eit Urban Mobility

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Certifcate Course: Digitalizing Mobility: Practices, Trends, Solutions

Basic Info

- ✓ Course dates: May 07 – 31, 2024
- ✓ Course duration: 3+1 week (40 hours blended lessons, 35 hours self-study work)
- ✓ Language: English or German (according to the participants preference)
- ✓ Location: TU Berlin - Euref Campus, Berlin
- ✓ Certification: TU Berlin Certificate of Professional Education (3 ECTS)
- ✓ Format: Blended learning
- ✓ Lecturers: Gabriele Grea, Dr. Robin Kellermann, Dr. Massimo Moraglio, other Experts/Speakers
- ✓ Price: 2000 € incl VAT; 1071 € incl VAT for NGO, TU Berlin alumni, public authorities etc. * Recognized as Bildungszeit

Why this course

The Certifcate Course Digitalizing Mobility is designed for those seeking innovative solutions to the challenges of digitalization in the transportation sector.

The course places a strong emphasis on presenting the main trends of digitalisation, the similarities of its application in the different fields of transport, and the latest developments, as digital twins and AI. Through close exchange with the lecturers and expert guest speakers, participants will gain specialist´s knowledge, whilst also working intensively on their own, practical project all along the course.

In short, this course is the key to advancing your professional development and shaping an innovative future in the transportation sector. Be ready to gain new insights and to unleash your creative abilities into the digital transformation of mobility!

Learning goals

After successful completion of the course, participants will be able to:

- ✓ Understand trends in transport digitalization
- ✓ Define application fields, potentialities (and bottlenecks) for the digitalization of mobility
- ✓ Gain insights and ideas from real-world cases, gleaned from European managers and policy makers
- ✓ Develop future-oriented thinking about the digitalization of the transport industry, service and governance

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Content

All along the course, each participant is engaged in a personal project, which will be developed in the 4 weeks of duration, being presented at the end of the lessons.

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Methodologically, the course will be developed around an individual case-study for each participant, with a final presentation in the last day. This will empower the participants to develop their own idea, seeking how to manage and organize the digitalisation in mobility though a problem-based learning environment. The course will tackle current themes through the lens of business, tech, policy and a user's perspective.

The course includes a mix of lectures, hands-on exercises, so to provide participants with a holistic learning experience. Participants are encouraged to actively engage in discussions and apply learned concepts to real-world scenarios.

After an overview about the role of ICT in transport (looking at digitalization in the context of 'business as usual' and disruptive innovations), the course will dive into the following key thematic points:

- ✓ Vehicle, infra and railway management with IT-driven predictive maintenance etc.
- ✓ Digital twin and AI in transport systems
- ✓ MaaS Sharing/ flexible transport
- ✓ CCAM and city logistics

Duration

The professional course is a blended 4-week course, three online and one in presence in Berlin, for a total of 75 hours. TU Berlin recognizes 3 ECST for the active participation.

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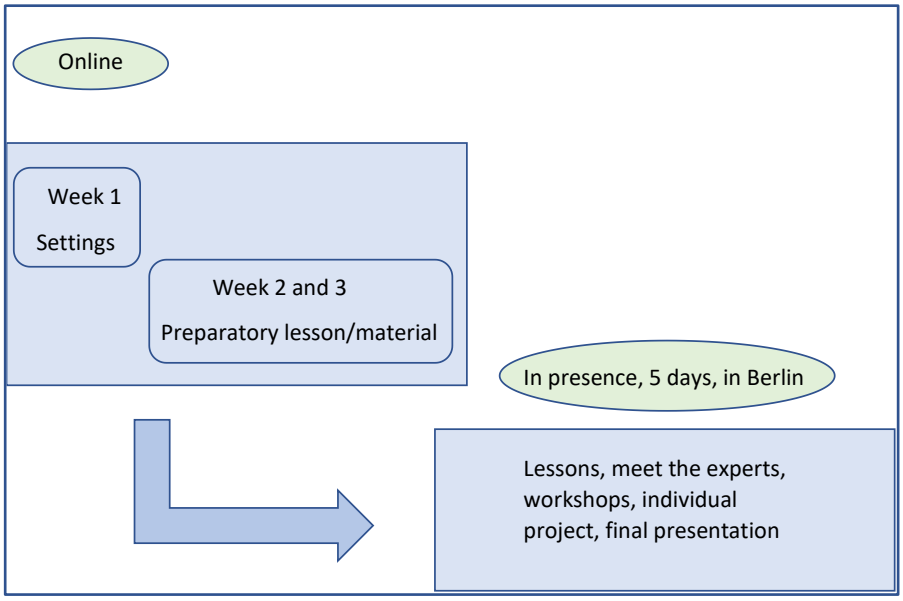

