

Study programme overview

Computational Social Science

Bachelor of Science

Foundations - 30 ECTS

Appreciating the complexity of social challenges

Semester 01

Course Structure

- ↓ **Design thinking bootcamp**
- ↓ **Project I Climate Change**
- ↓ **Project II Surveillance**
Learning to empathise with stakeholders
- **Time for reflection**

Deliverables

- Project I Climate Change**
Report on stakeholders' perceptions
- Project II Surveillance**
Deliberative poll generator
- Individual assignments**

Key Learnings

- 🔍 Wicked problems
- 🔄 Computational thinking and programming
- 🔍 Interviews and surveys
- 🛠️ Design thinking
- 🔄 Application and Integration

Building blocks - 30 ECTS

Experimenting with digital interventions of behavioural change

Semester 02

Course Structure

- ↓ **Inspiration gallery**
- ↓ **Project Climate Change and Surveillance**
Going through the iterative process of design thinking
- **Time for reflection**

Deliverables

- Prototype of a digital behavioural change intervention
- Individual assignments**

Key Learnings

- 🔍 Behavioural change
- 🔄 Programming and user experience design
- 🔍 Focus groups and experiments
- 🛠️ Prototype testing
- 🔄 Application and Integration

Connections - 30 ECTS

Linking data for better interventions in health or mobility systems

Semester 03

Course Structure

- ↓ **Project Health or mobility system**
Going through the iterative process of design thinking
- **Time for reflection**

Deliverables

- Documented proposal for a digital intervention at the system level
- Individual assignments**

Key Learnings

- 🔍 Social practices
- 🔄 Database management and machine learning
- 🔍 Content and discourse analysis
- 🛠️ System thinking and ethical implications
- 🔄 Application and Integration

Structures - 30 ECTS

Applying responsible AI to reduce inequality

Semester 04

Course Structure

- ↓ **Failure gallery**
- ↓ **Project Artificial intelligence**
Walking through the steps of the data science life cycle
- **Time for reflection**

Deliverables

- Report and demo of an unbiased AI system
- Individual assignments**

Key Learnings

- 🔍 Structural inequality
- 🔄 Responsible data science
- 🔍 Predictive analysis
- 🛠️ Scenario analysis
- 🔄 Application and Integration

Minor / Electives - 30 ECTS

Broadening or deepening expertise

Semester 05

Free choice of ...

- Minor programme
- Elective courses
- Student exchange programme
- Internship

Capstone - 30 ECTS

Making social change with digital innovations

Semester 06

Course Structure

- ↓ **Project initiation**
- ↓ **Project execution**
- **Time for reflection**

Deliverables

- Project proposal and presentation
- Digital innovation, report and presentation
- Individual log book, reflection essay and interview**
- Individual oral exam**

Key Learnings

- 🔍 Analyse societal challenges
- 🔍 Identify opportunities for change
- 🔄 Design intervention strategy
- 🔄 Create and test digital interventions
- 🛠️ Shape favourable conditions
- 🛠️ Cooperate effectively, work constructively and reflect critically

Year 01

Year 02

Year 03