201800346

Intelligent Transport Systems. Design & evaluation

Cursus informatie Rooster

Cursus	201800346	**Collegejaar**	2018
Studiepunten (ECTS)	5	**Aanvangsblok**	2A
Cursustype	Cursus	**Aanmeldingsprocedure**	Zelf aanmelden via OSIRIS Student
Voertaal	Engels	**Inschrijven via OSIRIS**	Ja
Contactpersoon	dr.ir. A.P. van den Beukel		
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Docenten			
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Docent	dr.ir. A.P. van den Beukel		

Leerdoelen

The course objectives are as follows; after passing the course the student can:

- Understand relevant technology, their operational envelops and the capabilities of human operators for the application of ITS.
- Identify, describe and design potential Intelligent Transport Systems and services (ITS) for car drivers and/or travelers.
- Assess the impact of ITS applications on the traffic and transport system.
- Examine and analyze the behavior of car drivers and travelers in the design and evaluation of ITS applications.

To achieve these objectives the course will include:

1. Lectures from ITS experts to provide state of the art knowledge on ITS technology and application.
2. Assignment to design and evaluate in a small group an ITS application, including instructions for simulator experiment.
3. Consultation with ITS experts during feedback meetings.
4. Assessment and feedback of the group assignment.
5. Individual theory test (written exam).

The course has a time-span of 10 weeks and contains 5 EC (equivalent to 140 hours) of which approximately: 14 hours lectures; 8 hours feedback and expert meetings; 40 hours self-study (literature); 78 hours assignment

Main topics covered in this course:

- Advanced Driver Assistance Systems (ADAS)
- Dynamic traffic information systems
- Sensor technology and data fusion (e.g. V2V, V2I communication)
- Levels of automation and its application
- Driver behavior and driver task
- ITS and public transport (Traveler information systems)
- Simulation of transport behavior (e.g. transport modelling & driving simulator studies)
- Societal impact & acceptance

Inhoud

Intelligent Transport Systems (ITS) is the application of Information and Communication Technology (ICT) within the field of traffic and transport systems. This application is intended to make traffic and transport safer, time-efficient, accessible, more environmentally friendly and affordable. For this reason policy-makers and industry put for example major efforts in driving automation. However, for successful application of ICT in the transportation domain engineers need to have sound understanding and applicable knowledge of the related technologies and their capabilities. Besides, they need to understand how to avoid counterproductive effects. This course gives a state of the art overview on ITS and will teach you how to apply ITS tools for the design and evaluation of ITS systems

Voorkennis

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DEELNEMENDE OPLEIDING

Master Industrial Design Engineering

DEELNEMENDE OPLEIDING

Master Mechanical Engineering

DEELNEMENDE OPLEIDING

Master Construction Management and Engineering

DEELNEMENDE OPLEIDING

Master Civil Engineering and Management

Verplicht materiaal

Literatuur

Literature from journal papers and book chapters

Aanbevolen materiaal

-

Werkvormen

Assessment

Aanwezigheidsplicht Ja

Hoorcollege

Aanwezigheidsplicht Ja

Opdrachten

Aanwezigheidsplicht Ja

Vragenuur

Aanwezigheidsplicht Ja

Zelfstudie geen begeleiding

Aanwezigheidsplicht Ja

Toetsen

group assessments, written exams