A new course to learn hands-on about the interdisciplinary challenges of digitalization

Digitalization is transforming various areas of mobility ranging from individual mobility, via urban mobility to systems mobility. Examples include aid for impaired and elderly people, service platforms for seamless public transport, drones, and autonomous cars.

This transformation depends on developments in various disciplines such as (1) data science, e.g., big data analytics, (2) law, e.g., regulations for drones or air taxis, (3) geography, e.g., mobility analytics, (4) medical & health sciences, e.g., mobile health, (5) informatics, e.g., IoT, and (6) business administration, e.g., new business models. This course provides an introduction to the digitalization of mobility from the perspectives of these disciplines.

For this course we are working together with 6 challenge partners, which are all companies involved in the future of mobility. During the 48h Innovathon students teams will develop innovative ideas based on the challenges proposed.

We look forward to welcome highly motivated Master and Doctoral students curious to learn more about the Digitalization of Mobility.
**COURSE STRUCTURE**

**Assignment I, Sept 9th**
Describe how your field of study relate to the digitalization of mobility.

**Lecture Block, Sept 14th - 15th**
Introduction to the digitalization of mobility by lecturers from across UZH faculties.

**Assignment II, Sept 28th**
Describe a multidisciplinary viewpoint on the digitalization of mobility!

**Innovathon, Sept 30th - Oct 2nd**
- Discover
- Ideate
- Prototype
- Test
- Final Pitch

**Reflection work, Oct 10th**
Hand in the material from the Innovathon as well as your reflection work.

**Support for innovative ideas**
The best ideas will receive support to be further developed with the challenge partners.
## PROGRAM

### Lecture Block

**Tuesday, Sept 14th**
- **09:00 - 12:15**: Earth Observation & Mobility
  - Analytics of Mobility Behavior
  - Localization & Prediction of Individuals’ Mobility Patterns
  - SOC-1-106
- **13:15 - 16:45**: Blockchain Technology & Mobility
  - Digital Sharing Economy
  - Business Models & Ecosystems for Digital Mobility Products
- **17:00 - 17:45**: Challenge partner presentations
- **18:00 - 20:00**: Apéro
  - SOC-E-010

**Wednesday Sept 15th**
- **09:00 - 12:00**: Regulatory Framework for Mobility Digitalization
  - The Ethical Implications of Urban Mobility Technologies
  - Opportunities and Risks of Digital Mobility and Accessibility Services for Climate Protection
  - KOL-H-312
- **13:00 - 16:45**: Wearable Movement Sensors for Clinical Research, Rehabilitation, and Motivation
  - Data-driven Clinical Research for Individual Mobility Innovation Methods, Interdisciplinary Teamwork
- **17:00 - 17:45**: Challenge partner presentations

### Innovathon

**Thursday, Sept 30th**
- **16:30 - 17:00**: Doors open and welcome apéro
  - Blue Lion
- **17:00 - 18:30**: Welcome speech, Keynote speakers, Challenge presentation by industry partners
- **18:30 - open end**: Start teamwork on challenges

**Friday, Oct 1st**
- **8.00 - 24:00**: Teamwork on challenges
  - Blue Lion

**Saturday, Oct 2nd**
- **8.00 - 16.30**: Teamwork on challenges
  - Final presentations
  - UZH SOC-1-106, KO2, F-174/175
  - KO2, F-180
RECEIVING CREDITS, PURUSING IDEAS

ECTS Credits

Eligibility
Master and doctoral students of all faculties can enrol for the Innovathon. In principle, it is possible for all Master students to receive 3 ECTS credits upon successful participation in this course. The requirement for this is the consent of the respective faculty. Please check the course catalogue to find out which faculties who have cross-listed this course. In case the module is not cross-listed in the respective study program, students may also contact their study administration office to clarify if they will receive ECTS for this course.

Requirements
To enrol for this course and be eligible for ECTS credits, students need to register on the course website before August 20th. In a second registration step, the students are asked to confirm their registration. Confirmed participants interested in receiving ECTS for their participation in the course need to book the module through the official UZH module booking system.

