

## Supplementary Course (EVA) at ZHAW School of Engineering

Title: Innovathon: The Digitalization of Mobility  
Short Code: rEVA\_DoM

ECTS Credits	3
Profile	Data Science (DS)
Responsible Institute /Centre	Institut für Nachhaltige Entwicklung (INE)
Responsible lecturer and contact information	Prof. Dr. Anja Schulze, <a href="mailto:anja.schulze@uzh.ch">anja.schulze@uzh.ch</a> , 044 634 0533
Type and duration of examinations	<p>1. Active participation in team work and classes (maximum half-day absence in total is acceptable upon request)</p> <p>2. Individual written assignment before the start of the first lecture (500-600 words)</p> <p>Composition of grading: 80% individual project work, 20% individual written assignment</p>
Start date and duration	<p>Semester: Autumn</p> <p>Detail:</p> <p>KW37 (week before the semester starts) ca. 1/3 of sessions</p> <p>KW38 – KW 41 (first four weeks of semester):</p> <p>ca. 1/3: evening sessions Friday and Saturday Innovathon weekend</p>
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	<p>Seminar</p> <ul style="list-style-type: none"> <li>• Contact hours: 53 (hrs)</li> <li>• Guided self-study: 17 (hrs)</li> <li>• Independent self-study: 20 (hrs)</li> </ul>
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	<p>Contents:</p> <p>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 &amp; health sciences (e.g., mobile health),</p>

## Supplementary Course (EVA) at ZHAW School of Engineering

	<p>informatics (e.g., IoT), and business administration (e.g., new business models).</p> <p>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.</p> <p>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.</p> <p>Teaching methods/style:</p> <ul style="list-style-type: none"> <li>- presentations supplemented by interactive elements</li> <li>- guided reflection on study contents</li> <li>- group work</li> <li>- peer-to-peer learning</li> <li>- activation of knowledge and gamified learning</li> </ul> <p>Learning Objectives:</p> <p>Digitalization of Mobility</p> <ul style="list-style-type: none"> <li>- develop knowledge of the topic from a variety of different disciplinary perspectives</li> <li>- understand mobility needs and patterns as well as the challenges of mobility systems</li> </ul> <p>Innovation</p> <ul style="list-style-type: none"> <li>- apply methods and develop skills to develop innovative solutions to a real problem within a team</li> </ul> <p>Trans-/Interdisciplinary work</p> <ul style="list-style-type: none"> <li>- understand the inherently interdisciplinary nature of the digitalization of mobility</li> <li>- gain new perspectives</li> <li>- develop critical-thinking competence</li> <li>- understand that mindsets, the nature of objectives, terminology and communication differ in different disciplines</li> <li>- improve skills for effective communication and presentation to a diverse audience</li> <li>- understand challenges and approaches of interdisciplinary teamwork</li> <li>- experience co-creation in interdisciplinary teams</li> </ul>
Prerequisites	Genuine interest in the course theme and in innovation
Literature	-

## Supplementary Course (EVA) at ZHAW School of Engineering

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)	<input checked="" type="checkbox"/>	Business Engineering (BE)	<input checked="" type="checkbox"/>
	Computer Science (CS)	<input checked="" type="checkbox"/>	Data Science (DS)	<input checked="" type="checkbox"/>
	Electrical Engineering (EIE)	<input checked="" type="checkbox"/>	Energy & Environment (EnEn)	<input checked="" type="checkbox"/>
	Mechanical Engineering (ME)	<input checked="" type="checkbox"/>	Mechatronics & Automation (MA)	<input checked="" type="checkbox"/>
	Medical Engineering (Med)	<input checked="" type="checkbox"/>	Photonics and Laser Engineering (Pho)	<input checked="" type="checkbox"/>
	Information and Cyber Security (ICS)	<input checked="" type="checkbox"/>	Civil Engineering (CE)	<input checked="" type="checkbox"/>