WWW.UTWENTE.NL/GO/EXCHANGE



EXCHANGE STUDY PACKAGE CONSTRUCTION MANAGEMENT & ENGINEERING



An optimally designed, constructed and maintained infrastructure (facilities for transportation, energy production or recreation) is of economic and social importance in every modern society. The performance of an infrastructure system strongly affects the distribution of resources and goods, the accessibility and economic development of regions, the mobility of citizens and the overall quality of life. In the exchange package "Construction Management and Engineering" you will learn how information from different project management aspects can be integrated into models that support construction planning and coordination. In addition, the course "Collaborative Design & Engineering" will pay attention to the organizational and technical aspects of design and engineering processes. During the second half of the module you will pay attention to the industrialization and innovation processes in construction and management of infrastructure facilities and maintenance and rehabilitation process in particular.

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

Collaborative Design & Engineering (7,5 EC)

The course deals with the organizational and technical aspects of design and engineering processes. Theoretical aspects of communications and management in collaborative design and engineering are introduced with a focus on following research areas: collaborative design approaches, multidisciplinary team design and management of collaboration. Collaborative design approaches are best learned by doing it yourself and being confronted with the results. Therefore this course is built around a role-play project and interactive workshops. In the role-play project you can only 'solve' the project by interacting with a variety of stakeholders represented by the lecturer. Workshops will teach you in an interactive manner the skills and competencies you need for the case. Thus what you learn in the workshops can be used immediately for the project. The workshops have the form of a pressure cooker. They address in a very short time what would takes days or weeks in practice.

Building Information Modelling & 5D Planning (7,5 EC)

This course will learn you how information from different project management aspects can be integrated into models that support construction planning and coordination. A major focus of the course will be to explore state of the art methods to store, integrate, and communicate information using building information

UNIVERSITY OF TWENTE.





models (BIM). This will be addressed in two parts: 1. Lectures and group assignments that provide a strategic view on implementation of building information models.

2. Hands-on practice with development of elements that a project's 5D model comprises.

Hands-on exploration in a practical context will show students how to use existing information modelling technologies to support project scope management with present day tools.

Second half of semester Industrialization & Innovation in Construction (7,5 EC)

In the industry and services a tendency can be seen in which variety and development speed are realized by working with concepts like modularization, product platforms and product families. Also in the building sector, developments are taking place that focus on the supply of a larger affordable variety. Parties in the building process are also considering innovative platform based approaches. Customers are nog longer satisfied with undifferentiated building solutions, even though the solutions themselves are good in terms of product quality. Therefore the building industry is currently looking for innovative ways to increase the influence of customers on the design of their own buildings without increasing the price to a level not accepted by target customers and by also maintaining advantage of serial project-wise production. This course will pay attention to industrialization and innovation processes, mass customization versus tailor made solutions, and new to be expected developments in industrialization and innovation in construction.

Infrastructure Management (7,5 EC)

The focus of this course is on the management of infrastructure facilities and maintenance and rehabilitation process in particular. The course provides the basic concepts and tools to procure and preserve infrastructure systems most cost-effectively. It shows how to prevent costly deterioration of infrastructure and to ensure an acceptable performance level of the It is not the beauty of a building you should look at; it's the construction of the foundation that will stand the test of time.

infrastructural asset. The course covers the development of effective maintenance and rehabilitation strategies for portfolios of infrastructure facilities as well as the planning and procurement of single maintenance and rehabilitation projects. It particular addresses the dynamic relationship of economical, organisational and quality issues during the life cycle of infrastructure facilities.

Detailed Learning Goals of all the courses 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

Spring 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**