

Smart Urbanism

Subject area: Civil Engineering/Architecture

University:	CTU
Level:	MA all years
Teaching mode:	hybrid: some students participate online, other students attend real-life
Instructor(s):	doc. Ing. arch. Jakub Vorel, Ph.D. prof. Ing. arch. Karel Maier, CSc.

Short description

In the course Smart Urbanism we illustrate how technological innovation has affected cities to the present, and on that basis we discuss future challenges and implications for urban planning and management. In particular, we focus on the relationship of technological innovation to urban metabolism, urban morphology, land use, urban ecosystems, demography, mobility and urban society, and the way cities are understood and managed through data and information technology.

Full description

<https://www.fa.cvut.cz/en/study/courses/25657-smart-urbanism>

Learning outcomes

On successful completion of the module, students will be able to:

- Identify the theories of spatial morphology and land-use on regional and urban scale
- Explain the basic concepts of urban metabolism
- Identify current issues and trends in urban transport and utilities
- Explain the current European trends in demography, socio-spatial distribution
- Describe the role of public space in history, present and future cities. Discuss the implications of new technology on the usage and design of public space. Explain the principles of good public space design in Smart cities
- Explain the basic concepts of urban mobility. Describe the historical evolution of transport technology and respective urban planning and design concepts. discuss urban mobility in Smart cities. Identify the challenges for urban design and planning
- Describe evolution of urban simulation modelling, identify distinctive approaches and representative models, their strengths and weaknesses
- Identify the main incentives and models (trajectories) of Smart cities development, actors, their motives and roles. Discuss the main challenges of Smart cities development
- Identify the main challenges to urban governance of Smart cities

Recommended in particular for students of the following study programmes

Architecture, Civil Engineering, Urban Design, Urban Planning, Urban Studies, Urban Transportation, Smart Cities

General information

Contact hours per week: 1

Total workload: 50 (in student hours for the whole course)

ECTS credits: 2

Language: English

Course start date: 20 February 2023

Course end date: 28 May 2023

Add. info about start date: Start course date refers to starting date of semester at CTU. Schedules are released 1-2 weeks before new semester starts.

Weekly teaching day/time:

Time zone: CET (Denmark, Germany, France, Netherlands, Switzerland, Czech Republic)

Further information: Lessons will be recorded and provided to students. Lectures, recorded lectures, additional learning materials are provided via Moodle and TEAMS.

Prerequisites: none

Activities and methods: Lectures, Self-study

Presence on campus:

Final examination

Form: assignment and oral exam

Date:

Location/format:

Re-sit possibility:

Transcript available: end of semester

Add. info/requirements:

Registration

To register for this course, follow the registration requirements of your **home university** as specified here: www.euroteq.eu/courses-registration.

Administration

Number of places:	10
Minimum participants:	no limits
Internal course code:	500SU
Contact:	vorel@fa.cvut.cz

This course is part of the EuroTeQ Engineering University joint course catalogue 2023. This is a collaborative activity of the partner universities DTU, L'X, TU/e, TalTech, CTU, TUM as well as Technion. Students from these universities can participate in the offered courses. It is the responsibility of the student to check if you fulfil the requirements to participate in a specific course. Students are also advised to check with their home institution how to get recognition of the ECTS credits gained in courses of the EuroTeQ course catalogue. For further information about EuroTeQ Engineering University, visit www.euroteq.eu or get in touch with the above-mentioned point of contact.