

CS-E5250 Data-Driven Concept Design

5 ECTS

9.1.2023 – 21.2.2023

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Agenda

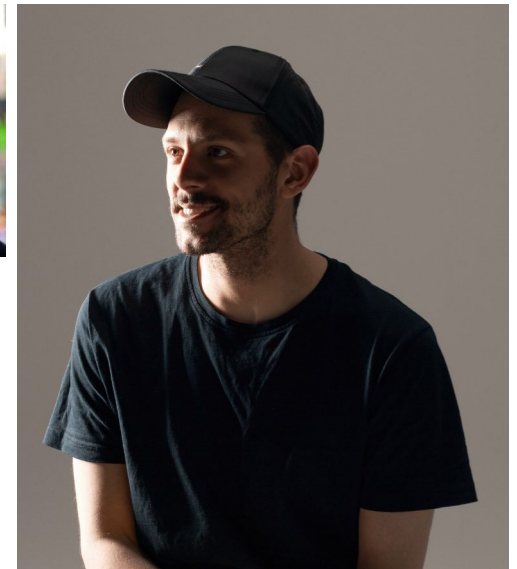
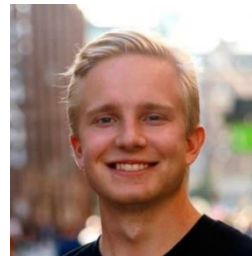
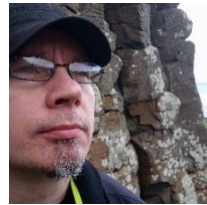
- Announcements
- Contents
- Learning Outcomes
- Design Philosophy
- Structure and DLs
- Grading

Announcements

- DDCD Labs location has changed to **U351**

- DDCD Staff 2023

- Mika P. Nieminen
- Markus Kirjonen
- Mathias Hörlesberger
- Frans Welin



Contents

*Basics of qualitative and quantitative analysis
of user research data,
creative problem-solving,
concept development and visualisation, and
stakeholder communications.*

Learning outcomes

After this course:

- You know how to prepare and analyse common user research data to produce relevant user knowledge for data-driven design.
- You are, as part of a team, able to apply creative problem-solving methods in a rigorous manner to find innovative solutions based on demonstrable potential and limitations.
- You know how to create product and service concepts and develop select parts into visualised prototypes of various fidelity.
- In addition, you know how to present the designs and argue your design decisions in a clear and concise manner to various stakeholders.

Data-Drive Concept Design Design Philosophy

Previous courses:

- User-centred Concept design 4sw
- Strategic User-Centred Design 8ects
- Design Project 10ects

- Remove yet another project
- Hope to resolve challenges with
 - Scheduling large group efforts
 - Cap workloads
 - One-for-All grading

Data-Drive Concept Design Design Philosophy

DDCD Design principles:

- Support more **just grading** with both individual and group assignments
- Change emphasis from quality of project's end result (value to customer) to quality of different phases' **methods and tools** (value to students)
- Promote **safe exploration** of the introduced methods and tools
- Heavier weight on **facts and data as a proof** and justification for design decisions

Structure

- Periods III (9.1.2023 – 26.2.2023, 7 weeks)
- 5 ECTS = on average 133h of work for an average student to reach grade 3 (good)
- Mondays: Topical Lectures + Assignment briefs
- Tuesdays: Workshop or Lab sessions + Q&A
- 6 Assignments
- Workload:
 - Lectures and Workshops & Labs 24h
 - Preparing and reading study materials 11h
 - Individual assignments 62h
 - Group assignments 36h

Schedule

Start Date	Topic	DL (final part)	Weight/Points Individual+group
Mon 9.1.2023	Qualitative Data Analysis (ATLAS.ti)	Mon 16.1.2023	4 + 6
Mon 16.1.2023	Quantitative Data Analysis (SPSS)	Mon 23.1.2023	10 + 0
Mon 23.1.2023	Creative Problem Solving	Mon 30.1.2023	4 + 6
Mon 30.1.2023	Service Specification and Wireframing	Mon 6.2.2023	0 + 10 (6+4)
Mon 6.2.2023	Hi-Fi Prototyping	Mon 13.2.2023	10 + 0
Mon 13.2.2023	Communicating Design Decisions	Wed 21.2.2023 (evaluation week)	10 + 0

Student must receive at least 40% of each Assignment's maximum points to pass

Grading

Points (max 60)	Grade
55 – 60	5
50 – 54.99	4
45 – 49.99	3
40 – 44.99	2
30 – 39.99	1
0 – 29.99	0

