

**Danish School of Media and Journalism**  
**VK - Interactive Design**  
**Course description**  
**Spring 2022**

**4. semester**

**Course:** Visualizing Data

**ECTS:** 10

**Aims:**

The course will focus on visual storytelling using datasets as the primary source. Students will learn about different types of data, how they can be visualized, interacted with and presented in a way that effectively conveys a message in an effective, engaging and trustworthy manner. The use of data visualization and information graphics throughout history will be briefly discussed. An experiential course, the emphasis is placed on hands-on development of contemporary digital, online-based interactive data visualization experiences.

Module's central subject elements are:

- Data Gathering, Data Management, and Data Validation
- Information Visualization
- Visual Design
- Storytelling

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Side 1 / 3

Students will:

- Research a given topic to identify and collect related datasets
- Critically reflect on sources, validity, and quality of the collected datasets
- Use storytelling theory and narrative models to plan and execute engaging visually-driven, interactive, and multimodal stories to present the information within their collected datasets
- Discover specific affordances tied to the nature of the individual datasets
- Argue both orally and in writing for their process and design choices

**Pedagogical and didactic approaches:**

The course is a combination of lectures, group work, teach-back, self-study, solving exercises and assignments. Tasks and exercises are solved individually or in groups. In the process, the emphasis is placed on analysis and reflection and feedback on own and others' products and process.

**Working methods:**

Graphic design, information visualization theory, visual communication theory, idea generation technique, programming, prototyping, wireframing, user interface design, visual storytelling theory, oral argumentation, presentation technique.

**Learning outcomes:**

The students will obtain the following during the course:

Knowledge and understanding:

- Information Visualization in a historical and contemporary perspective
- Storytelling and narrative theory and methods used to convey data-driven messages
- Critical assessment of data sources and validity of datasets
- Ethical and moral considerations concerning both positive and negative aspects of data-driven projects
- Data visualization as a way to reveal complex structures, flows, and relationships in a comprehensible visual form

#### Skills:

- Design, execute and present both static and dynamic data visualizations on analog and digital media
- Use data as a primary source for communicating messages and ideas
- Use data visualization in a reflective, informed and ethically sound way
- Collect and sanitize data from relevant reliable sources
- Use their graphic design and interface design skills to make interactive data visualization
- Argue orally and in writing for their data collection process, use of narrative structure, and design choices of their projects with particular regard of the affordances of the chosen media

#### Competences:

- develop data visualization products based on critical assessment of relevant data sources.
- integrate data visualization as a part of a larger communication product

#### Literature (hand out):

excerpts from:

- Heller, S. & Landers, R. (2014) "Infographics Designers' Sketchbooks" Princeton Architectural Press
- McCandless, D. (2014) "Knowledge Is Beautiful: Impossible Ideas, Invisible Patterns, Hidden Connections—Visualized" Harper Design
- Yau, N. (2011) "Visualize This: The Flowing Data Guide to Design, Visualization, and Statistics" (2011) Wiley
- Kirk, A. (2016) "Visualising Data: A Handbook for Data Driven Design" Sage
- Heydt, M. (2015) "D3.js By Example" Packt Publishing

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#### Literature (available online):

- freecodecamp.org (2019) "Data Visualization with D3.js - Full Tutorial Course" (<https://www.youtube.com/watch?v=8V5o2UHG0E>)

#### Attendance:

Attendance is required for all scheduled teaching hours. Active participation is mandatory in exercises, assignments, group work, and peer feedback sessions.

#### Exam/Grading:

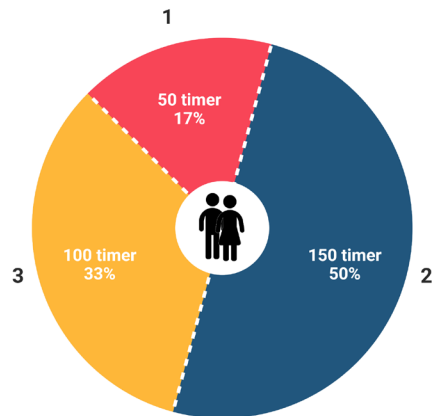
30-minute oral exam (+10 minutes per person in group exams, maximum of four people)  
The project is assessed according to the 7-step scale by an external examiner. To be legible for the exam, the course assignments must be submitted and approved in a timely manner, and the student must have been active and met the requirements for meeting and compulsory attendance.

#### Study Activity Model:

## Studieaktivitetsmodellen

### Visualisering af data

300 timer i alt  
10 ECTS points



#### Kategori 1

Undervisere har hovedansvaret for studieaktiviteterne, og studerende har et medansvar gennem forberedelse og deltagelse. Både studerende og underviser deltager.

Undervisning  
Præsentation af  
øvelser/opgaver  
Vejledning  
Eksamen

#### Kategori 2

Undervisere har hovedansvaret for rammesætning af læringsaktiviteterne, og studerende har hovedansvar for aktiv deltagelse i de tilrettelagte studieaktiviteter. Kun studerende deltager.

Arbejde med opgave enkeltvis og i grupper

#### Kategori 3

Studerende har hovedansvaret for studieaktiviteterne, og undervisere har medansvar for at rammerne er til stede. Kun studerende deltager.

Læsning af teori og anden vidensopsamling

#### Kategori 4

Studerende har hovedansvaret for læringsaktiviteterne, og undervisere har medansvar for at rammerne er til stede. Både studerende og underviser deltager.

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