AVDI - Audio/Video Design and Interaction

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General information	
Module Code	AVDI
Unique Identifier	AudVidDesInt-01-MA-M
Module Leader(s)	Prof. Dr. Prochnow, Steffen (steffen.prochnow@haw-kiel.de)
Lecturer(s)	Prof. Dr. Prochnow, Steffen (steffen.prochnow@haw-kiel.de)
Offered in Semester	Sommersemester 2026
Module duration	1 Semester
Occurrence frequency	Regular
Module occurrence	In der Regel im Wintersemester
Language	Englisch
Recommended for international students	Yes
Can be attended with different study programme	Yes

Curricular relevance (according to examination regulations)
Study Subject: M.Sc. - MCS - Computer Science (PO 2023, V1) Study Focus: Computer Science for Media Module type: Verpfl. Wahlmodul, PVO §3 Semester: 1, 2
Study Subject: M.Sc. - MCS - Computer Science (PO 2023, V1) Module type: Wahlmodul Semester: 1, 2

Qualification outcome
Areas of Competence: Knowledge and Understanding; Use, application and generation of knowledge; Communication and cooperation; Scientific self-understanding / professionalism.
Student are able to design sound, visuals and content of creative and technical areas Students develop a creative and technical installation or performance during the semester. The kind and technology of the installation used are freely selectable. The presentation of the project work at the end of the semester is basis for the grade.
Students are able to use various software for audio and visual production (e.g. processing, open frameworks, Unity, Puredata, Max / MSP). The idea here is experimenting with e.g. : - Techniques and methods for sound synthesis - Video and sound design - Interaction techniques with video, sound or light installations.

Content information	
Content	- Interactive media and creative applications - Interaction with sound and visuals - Media interaction based on -- Body/hand/eye tracking -- AR/VR/MR -- AI - Interaction with sound in 3D space - Practical consolidation with individual programming projects - Methods and strategies of generative design Possible topics: - Programming sounds and visual representations (visuals) - Programs for sound synthesis, sampling and processing - Use of interaction and network technology - Live coding of music and visuals - Programming mini-computers (e.g. Raspberry Pi) for generating sounds and visuals For the creative, experimental work, a surround music system (consisting of spatial loudspeaker system) and various mini computers (e.g. Raspberry Pi) for sound and video installations are available. Knowledge of composition or video production is not required.
Literature	- James R. Parker, Generative Art: Algorithms as Artistic Tool, Durvile, 2019 - Benedikt Gross, et al., Generative Design: Visualize, Program, and Create with JavaScript in p5.js, Princeton Architectural Press, 2018 - Matt Pearson, Generative Art - A practical Guide using Processing, Manning Publications, 2011. - Daniel Shiffman, The Nature of Code: Simulating Natural Systems with Processing, 2012 - Johannes Kreidler, Loadbang: Programmierung Elektronischer Musik in Pd, Wolke Verlag, 2009. - Andy Farnell, Designing Sound, MIT Press, 2010.

Teaching formats of the courses	
Teaching format	**SWS**
Projekt	2
Lehrvortrag	2

Workload	
Number of SWS	4 SWS
Credits	5,00 Credits
Contact hours	48 Hours
Self study	102 Hours

Module Examination	
Examination prerequisites according to exam regulations	None
AVDI - Präsentation	Method of Examination: Präsentation Duration: 30 Minutes Weighting: 100% wird angerechnet gem. § 11 Absatz 2 PVO: No Graded: Yes