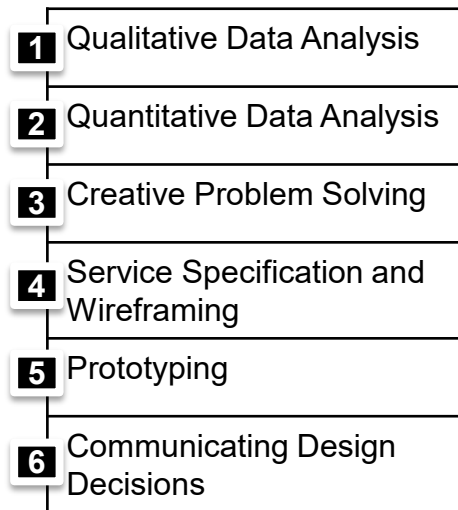
If an Assignment is handed in late, no more than 1 week, it will only earn half of the points (max 5p).

Student must receive at least 40% of each Assignment's maximum points to pass the course.

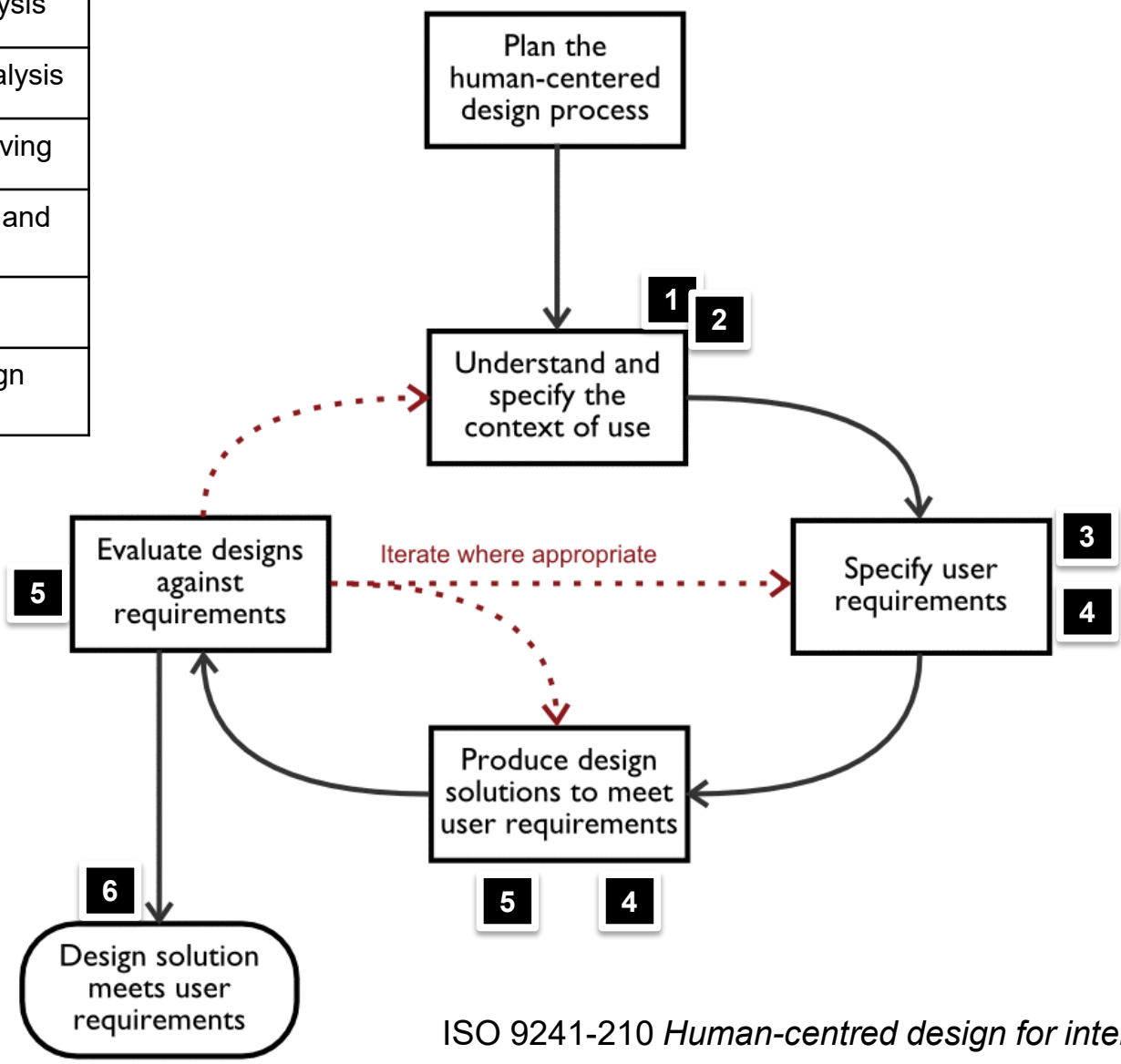
Detailed grading criteria included with each Assignment