Online three weeks

The first edition course is planned for May 2024. The following three editions will follow in November 2024, May 2025 and November 2025. The course comprises 75 hours in total (3 ECTS).

The course content is divided into two main phases, for a total of 4 weeks.

The first phase runs for 3 weeks, online, with 2-3 hours remote lessons each week.

1. In week 1, on Tuesday May 07, 2024 (16:00-18:00 CET) beyond the kick-off, the students will be introduced to the course goals and expectations. They will learn the requirements for the individual projects, pick up on case (or ask for one to the main lecturers) and begin to develop their concepts.

2. In week 2, the students will begin the preparatory lessons and materials, and on Tuesday May 14, 2024 (16:00-18:00 CET) meet the experts who will support them throughout the course. They will present their concept for the individual project, and receive feedback from the course lecturers and industry experts to refine and fine tune their idea. Once this is done, they will begin to develop it.

3. In week 3, students will continue the online readings and activities, and developing and drafting their individual projects. They will prepare for the in-person unit of the course, meeting the lecturers on Tuesday May 21, 2024 (16:00-18:00 CET).

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<table>
<tr><td colspan="2">Contents/timing</td><td>First week</td><td>Second week</td><td>Third week</td></tr>
<tr><td rowspan="7">Online</td><td rowspan="5">With the lecturers</td><td>Course presentation</td><td colspan="2" rowspan="2"></td></tr>
<tr><td>Presenting goals and expectations</td></tr>
<tr><td rowspan="4"></td><td>Presenting individual project</td><td rowspan="2"></td></tr>
<tr><td>Presenting the experts</td></tr>
<tr><td colspan="2">Getting ready for the in-presence week</td></tr>
<tr><td colspan="2">Content inputs</td></tr>
<tr><td rowspan="3">Individually</td><td>Thinking about individual project</td><td colspan="2"></td></tr>
<tr><td></td><td colspan="2">Developing draft of individual project</td></tr>
<tr><td colspan="3">Reading and online activities</td></tr>
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In presence

The second phase consists of 1-week, in-person, at the TU in Berlin. This week will comprise lessons, meeting the experts, workshops, and completing and presenting the individual work.

1. On Day 1 (a Monday), students will meet in Berlin at lunchtime, will have a tour de table, review the course agenda, outlines and objectives. The day will include also a studio-like work on the individual project and a seminal input about “Thinking with the users”.

2. The inputs on Day 2 include “ITC in transport: success stories (and not)”, “Digitalisation and PT, new market, new players” and a “Meet the experts” session, which will be about “Sharing/flexible transport”. After lunch, we will have a Micro excursion to ZeeMo Base (Vehicle2Grid center at the Euref Campus), a slot devoted to studio-like work on the individual project and a lesson on “Digitalization and competition: A blue or a red ocean?” Time will be allotted for work on the individual project.

3. Day 3 starts with a meet the expert session (“IT in the Railway industry”), followed by a lesson on “Data protection and public governance” and the Round Table on “The impact of AI in transport”. After lunch with the speakers, the students will have another Meet the experts, this time on “Autonomous vehicle”, then Studio, then a lesson on “Digitalization: How to have viable output”.

4. Day 4 comprises two sessions Meet the experts (CCAM and MaaS) as well as inputs on Smart city/smart Citizens. After lunch another input will be about PT, then studio and presentation of "IT in mobility trends and scenarios".

5. Finally, on Day 5, students will have the last lesson about "For all, but not for everyone? ITC, social and demographic", followed by their final presentation of the individual projects, as developed in the four weeks.

The diagrams below provide a more detailed breakdown of the content and activities in both units.

