

MADS-DVVA - Datenvisualisierung und Visuelle Analyse

MADS-DVVA - Data Visualization and Visual Analytics

General information	
Module Code	MADS-DVVA
Unique Identifier	DataVisVisAn-01-MA-M
Module Leader(s)	Prof. Dr. Schwörer, Tillmann (tillmann.schwoerer@haw-kiel.de)
Lecturer(s)	Prof. Dr. Schwörer, Tillmann (tillmann.schwoerer@haw-kiel.de)
Offered in Semester	Wintersemester 2019/20
Module duration	1 Semester
Occurrence frequency	Regular
Module occurrence	In der Regel jedes Semester
Language	Englisch
Recommended for international students	Yes
Can be attended with different study programme	No

Curricular relevance (according to examination regulations)
Study Subject: M.Sc. - DS - Data Science Module type: Pflichtmodul Semester: 1

Qualification outcome
<i>Areas of Competence: Knowledge and Understanding; Use, application and generation of knowledge; Communication and cooperation; Scientific self-understanding / professionalism.</i>
Students know - a broad portfolio of visualization techniques and understand for which purpose they are most suitable, - tools and best practices to closely integrate visual analysis, documentation, and presentation, - Programming frameworks and BI tools for data visualization
Students are able to - use visualizations as a means to detect patterns in complex data, - design and develop expressive visualizations tailored to the specific purpose and recipient using programming languages and BI tools
Students are able to - concisely present their approach and results in technical and functional terms - work successfully in teams on joint projects, leveraging and integrating the skills of all team members.
Students are able to - reflect on the strengths and weaknesses of visualization techniques, - give and receive constructive critique and advice and they adhere to principles for scientific communication.

Content information	
Content	The Role of Graphics in the Data Science Workflow Principles of Science and Design Mapping Data to Graphics Visual Analytics R and Python for Data Visualization BI Tools for Data Visualization
Literature	<ul style="list-style-type: none"> - Wilke: Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures. O'Reilly, first edition, online available: https://serialmentor.com/dataviz. - Chen, Härdle, and Unwin: Handbook of Data Visualization. Springer, 2008, online available: http://www.haralick.org/DV/Handbook_of_Data_Visualization.pdf. - Haley: Data Visualization: A Practical Introduction. Princeton University Press, first edition. online available: http://socviz.co - Wickham: ggplot2: Elegant Graphics for Data Analysis (Use R!). Springer, second edition. Online available: https://ggplot2-book.org/.

Teaching formats of the courses	
Teaching format	SWS
Lehrvortrag + Übung	4

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
MADS-DVVA - Übung	Method of Examination: Übung Weighting: 20% wird angerechnet gem. § 11 Absatz 2 PVO: No Graded: Yes
MADS-DVVA - Projektbezogene Arbeiten	Method of Examination: Projektbezogene Arbeiten Weighting: 30% wird angerechnet gem. § 11 Absatz 2 PVO: No Graded: Yes
MADS-DVVA - Klausur	Method of Examination: Klausur Duration: 60 Minutes Weighting: 50% wird angerechnet gem. § 11 Absatz 2 PVO: No Graded: Yes