Concept Design Process

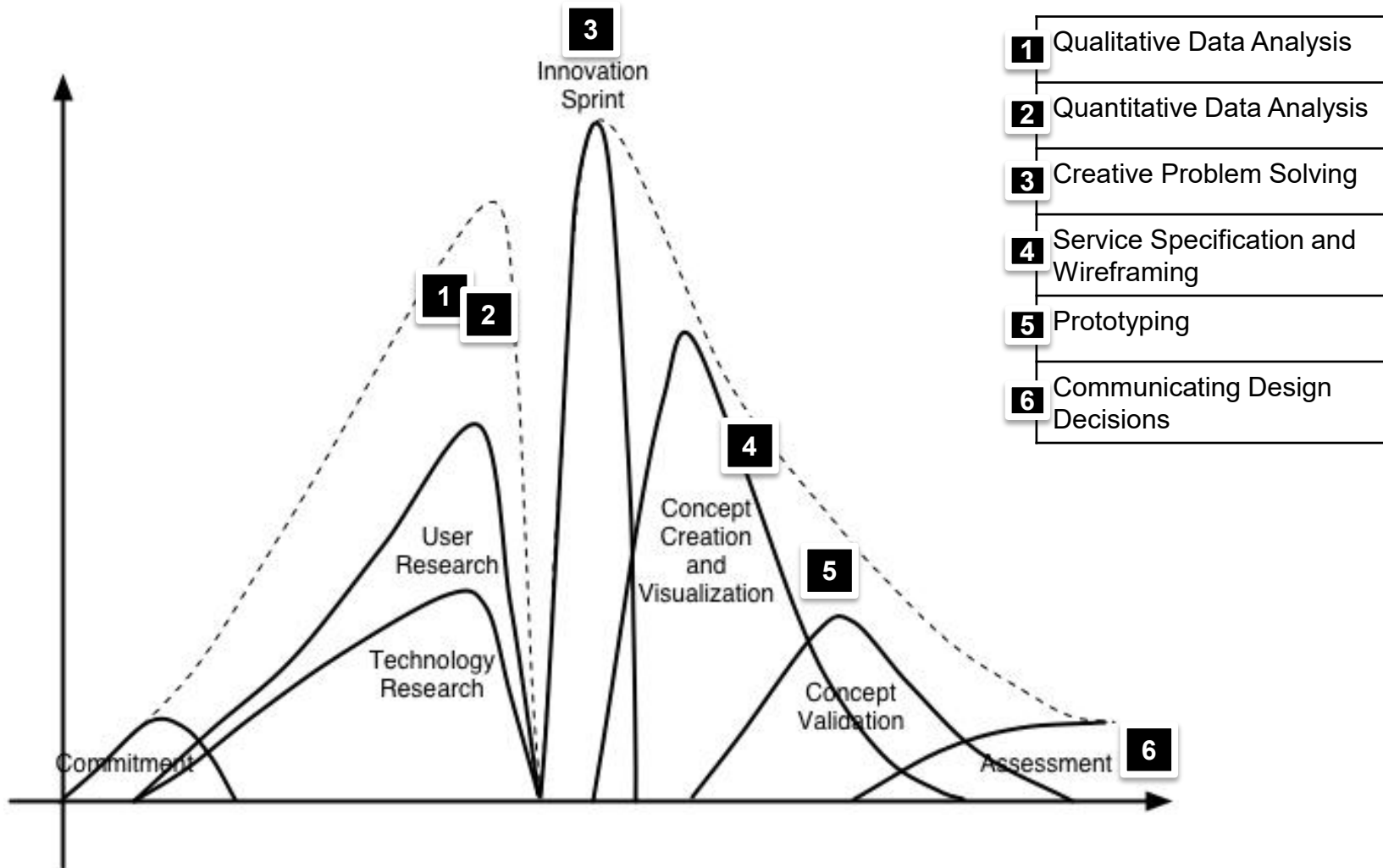
- Thousands of variations
- Mostly only one beef
- Remember what we are doing in this course!