	Day 1 Monday	Day 2 Tuesday	Day 3 Wednesday	Day 4 Thursday	Day 5 Friday
09:30		ITC in transport: success stories (and not)	Meet the experts: IT in the Railway industry	Meet the experts: CCAM	For all, but not for everyone? ITC, social and demographic
10:30		Digitalisation and PT, new market, new players	Data protection and public governance	Smart city / smart citizens	Individual project presentation, assessments, self-assessment
11:30		Meet the experts: Sharing/flexible transport	Round table: the impact of AI in mobility	Meet the experts MaaS	
13:00		Lunch	Lunch	Lunch	
14:00	Review the agenda, outlines and objectives	Micro excursion to ZeeMo Base (Vehicle2Grid center)	Meet the experts: Autonomous vehicle	Meet the experts: Public Transport	
15:00	Working cases Participants presenting where they stand	Working cases Updating the case, presenting, discussing	Working cases Updating the case, presenting, discussing	Working cases Updating the case, presenting, discussing	
16:00	Thinking with the users	Digitalization and competition: A blue or a red ocean?	How to have viable output	IT in mobility trends and scenarios	

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Each day of the week has an overarching theme, so the participants have the chance to elaborate the input and their own project along a pattern. This will let them to iterate on their individual project, following the previous days' feedback.

The participants will arrive in Berlin with their individual project already drafted and validated in the online session. Once arrived for the face-to-face lessons, these are the overarching theme:

Day 1. Find the challenge, that is, better define the problems and the bottlenecks of the digitalization project.

Day 2. Seek stakeholders and solutions.

Day 3. Manage the new service, that is, define and assess the managerial, business and planning issues linked to the project.

Day 4. Fine tune the project, due to its presentation on day 5.

Contents timing	Day 1 Monday	Day 2 Tuesday	Day 3 Wednesday	Day 4 Thursday	Day 5 Friday
Overarching theme	Find the challenge	Stakeholders and solutions	Manage the new service	Fine tune the case-study	Presentation

Methodology

This course includes a mix of lectures, interactive workshops, hands-on exercises, case studies, and individual projects to provide participants with a holistic learning experience. Participants are encouraged to actively engage in discussions and apply learned concepts to real-world scenarios. The course content is subject to updates based on the latest developments in the field of digitalized transport.

It does this through problem-based training and teaching, providing real-world current and future thinking from experts in the field, and hands-on experience in individual projects. This framework aims to cultivate creativity, critical thinking, problem-solving skills and an "outside-the-box" lens when addressing the mobility challenges associated with ICT in the transport industry.

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We also put great importance on the current experience and examples coming from the industry. The workshops with managers and policy makers working in the transport and mobility field will encourage the exchange of ideas, experiences and best practices and foster potential opportunities for future partnerships and collaborations.

Target group

Mobility stakeholders such as energy, mobility and IT company managers, public transport operators, city entities, policy makers, NGOs.

*All course participants have access to a reduced course fee, as a result of the support of the European Union initiative EIT Urban Mobility.

Participants of non-governmental organizations, non-profit organizations, government authorities, as well as TU Berlin alumni receive a discount price of 1071 € (incl. VAT). Please contact us for a discount code to book the reduced course price.

All other participants pay 2000 € (incl. VAT) for the course (standard course fees at the TU Berlin Academy for a course of this duration are 3390 €).

To book a course, please click in the course „Digitalizing Mobility: Practices, Trends, Solutions“ on "add to cart".

This course is recognized as Bildungszeit according to paragraph § 10 (5) of the Berliner Bildungszeitgesetz (BiZeitG).

Prerequisites

- ✓ English (or German) level of at least B2
- ✓ Laptop/PC + headset with microphone

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Dates

This certificate course comprises a phase of guided self-study, followed by a phase of intensive, in-person sessions in Berlin.

