

Name

Understanding Data

 Classroom
 Studio or workshop
 External venue
 Online

Codes M-KF-301-DI-202401-04, M-KF-E-301-DI-202401-04

Host **Design Institute**

	Type	ECTS	Contact hours	Student work	Course type	Semester	Unit
Basic info	Term mark	5	44	106	classwork, seminar	2024/2025/1	RDI

Recommendation

Short Description

The aim of the course is to provide critical understanding of quantitative data. Students will investigate economical and cultural environments through hybrid theoretical and hands-on methodologies based on data processing, analysis, coding and different representation methods (taxonomies, visualizations, cartographies, sonifications).

Teachers

Name	Contact information	Short bio	Open hours
Ágoston Nagy	stc@binaura.net +36304809295		

Semester schedule

Course scheduling	Weekly class appointments
on Fridays	8.30-11.20

#	Date	Weekly educational content
1		basics: data types, origins, dimensions, systems
2		tools: frameworks, languages, workflow
3		acquire data: measuring, scraping, collecting, automating
4		parsing pre-recorded data & datasets
5		processing realtime data - sensing, filtering
6		discussions, consultation, examining individual, specific interests
7		analysis: patterns, correlations, machine learning
8		representations: visualization, sonification techniques & best practices
9		predictions, building insights
10		discussion, class work presentation
11		
12		
13		
14		
15		

Requirements and evaluation

Assignments	Evaluation criteria	Deadline	% in evaluation

Compulsory readings

Recommended readings

Paul Klee (1961): The Thinking Eye, Lund Humphries, 1961
 Joshua Noble: Programming Interactivity, O'Reilly, 2009
 John Maeda: How to Speak Machine, Penguin Publishing Group, 2019
 Thomas Hermann et al: The Sonification Handbook, Logos Verlag Berlin, 2011
 Ben Fry: Visualizing Data, O'Reilly, 2008
 Manuel Lima: Visual Complexity, Princeton Architectural Press, 2011
 Manuel Lima: Book of Trees, Princeton Architectural Press, 2014
 Patrick Hebron: Machine Learning for Designers, O'Reilly, 2016

Learnings

Knowledge	Critical understanding of quantitative data with a systems thinking approach
Skills	Planning interactive systems according to measurable data & feedback mechanisms
Attitude	Independent analysis, with a focus on aesthetic qualities and visual clearance
Responsibility	

Exemption

- Exemption from attending and completing the course cannot be granted
- Exemption may be granted from the acquisition of certain competencies and the fulfilment of tasks
- Some tasks can be substituted with other activities,
- A full exemption can be granted

Curriculum connections

Unit	Parallel courses	Course proportion in unit
	Understanding Data	

Course prerequisites	Is it available as an elective?	Prerequisites in case of elective
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Misc. information