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EXCHANGE STUDY PACKAGE DESIGN FOR SPECIFIC USERS & VIRTUAL PRODUCT DEVELOPMENT



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 Design for Specific Users (15 EC) Cognitive Ergonomics

Cognitive ergonomics is based on cognitive psychological theories on how people perceive, construct and act in the world. You will gain knowledge about how you can make relevant improvements in efficiency and safety of design by applying well known cognitive guidelines on the design of a technical system or product.

Design Sketching 3

The first part of this course focuses on the application of the basic drawing skills (perspective, construction, toning, distinctness of materials, ability to create dynamic sketch lines et cetera) on a sketch tablet. The students learn to become familiar with the sketch tablet and the associated software. The second part aims to use the newly developed skills of digital sketching as a design tool in the design process. In the course the students are working with realistic cases from business, where they have to (re)design a product within four weeks based on a design brief.

Statistics

This course provides a solid methodological basis needed for learning how to set up a quantitative evaluation of user-data (e.g. using questionnaires or quantitative use observations).

UNIVERSITY OF TWENTE.





Project Design for Specific Users

This project focuses on Designing for Specific Users. Students develop competencies needed in order to design human-centred product concepts targeted at specific user groups. This means students learn to empathize with the user group, do literature research about the user group and do involve actual users from the target group into the design process.

Methodologically this entails learning how to apply design-research techniques and learning how to work with an iterative design cycle, in which a refinement of the problem definition, user research, design explorations and experience prototyping co-evolve over

explorations and experience prototyping co-evolve over a series of iterations.

Virtual Product Development (15 EC) Dynamics

During this course you will learn to analyse the motion of system of masses and linked rigid bodies in terms of forces, accelerations and velocities. In addition, you will calculate the frequency of an elastically supported rigid body.

Introduction Finite Development Method

In Industrial Design technical aspects (strength, stiffness, vibrations) are discussed. Computer tools are available to analyse these aspects. One of the most used methods is the Finite Element Method (FEM). With use of this method complex constructions can be analysed beyond the accuracy of analytical methods. The FEM can be used to gain insight in displacements, deformations, stresses and vibrations in constructions. Before a product is fabricated the designer can gain insight in technical aspects and can estimate if the product meet the requirements.

Project Virtual Product Development

The topic of the project is to design the combination of a product with an integrated service. There is no description available of the product the students have to develop, but there are constraints within which a product must be designed. Each project team must define

The design is done when the problem goes away.

in the first week of the project what kind of product they will develop. The group thus has no client, but will have to develop a product themselves that (fictitious) must convince an investor. Students must individually make a choice between the offered tools from the toolbox. Based on their own needs and the needs of the team, each student must select six (out of more than ten) tools. The knowledge and skills of the tools should be used directly within the project, and the use of every tool must be visible in the deliverables of the project.

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

MORE INFORMATION TUITION FEES To be paid at home institution.

ADMISSION CRITERIA

Bachelor-Level in Industrial Design 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**