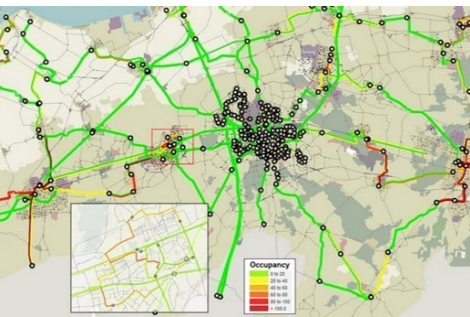


EXCHANGE STUDY PACKAGE

TRANSPORT ENGINEERING & MANAGEMENT

Cities are the centre of economic, cultural and social life. There is a worldwide migration from the rural areas to the city. With this urbanization, land use intensifies, leading to more and more traffic and transport. The exchange package Transport Engineering & Management is divided into five different courses (of which you choose four). During the first half of the semester you will learn about transport planning and process management of infrastructure projects and area developments and about supply chain management in such projects. In the second half you will focus on transport modelling and can choose between a course on traffic operations, to learn about several techniques to recognize and quantify traffic flow, or a course on public transport in urban areas.



WHAT IS AN EXCHANGE STUDY PACKAGE?

Exchange Study Packages are balanced, coherent, well-structured, and self-contained sets of courses at a final Bachelor year academic level. Choosing one of these packages means you do not have to worry about selecting the right courses or managing your calendar to fit all of your classes. Simply apply for a package that suits your academic background and interest to be ensured of a well-balanced exchange programme, often consisting of 30 EC. These packages are generally accessible to students who have successfully completed the first two years of their Bachelor programme.

EXCHANGE STUDY PACKAGE

First half of semester

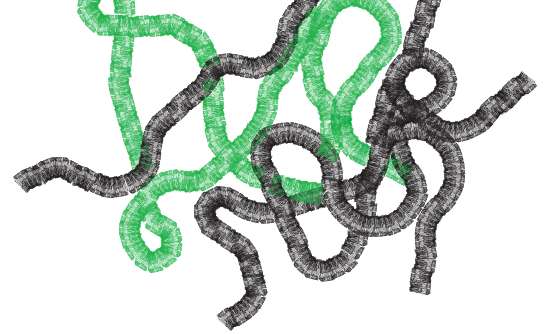
Supply Chain Management & ICT (7,5 EC)

This course focusses on opportunities for the application of supply chain management concepts from other industries to the construction industry (buildings and infrastructure) with the aim to improve supply chain management and materials transport and

distribution between manufacturers and construction sites. Basic similarities and differences between supply chains in the construction industry and supply chains in manufacturing industries are analysed. The focus is on supply chain and purchasing management issues in the relation between construction firms and their suppliers. Attention will be devoted to the role of building information modelling (BIM) in improving construction supply chain management.

Planning & Process Management (7,5 EC)

Current developments in cities force authorities to plan, manage and monitor their transport and infrastructure systems more accurately. This course has two main parts: strategic transport planning, and process management. The first part provides an overview of the role, contents and implications of strategic transport planning. The course follows the elements of the policy cycle. The second part focuses on the governance of intricate problems in urban planning and area development. It typically revolves around large-scale infrastructure projects, e.g. airports, rail links, or ports.



You can't understand a city without using its public transportation system.

This course aims to provide students with basic concepts, skills, and insights needed to understand the nature of interaction between actors regarding the initiation and development of complex large-scale infrastructure projects.

Second half of semester **Transport Modelling (7,5 EC)**

Transport of people and goods depends strongly on individual behaviour and individual choices. Therefore Transport Modelling is largely based on mathematical modelling of behaviour, with a variety of implementations to multidisciplinary fields. In this course, you will develop knowledge of fundamental methodology, e.g. the foundations of individual choice models, and random utility theory and models. You will also design, conduct and analyse data collection methods, e.g. stated and revealed preference for individuals' behaviour. Guest lecturers are invited to the course, in order to connect theory and practice. Assignments are based on practical work, both individually and in groups, to stimulate the interaction in the classroom.

Choose 1 of 2 options:

Traffic Operations (7,5 EC)

During this course you will learn about the theoretical concepts of traffic flow behaviour and its statistical properties under different network conditions. The theory of traffic flows deals with basic variables like intensity, velocity and density and with concepts, such as jam density, optimal velocity, capacity, car following behaviour and shock waves. Several techniques to recognize and quantify these concepts are discussed. Statistical techniques are used to study spatial and temporal variations in the relevant variables, and correlations between them. Statistical analysis will help the traffic engineer to interpret traffic flow data and corresponding variable estimates in a meaningful way. With this knowledge it is possible to manage the traffic system.

Public Transport in Urban Areas (7,5 EC)

Public transport is crucial for the development of urban areas and able to offer excellent mobility service from the small veins to the big arteria. The task for the traffic engineer is complex: provide the desired facilities for economic, cultural and social development with reduction of the side effects, given spatial and financial constraints. In this course, public transport is approached from a designer point of view in which thorough knowledge of the components of the public transport system (infrastructure, vehicles, safety systems, energy usage, maintenance) the legal context (laws and regulations), the financial aspect (exploitations costs, revenues) and the demand (modelling travel demand) are combined.

Detailed Learning Goals can be found in the Osiris Course Catalogue.

MORE INFORMATION **TUITION FEES**

To be paid at home institution.

ADMISSION CRITERIA

Two years of Bachelor-level in Civil Engineering or equivalent.

STUDY LOAD

30 EC

START

Fall Semester

For more information about this Exchange Study Package, contact the Departmental Exchange Coordinator of the **Faculty of Engineering Technology**
utwente.nl/go/exchange-coordinators