The successful completion of the course requires:
- Presence and active participation during the block course and Innovathon
- Developing and presenting a solution to a challenge to a jury
- Submitting material developed during Innovathon event
- Handing in 2 individual student assignments and a reflection work

Grading: pass/fail

Evaluation of ideas developed during the Innovathon

On the final day of the Innovathon, a jury consisting of market experts and digitalization researchers will select the best solutions for the challenges. The ideas will be judged based on the following criteria.
- Creativity
  How creative or innovative is the idea behind the presented solution?
- Interdisciplinarity
  Did the team use the interdisciplinarity of the team to approach the problem?
- Impact
  Can the proposed solution solve the problem described in the challenge?
- Feasibility
  Can this solution fly? Will someone pay for it? Is the effort versus impact ratio reasonable?
- Presentation
  Was the team able to explain their idea and how it solves the problem?

Pursuing promising ideas after the Innovathon

Winner teams will be invited to pursue their ideas with the challenge partner. Project funds of up to 1’500 CHF will be available for teams that decide to continue to develop their idea.
CODE OF CONDUCT

For successful collaboration during the Innovathon and beyond

Participants signing up for the Innovathon agree to this simple code of conduct.

The registration to the Innovathon is binding

The Innovathon is a special course format that requires commitment from the industry partners, the lecturers and the students. Your registration is binding since we plan accordingly.

Participation in the full course only

It is only possible to participate in the full course, including both the lecture block and the Innovathon. As participant of this course, your presence and active participation in all sessions is expected.

Diverse teams for innovative approaches

Diversity is the motor of innovation. That is why we will put together interdisciplinary teams with students from diverse backgrounds. As a participant it is important that you see this as an opportunity to develop completely new ideas more than a challenge to get your message across to the other team members.

Pursuing ideas with the challenge partners

The Course organizers and the challenge partners will support you to make the most of the 48h Innovathon, to come up with ideas you never thought you would in such a short time. Great ideas will be supported to be further developed after the Innovathon. We encourage students to develop their ideas with the challenge partners. If intellectual property is developed during the Innovathon, both the student teams and the challenge partners can use this after the course.
LECTURERS

CLAUDIA RÖÖSLI
Faculty of Mathematics and Natural Sciences
Claudia Röösl is an engineer in Geomatics by training. She is specialized in the observation of Earth processes and her current research topic is biodiversity. Claudia is also part of the operational team of the UZH Space Hub, one of the strategic innovation clusters of UZH.

ERYK SCHILLER
Faculty of Business, economics and informatics
Eryk Schiller wrote his doctoral thesis on geographical routing. Currently he is a post-doc at the Communications Systems Group at the Informatics Department. His research interests involve Mobile Networks, Internet of Things, Network Security, Future Internet, P2P Systems, and Blockchain Technologies.

LÁSZLÓ DEMKÓ
Faculty of Medicine
László Demkó has a PhD in physics. For his doctoral work he developed his own tools for solid state physics experiments. He currently works at the Research Lab of the Spinal Cord Injury Center at the Balgrist University Hospital. He aims to improve neurorehabilitation using wearable movement sensors.

ROLF H. WEBER
Faculty of Law
Rolf H. Weber is Professor at the University of Zurich and a Counsel at Bratschi Ltd. From 1995 to 2016, he was a Full Professor of Civil, Business and European Law at the University of Zurich. He is a Chairman of the Appeals Board of the SIX Swiss Exchange, Co-Director of Center for Information, Society, and Law, and Co-Director of the Blockchain Center, both at University of Zurich.
VALENTINA RICUPERO
UZH Innovation Hub

Valentina Ricupero is an entrepreneur and a Certified Agile Leader with over 15 years’ experience in implementing digital technologies across different industries. In her daily work, Valentina applies methods from frameworks such as Design Thinking, Agile management and the Lean Startup. She has a Master of Political Science and International Communication.

SEBASTIANO CAPRAR
Balgrist University Hospital

Sebastiano Caprara received his PhD degree at the ETH Zurich with focus on machine learning and predictive models providing solutions for preoperative planning of spinal fusion surgery. During his doctoral studies, he worked for a startup company in close collaboration with the Balgrist University Hospital gaining experience in translational research projects. He is currently leading the Health Data Repository project at the Balgrist University Hospital aiming at the development of a flexible digital clinical trial infrastructure supporting data-driven clinical research.