Course schedule:

- ✓ May 07, 2024 (virtual classroom session), 2 hours
- ✓ May 14, 2024 (virtual classroom session), 2 hours
- ✓ May 21, 2024 (virtual classroom session), 2 hours
- ✓ May 08 – 26, 2024 independent learning (reading, case study, videos)
- ✓ May 27 – 31, 2024 on-site in Berlin (expected hours Monday from 14:00 - 18:00 (CET), Tuesday – Thursday from 09:30 – 17:30 (CET) and on Friday from 09:30 – 13:00 (CET))

Cooperation

This course is supported by EIT Urban Mobility, an initiative of the European Institute of Innovation & Technology (EIT), a body of the European Union. The aim is to positively change the way people move around in cities in order to make them more liveable. You can find more information at eiturbanmobility.eu

This support enables participants to access a special, reduced fee for this TU Berlin Academy course.

Joint Data Processing with EIT KIC Urban Mobility S.L
The TU Berlin Academy, TUBS GmbH collaborates with EIT KIC Urban Mobility S.L in organizing the course „Digitalizing Mobility: Practices, Trends, Solutions“. When conducting the learning activities with EIT KIC Urban Mobility S.L, the TU Berlin Academy (TUBS GmbH) acts as a Joint Data Controller together with EIT KIC Urban Mobility S.L. In order to fulfill this purpose we process personal data as described in our privacy policy. Any questions related to ensuring privacy rights in the context of joint continuing education may be addressed to the TU Berlin Academy (see contact details in the privacy policy).

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Lehrende

GABRIELE GREA (Linkedin-Profil)

Gabriele Grea is scientific consultant and Researcher in the field of transport and territorial economics. His activity concerns in particular the themes of smart and sustainable mobility, infrastructures and territorial development. He has carried on projects in the fields of urban mobility, regional, urban and infrastructures planning, energy policies and ICT for transport and mobility.

He has been involved in a range of R&D Projects funded by the European Commission (Horizon 2020, 7th and 6th Framework Programme, Interreg, Marco Polo, DG TREN-DG MOVE Projects) since 2002. He is an Expert Fellow at the Department of Institutional Analysis and Public Management of Bocconi University in Milan, where he is lecturer in Urban Mobility Management and Smart Cities; and sustainable and intelligent mobility in the Master Course MEMIT (Master in Economics and Management of Transportation, Logistics and Infrastructure). In addition, he teaches business modelling for sustainable mobility at Technische Universität Berlin, in the MBA in Sustainable Mobility Management.

DR. ROBIN KELLERMANN (Linkedin-Profil)

Dr. Robin Kellermann has a 10 years' history of research, project coordination, and teaching in the fields of sustainable transport and mobility at TU Berlin. His core competencies lie in social science research, technology assessment as well as political communication and consulting.

He received his doctorate in 2020 at TU Berlin and is author of numerous scientific publications ranging from the digitalization of the public transport sector to the long-term mobility effects of the COVID-19 pandemic. Beyond that, he is co-founder of Luftlabor, a research and project think tank dedicated to the application of drone technologies for the public benefit. In this context, he is consulting various German Ministries as well as the German Government regarding the future use of drone technologies.

Currently, Dr. Robin Kellermann is project coordinator of Stadt-Land-Drohne, which is the first Living Lab in Germany that analyzes the use of delivery drones for improving local supplies in rural areas.

Furthermore, he teaches for the MBA Sustainable Mobility Management at TU Berlin.

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DR. MASSIMO MORAGLIO (Linkedin-Profil)

Dr. Massimo Moraglio is an Academic Coordinator of the MBA Sustainable Mobility Management at the Technische Universität Berlin. His research focuses on technology and its wide effects on economic, social, and cultural fields, exploring its long-term trends. He gives attention to the crucial topics of sustainability, justice, and environmental studies, focusing on transitions, futures, and cultural shifts.

Through his work in academia and consultancy, he built a wide network with industry managers, public agency officers, and NGO advocates. He has acquired and managed many research grants from national and international (both private and public) funding schemes, opening meaningful international dialogue on issues of long-term assessment of technology and its transition toward a smart and sustainable future.

His publications number 120+, encompassing books (as an author, editor, and co-editor) and articles in international journals. He has co-organized and participated in 60+ national and international conferences.

Booking and contact

Register here: https://www.academy-tu.berlin/en/courses/short-courses

Should you have any questions, please contact the TU Berlin Academy Team at: +49 30 4472 0232 or via email: info@academy-tu.berlin. We hope to see you in Berlin - or online - very soon!