Syllabus: ICT & Transportation in Smart Cities
TU Berlin Summer University 2020 Term 4

Week 1 August 17th- 21st

	17	18	19	20	21
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	**Welcome Day!** Orientation and 1st session	MM - Mobility, an introduction	MM - Transport Futures: business, actors and governance	MM – Changing paradigms: an excursus	Modeling and simulations for future mobility
11:00 - 12:30		MM - Smart city, Options and challenges	MM – Actors and systems in mobility	MM - Making it happening: case studies and new models	Modeling and simulations for future mobility
13:30 - 15:30		MM - ICT and transport, match and mismatch	Cultural Program	Principals of On demand, real time ride sharing systems	Modeling and simulations for future mobility
16:00 +					Cultural Program

Week 2 August 24th- 28th

	24	25	26	27	28
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Mode choice analysis with focus on the new smart modes	Verkehrsinformationszentrale (VIZ Berlin) - Traffic Information Center Berlin*	Forecasting model for traffic congestion	Working groups	Case study and excursion: BVG (Berlin public transport)*
11:00 - 12:30	Mode choice analysis with focus on the new smart modes	Euref Campus Mobility2Grid project*	Micro mobility modes in smart cities	Group presentation and Assessments	Case study and excursion: BVG (Berlin public transport)*
13:30 – 15:30	Working group	Traffic flow theory and practices	Cultural Program	Group presentation and assessments	Review and conclusion
16:00 +	Cultural Program				**Certificates Ceremony**

* Excursion destination may change according to the final availability of the visited Company/agency.

Key

Lecture	Field Trip or Practical	Assessment	Cultural Program activity*

*The cultural program timetable will be emailed to you shortly before your course starts. For more information about the cultural program, and for examples of previous schedules, head here: https://www.tu-berlin.de/menue/summer_university/cultural_program/

Assessment information

You will be assessed in the following ways:

- Practical Sessions
- One Practical Homework
- Written Exam

Your assessments will be weighted as follows:

- Participation in Practical Sessions 25%
- Homework Assignment 35%
- Written Exam 40%

Grading information

All participants of the TU Berlin Summer & Winter University are required to select their grading option at the time of registration. The two options available are (i) graded or (ii) pass/fail.

All participants who select option (i) graded, will receive a grade under the German grading system. The following table provides an overview of the grading system and equivalent scores for international credit transfers:

Total mark	German grade	English description
More or equal to 95	1,0	Excellent
More or equal to 90	1,3	Very good
More or equal to 85	1,7	Good
More or equal to 80	2,0	Good
More or equal to 75	2,3	Good
More or equal to 70	2,7	Satisfactory
More or equal to 65	3,0	Satisfactory
More or equal to 60	3,3	Satisfactory
More or equal to 55	3,7	Sufficient
More or equal to 50	4,0	Sufficient
Less than 50	5,0	Failed

Credit Points

ECTS is a point system and European standard developed by the Commission of the European Community. ECTS stands for European Credit Transfer System. The aim is to provide common procedures and guarantee academic recognition of studies abroad. The credit system is based on student workload. All lectures, seminars, excursions and homework count towards the workload. One point is awarded for the equivalent of 25-30 hours of workload.

Reading list

- David Banister, “The sustainable mobility paradigm”, Transport Policy, 15:2 (2008), 73-80.
- F. W. Geels, “The Dynamics of Transitions in Socio-technical Systems: A Multi-level Analysis of the Transition Pathway from Horse-drawn Carriages to Automobiles (1860–1930), *Technology Analysis & Strategic Management* 17/4 (2005), 445–476
- Massimo Moraglio, “Peripheral Mobilities. Looking at dormant, delegitimized and forgotten transport regimes”, *Tempo Social*, 30/2 (2018), 73-85
- M. Moraglio and H.-L. Dienel, “Shifts, turning points and inertia. Exploring long-term industry trends in European transport”, in *European Journal of Futures Research*, 3/12 (2015), 1-8(8)
- John Urry and Mimi Sheller, “The new mobilities paradigm”, Environment and Planning A 38 (2006), 207-226
- Chang, A., L. Miranda-Moreno, R. Clewlow, and L. Sun. 2019. “Trend or Fad? Deciphering the Enablers of Micromobility in the U.S.” A Report of SAE International. https://www.sae.org/binaries/content/assets/cm/content/topics/micromobility/sae-micromobility-trend-or-fad-report.pdf
- Asier Perallos ,et al. 2015, (Book) Intelligent Transport Systems: Technologies and Applications, DOI:10.1002/9781118894774

- Phil Sayeg, 20019, Intelligent-Transport-Systems Module 4e , GTZ , https://www.sutp.org/files/contents/documents/resources/A_Sourcebook/SB4_Vehicles-and-Fuels/GIZ_SUTP_SB4e_Intelligent-Transport-Systems_EN.pdf
- An Introduction to General Systems Thinking, Gerald M. Weinberg, Dorset House Publishing Co Inc.,U.S.2001
- Free Download of Vensim : http://vensim.com/free-download/

All sources below are available either open source, in the TU Berlin library, or will be provided to you directly by your lecturers, during the course.

To search resources available in the TU Berlin library, check here: https://www.ub.tu-berlin.de/en/searching-for-resources/