT
Responsible	Prof. Dr.-Ing. Christoph Pörschmann Professor Fakultät IME
Valid from	summer semester 2021
Level	Bachelor
Semester in the year	summer semester
Duration	Semester
Hours in self-study	78
ECTS	5
Professors	Prof. Dr.-Ing. Christoph Pörschmann Professor Fakultät IME Prof. Dr.-Ing. Klaus Ruelberg Professor Fakultät IME
Requirements	Basic knowledge mathematics Basic knowledge integral and differential mathematics
Language	German
Separate final exam	Yes

Literature

Boré, G., Peus, S. (1999). „Mikrophone für Studio und Heimstudio-Anwendungen – Arbeitsweise und Ausführungsbeispiele," Hrsg. Georg Neumann GmbH, Berlin.

Blauert, J., Xiang, N. (2008)."Acoustic for Engineers – Troy Lectures," Springer Verlag, Heidelberg.

Görne, T. (2011). „Tontechnik," Hanser Verlag München.

Final exam

Details	Exam - The students apply their knowledge to several practival exercises. Furthermore, they describe and explain some of the technical concepts which were presented in the lecture.
Minimum standard	Calculate simple basic acoustic problems (e.g. level / dB) Describe simple concepts of media technology and acoustics
Exam Type	EN Klausur

− Lecture / Exercises

Learning goals

Goal type	Description
Knowledge	Introduction of the basic acoustic parameters Sound pressure, sound velocity, flow, power Logarithmic quantities and levels
Knowledge	Sound propagation in the room Homogeneous plane wave, point sources standing waves resonance systems diffraction, refraction, reflection
Knowledge	Concepts of loudspeakers and microphones) Principles of directional microphones Electrodynamic microphones and headphones Piezoelectric microphones and headphones Dielectric microphones
Skills	Analysis and description of systems with loudspeakers and microphones
Knowledge	Introduction to electronic media, definition and delimitation of terms
Knowledge	Introduction to colorimetry
Skills	Simple calculations for color space transformation
Skills	Simple calculation of video data rates and storage requirements

Special requirements

none

Accompanying material	lecture slides
Separate exam	No

Expenditure classroom teaching

Type	Attendance (h/Wk.)
Lecture	3
Exercises (whole course)	1
Exercises (shared course)	0

Tutorial (voluntary)	0

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