LIUDMILA ZAVOLOKINA
Faculty of Business, economics and informatics

Liudmila Zavolokina is a recent PhD graduate from the University of Zurich and is currently a post-doc research for the DIZH. She is particularly interested in blockchain technology, FinTech and digital ecosystems. Liudmila loves to share her knowledge as a speaker, business IT consultant and researcher in information systems.

TUMASCH REICHENBACHER
Faculty of Mathematics and Natural Sciences

Tumasch Reichenbacher is Senior Lecturer of the Department of Geography at the University of Zurich. His interests are in the field of analysing and visualising geographic information. By using modern geographic information technologies, eye-tracking methods and virtual environments he is aiming at better understanding spatial cognition, mobility, and mobile map usage.
NING WANG
Faculty of Medicine

Ning Wang currently works at the Institute of Biomedical Ethics and History of Medicine (IBME), University of Zurich. Ning has a research interest in the ethical assessment and responsible governance of new and emerging technologies applied in the broader context of public health, such as artificial intelligence, robotics, and autonomous systems.

JAN BIESER
Faculty of Business, economics and informatics

Jan Bieser is a postdoctoral researcher at the Department of Informatics of University of Zurich and at KTH Stockholm, and a Fellow of the Global Future Council on Cities of Tomorrow at the World Economic Forum. In his research he focuses on environmental effects of digitalization with a special focus on on opportunities and risks of digital mobility and accessibility services for climate protection.

ANJA SCHULZE
Faculty of Business, economics and informatics

Anja Schulze is Professor at the University of Zurich. She works in the field of Technology and Innovation Management and she is heading the Swiss Center for Automotive Research (swiss CAR) which conducts and publishes industry studies on the Automotive (suppliers) industry in Switzerland.
CHALLENGE PARTNERS

Six industry partners will participate in the Innovathon, presenting challenges to the student teams.

1. The effect of new ways of working on people’s mobility
   - Accenture

2. Sales process for car owners in the digital age
   - Amag

3. Clothing 3.0 e.g., with physiological sensors to keep elderly people mobile
   - CSEM

4. Means of transport battle and how digitalization can help to optimize transportation
   - Siemens

5. Innovation for the age of autonomous driving
   - Mobility

6. Digital solutions to improve customer experience in public transport
   - SBB CFF FFS
The Innovathon 2021: The Digitalization of Mobility is jointly organized by the Digital Society Initiative and the UZH Innovation Hub.

**UZH Innovation Hub**

The UZH Innovation Hub fosters innovation and entrepreneurship at the University of Zurich. It supports students and researchers at UZH to transfer their innovative ideas and research results into solutions for the society and economy. It bundles innovation and entrepreneurship offers at UZH. Within the strategic innovation clusters, innovation communities for innovators and entrepreneurs are strengthened. The Cluster for digital innovation supports such a community and aims to put UZH on the map for its commitment to digital innovation.

www.innovation.uzh.ch
www.digitalinnovation.uzh.ch

**Digital Society Initiative**

The Digital Society initiative (DSI) aims to promote independent scientific reflection and innovation on issues relating to the digital society, to prepare UZH students to help shape the digital society, to engage in a continuous discourse with the public and to support political decision-making. The DSI community mobility promotes interdisciplinary research for a digital mobility on the level of the society, the individual and systems.

www.dsi.uzh.ch
https://dsi.uzh.ch/static/mobility/

**Internal partners**

These internal organizations support the Innovathon 2021.

**elsa**
The European Law Students’ Association
ZURICH

**SPACE CAFÉ**
VENUES

The Innovathon 2021: The Digitalization of Mobility will take place at UZH and Blue Lion.

University of Zurich, SOC

SOC-1-106
Rämistrasse 69
8001 Zurich

University of Zurich, KOL

KOL-H-312
Rämistrasse 71
8006 Zürich

University of Zurich, KO2

KO2-F-173-174
Final Pitch: KO2-F-180
Rämistrasse 69
8001 Zurich
Blue Lion

Bluelion Incubator working space
Josefstrasse 219
8005 Zurich