

Planning and Modelling of Public Transport

University:	DTU
Level:	MA all years
Teaching mode:	completely online, at specific time
Instructor(s):	Jesper Ingvardson & Yu Jiang & Otto Anker Nielsen

Short description

The course provides a general insight into planning and operation of public transport (PT) systems and the state-of-the-art methods used for planning and modelling within the field. The learning enables the students to apply underlying economic and operating principles to develop solutions to various PT problems. In addition, the course assures that students appraise the multi-dimensional roles of PT in a sustainable society, and the importance of developing PT systems to ensure urban mobility.

Full description

<https://kurser.dtu.dk/course/42185>

Learning outcomes

A student who has met the objectives of the course will be able to:

- Describe the public transport planning process
- Characterize and analyse public transport networks and systems
- Describe and compare alternative organizational structures in the public transport sector
- Process and analyse data from intelligent transport systems (ITS) in public transport, and discuss how this data can be used for planning and modelling
- Characterize and analyse passenger travel behaviour
- Describe and model operational strategies and tactics
- Analyse and evaluate service performance of public transport systems, and assess methods to improve operations
- Describe route choice models for public transport and argue about advantages and disadvantages of different methodological approaches, and apply the models
- Apply methods for frequency/headway determination and transit coordination, and evaluate the results
- Design the route structure of a public transport service, and evaluate the impacts for passengers, operators and the society
- Write technical notes and present and discuss these orally

General information

Contact hours per week:	4
Total workload:	140 (in student hours for the whole course)
ECTS credits:	5
Language:	English
Course start date:	02 February 2023
Course end date:	04 May 2023
Add. info about start date:	
Weekly teaching day/time:	Thursday mornings 8-12
Time zone:	CET (Denmark, Germany, France, Netherlands, Switzerland, Czech Republic)

Further information:

Prerequisites:	Basic OR and statistics knowledge, some programming preferred.
Activities and methods:	Lectures, Group work, Self-study, Exercises
Presence on campus:	Not required

Final examination

Form:	Written mid-term + graded assignments (no final exam)
Date:	
Location/format:	Takes places during in-class hours
Re-sit possibility:	
Transcript available:	on request
Add. info/requirements:	Overall assessment of mandatory graded assignments and an written exam which will be held during the second half of the course.

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:

Minimum participants:

Internal course code: 42185

Contact: jbin@dtu.dk

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