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201600131

Public Transport in Urban Areas

Cursus informatie

Cursus	201600131	Collegejaar	2016
Studiepunten (ECTS)	7,5	Aanvangsblok	1B
Cursustype	Cursus	Aanmeldingsprocedure	Zelf aanmelden via OSIRIS Student
Voertaal	Engels	Inschrijven via OSIRIS	Ja
Contactpersoon	ing. K.M. van Zuilekom		
E-mail	k.m.vanzuilekom@utwente.nl		
Docenten			
Docent	Externe Docent		
Docent	dr. A. Hartmann		
Docent	dr. T. Thomas		
Docent	ing. K.M. van Zuilekom		

Leerdoelen

At the end of the course the student has...

Knowledge of:

- The contribution of rail and road based public transport for the development of urban areas.
- Design issues in integration of rail and bus services in combination with the access/egress modes toward a smooth, versatile, affordable service.
- Modelling the demand side of public transport (spatial impact of public transport, data collection, price elasticity, trip distribution, modal split)
- Modeling of public transport (multi-modal networks, path building and assignment)
- Designing the supply side of public transport (the organization of public transport, time tables, legal issues [*Wet Personenvervoer*], overview of public transport systems, accessibility, sustainability, reliability, tendering, maintenance)
- user needs of the traveler (tariff, marketing, image, communication, information provision, safety and accessibility)
- characteristics of rail infrastructure, power supply, vehicle properties, safety systems and maintenance.

Developed insight in:

- the positions (requirements and needs) of PT customers and PT service providers
- in the modelling of public transport
- energy use in the exploitation of PT

Analyzed:

- the design of a complex train station in respect to facilitation of connections, passenger routing, services and wellbeing.

Designed:

- a multi modal public transport system in search for maximizing profit and a large share of PT in the model split in a schematic case
- part of a rail network in detail from infrastructure (track layout, switches, safety systems) to speed-time profiles and time table.

Inhoud

Outline:

Cities are the center of economic, cultural and social life. There is a worldwide migration from the rural areas to the city. As a result more than 50% of the people are living in urban areas. With this urbanization the land use intensifies leading to more and more traffic with all the undesired side effects (noise, pollution decreased livability) including traffic congestion. The task for the traffic engineer in this context is complex: provide the desired facilities for economic, cultural and social development with reduction of the side effects given space and financial constraints.

Public Transport is crucial for the development of urban areas. PT is, when well designed, able to offer excellent mobility service from the small veins to the big arteria with a minimum need of space, resources and side effects.

Public Transport is more and more part of complex puzzle where ease of use (contactless payment, tariff systems), real-time information (use of smart phones, internet), other mobility services (rental bikes, Uber, Flixbus), services during travel (Wifi, shops at stations) and at the destination (Seets2Meet) form an attractive versatile mobility system.

In this course PT is approached from a designer point of view where thorough knowledge of the components of the PT system (infrastructure, vehicles, safety systems, energy usage, maintenance, ...), the legal context (laws and regulations), the financial aspect (exploitation costs, revenues) and the demand (modeling travel demand) form the

Verplicht materiaal

Handouts

Handouts

Boek

Railway Operation and Control; Prof. Dr. Joern Pachl; VTD Rail Publishing; ISBN 978-0-9719915-6-9

Aanbevolen materiaal

Studiemateriaal

Urban Transit Systems and Technology; Vukan R. Vuchic; published by Wiley and Sons (www.wiley.com); March 2007

Studiemateriaal

Urban Transit: Operations, Planning and Economics; Vukan R. Vuchic; published by Wiley and Sons (www.wiley.com); March 2005

Studiemateriaal

Linienbus-Verkehrssysteme mit elektrischem Fahrantrieb (Public Service Bus Systems with electric Propulsion); Verband Deutscher Verkehrsunternehmen; DVV Media Group; ISBN 978-3-7771-0366-2

Werkvormen

Hoorcollege

Project

Zelfstudie geen begeleiding

Toetsen

Toets

starting point.

The teaching team is in majority working in the field of Public Transport as consultant or manager.

The focus of the course is the European context, but not limited to this.

Assessment

The assessment of Public Transport in Urban areas consists of four elements:

a1: Case 1, 20%

a2: Case 2, 20%

a3: Case 3, 20%

a4: Written exam, 40%

If all assessments have marks of 5.5 or higher (on a scale of 1 to 10) the final mark is:

$$0.2*a1 + 0.2*a2 + 0.2*a3 + 0.4*a4$$

Otherwise:

the final mark is the minimum of a1, a2, a3 and a4. A case may be improved if the mark is in a range of 4.0 to 5.4.

Maximum mark of an improved case is 5.5.

Note: the recommended literature is for those who want to develop further in Public Transport they NO part of the course. For those who consider to buy one of these recommended books: they are available at K.M. van Zuilekom.

Voorkennis

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