COURSE DESCRIPTION

ABOUT

The module focuses on the characteristics of urban mobility and its relationship to sustainable development. The module introduces students to the basic practices and principles used in planning, managing, and monitoring sustainable mobility and teaches them how to apply them in concrete examples.

Based on the fundamental practices and approaches, students should work together in international communities to develop a project on a selected topic of urban mobility. By creating the project, they will demonstrate that they know about the general principles of sustainable urban mobility and can apply them in practice. The course content is divided into online and physical parts.

COURSE CONTENT

ONLINE PART

General section
1.1 Environmental aspects of sustainable mobility
Application section
1.2 Measures in European cities in the context of environmental aspects of sustainable mobility
1.3 Cargo bikes in cities
1.4 Emission calculators and their use
General section
2.1 Economic aspects of sustainable mobility

Application section
2.2 Intermodal transport
2.3 Logistics centres
2.4 Interoperability in transport about CBTC
General section
3.1 Social aspects of sustainable mobility
Application section
3.2 Public service in transport
3.3 Modern public transport systems
3.4 Accessible Public Transport for All
General section
4.1 Institutional aspects of sustainable mobility
Application section
4.2 Sustainable Urban Mobility Plans
4.3 Decision-making process
4.4 Process of multi-criteria decision-making

PHYSICAL PART

In the contact (physical) part, students will discuss their projects together under the supervision of tutors - they will use critical thinking and teamwork and receive feedback. At the same time, they will have the opportunity to attend lectures by selected experts on topics related to sustainable mobility (e.g. green logistics in cities, cargo bikes in cities, accessibility for people with reduced mobility). They will have the opportunity to compare theory and practice and to learn about the practical aspects of sustainable transport planning (e.g. in the rail transport laboratory).

PROJECT

Students work in groups to create a project focusing on sustainable mobility in a selected city. They will pass the project in the determined form, present the project, and participate in a discussion about the project with the lecturers.

TIME REQUIREMENTS

Online part 116 hours
Face-to-face part 24 hours
Project 40 hours

TEACHING METHODS

Monologic (reading, lecture, briefing)
Dialogic (discussion, interview, brainstorming)
Work with text (textbook, book
Teamwork
Critical thinking

ASSESSMENT METHODS

Home assignment evaluation
Self-project defence
Presentation

LITERATURE

CERNA, L., DANIS, J. Application of Cost Calculations in the Tariff Policy Formation in Railway Transport. Zilina, 2017. ISBN 978-80-554-1391-4.

BANNISTER, D., European transport policy and sustainable mobility. London: Spon Press, 2000. ISBN 0-415-23189-2.

HUTTON, B. Planning sustainable transport. London: Routledge, 2013. ISBN 978-1-84971-391-7.

GASPARIK, J. et al. Railway Traffic Operation. Zilina, 2016. ISBN 978-80-554-1281-8.

EUROPEAN UNION. Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road and repealing Council Regulations (EEC) Nos 1191/69 and 1107/70.

EUROPEAN UNION. Regulation (EU) 2016/2338 of the European Parliament and of the Council of 14 December 2016 amending Regulation (EC) No 1370/2007 concerning the opening of the market for domestic passenger transport services by rail.

TUMLIN, J. Sustainable transportation planning: Tools for creating vibrant, healthy, and resilient communities. San Jose, 2012. ISBN 978-0470540930.

CAHILL, M. Transport, environment and society. Maidenhead: Open University Press, 2010. ISBN 978-0-335-21872-1.