Supplementary Course (EVA) at ZHAW School of Engineering

Title: Innovathon: The Digitalization of Mobility
Short Code: mEVA_DoM

ECTS Credits	3
Profile	Data Science (DS)
Responsible Institute /Centre	Institut für Nachhaltige Entwicklung (INE)
Responsible lecturer and contact informtion	Prof. Dr. Anja Schulze, anja.schulze@uzh.ch, 044 634 0533
Type and duration of examinations	1. Active participation in team work and classes (maximum half-day absence in total is acceptable upon request) 2. Individual written assignment before the start of the first lecture (500-600 words) Composition of grading: 80% individual project work, 20% individual written assignment
Start date and duration	Semester: Autumn Detail: KW37 (week before the semester starts) ca. 1/3 of sessions KW38 – KW 41 (first four weeks of semester): ca. 1/3: evening sessions Friday and Saturday Innovathon weekend
Location	The core (the Innovathon weekend) will be held at an external location (e.g., BlueLion, Ginetta, Google - links below), potentially other dates such as pitch and wrap up too. The remaining dates of the course will be held at Rämistrasse 69, 8001 Zürich.
Course type	Seminar • Contact hours: 53 (hrs) • Guided self-study: 17 (hrs) • Independent self-study: 20 (hrs)
Language of instruction	English
Short description (max. 300 characters)	The course provides an interdisciplinary introduction to the Digitalization of Mobility by lecturers from various fields. Students work in interdisciplinary teams in a "design-sprint" format to develop innovative concepts which address real-world problems. The problems are posed by partner companies.
Contents and Learning Objectives	Contents: Digitalization is changing individual mobility (personalized technology for aging populations), urban mobility (e.g., mobility-as-a-service platforms for seamless public transport), and systems mobility (e.g., drones, autonomous cars). This transformation depends on many disciplines, such as data science (e.g., big data analytics), law (e.g., regulations for drones), geography (e.g., mobility analytics), medical & health sciences (e.g., mobile health),

	informatics (e.g., IoT), and business administration (e.g., new business models).
	In 2 days of teaching sessions, recent developments, challenges, and opportunities in relevant fields (e.g., legal, social, ethical, economic) are introduced. Additionally, content on innovation methods and interdisciplinary teamwork is covered.
	Subsequently, students address challenges related to the digitalization of mobility posed by practice partners (e.g., firms or public institutions). Innovative solutions (e.g., product or service concepts) are developed in a "design sprint"-format that stretches over several events including an Innovathon-weekend. Solutions are pitched to a jury; the best teams win prizes.
	Teaching methods/style:
	- presentations supplemented by interactive elements - guided reflection on study contents - group work - peer-to-peer learning - activation of knowledge and gamified learning
	Learning Objectives:
	Digitalization of Mobility - develop knowledge of the topic from a variety of different disciplinary perspectives - understand mobility needs and patterns as well as the challenges of mobility systems
	Innovation - apply methods and develop skills to develop innovative solutions to a real problem within a team
	Trans-/Interdisciplinary work - understand the inherently interdisciplinary nature of the digitalization of mobility - gain new perspectives - develop critical-thinking competence - understand that mindsets, the nature of objectives, terminology and communication differ in different disciplines - improve skills for effective communication and presentation to a diverse audience - understand challenges and approaches of interdisciplinary teamwork - experience co-creation in interdisciplinary teams
Prerequisites	Genuine interest in the course theme and in innovation
Literature	-

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Special requirements	The number of participants for this course is limited. The course requires an application in the form of a short motivational statement written from a personal point of view.			
Offer for profiles	Aviation (Avi)	☒	Business Engineering (BE)	☒
	Computer Science (CS)	☒	Data Science (DS)	☒
	Electrical Engineering (ElE)	☒	Energy & Environment (EnEn)	☒
	Mechanical Engineering (ME)	☒	Mechatronics & Automation (MA	☒
	Medical Engineering (Med)	☒	Photonics and Laser Engineering (Pho)	☒
	Information and Cyber Security (ICS)	☒	Civil Engineering (CE)	☒