- 1** Qualitative Data Analysis
- 2** Quantitative Data Analysis
- 3** Creative Problem Solving
- 4** Service Specification and Wireframing
- 5** Prototyping
- 6** Communicating Design Decisions

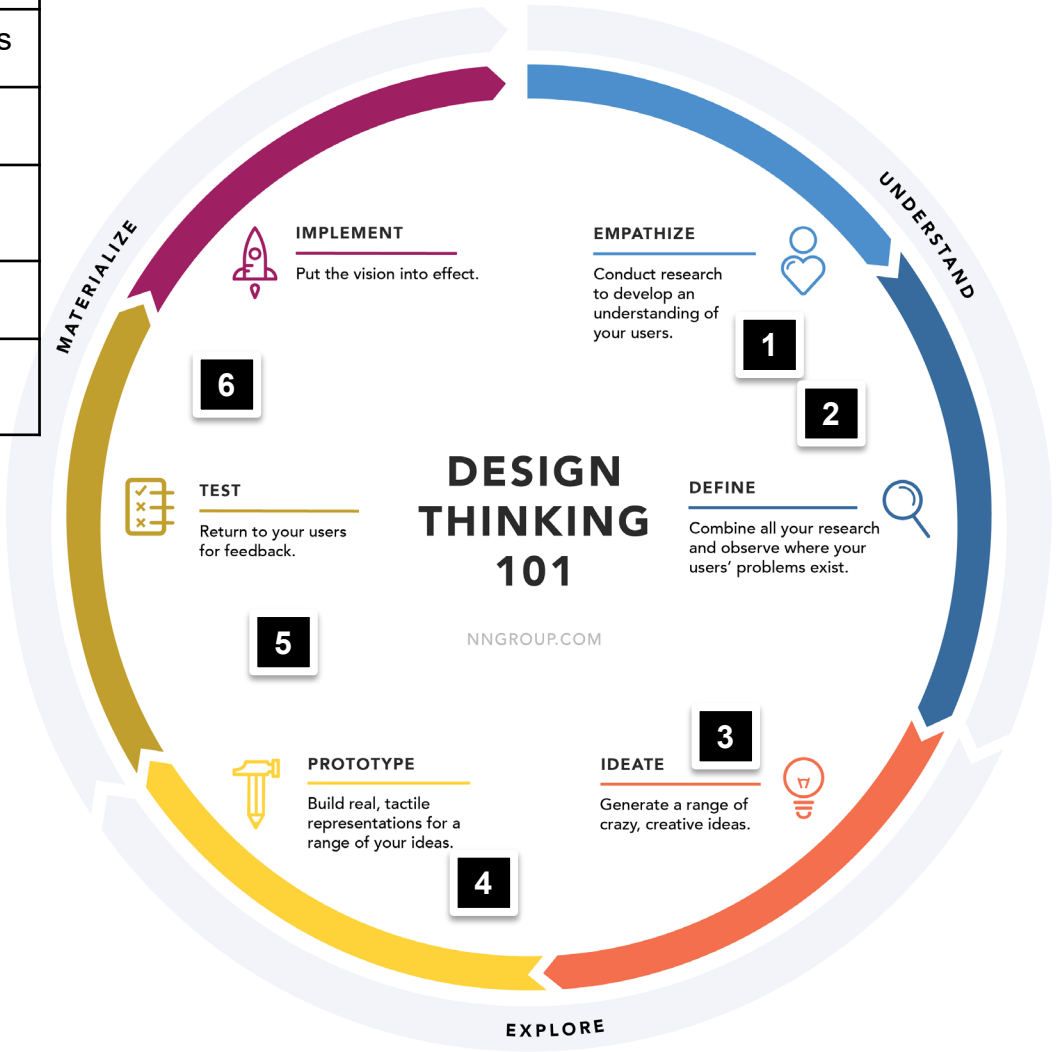


ISO 9241-210 *Human-centred design for interactive systems*



Nieminen, M.P. and Mannonen, P. User-Centered Product Concept Development. In International Encyclopedia of Ergonomics and Human Factors (2nd edition). CRC Press, Boca Raton, FL, USA. 2006. 1728-1732.

- 1 Qualitative Data Analysis
- 2 Quantitative Data Analysis
- 3 Creative Problem Solving
- 4 Service Specification and Wireframing
- 5 Prototyping
- 6 Communicating Design Decisions



Sarah Gibbons, Design Thinking 101, Nielsen Norman Group

Role of Data in Design

- Too often "Good Design" is a matter of opinion
- This course emphasizes the need for
 - Good application of **validated Methods**
 - Extensive use of **Data** produced by validated Methods
 - Justification of **Design Decisions** based on Data
 - **Clear communication** of Design Decisions

