

**CT5940**      **Civil engineering informatics exercise**      **6**

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**Co-ordinator**      **Reza Beheshti****Instructor**      **Reza Beheshti****Instructor**      **Edwin Dado****Education Period**      1st Education Period**Exam Period**      1st Exam Period**Course Language**      English

**Course Contents**      During this exercise a group of (preferably two) students will design, develop and implement a system (ICT tool) for mainly (building and civil) engineering problems. The emphasis of this exercise is on system development methods and techniques. A limited knowledge of system engineering and informatics methods and techniques (necessary for the exercise) is offered to students either during the introductory lectures or as selfstudy material. This includes but it is not limited to:

applied informatics methods and techniques

system engineering methods and techniques

information and system analysis and development

design and development of system for (building design and civil) engineering disciplines

information analysis and software engineering tools

relational database management systems

RAD (Rapid Application Development) environments

UML (Unified Modelling Language)

Object-oriented development environments and tools

The project begins with preparing a Work Plan followed by a detailed study of the subject of the project and its underlying theories and methods. Prerequisite is a sound knowledge of the discipline of the problem because the purpose of a project is to solve a (building and civil) engineering problem. The students are expected to have followed the relevant courses prior to taking this project or be prepared to spend extra study hours in addition to formal study hours of the project to acquire the necessary knowledge of the field.

Phases of the project are:

the background research

the development of models and/or algorithms

the logical design of the system

the physical design of the system

the realisation, implementation and testing of the system  
The final report of the project includes the following parts:

a project report (compilation of interim reports)

a User's Manual of the computer program

a Maintenance Manual (required for the future use and maintenance of the computer program)

the computer program and all related documents on a CD-ROM (MS Word file of the reports, all listings, PowerPoint file of the presentation and the program)

The students are required to make a public presentation of the computer program. During this session, the students explain how their computer program works and will answer the questions asked by the public.

The Project will be evaluated on the following criteria:

the process of the work

the final product (mostly a working prototype of a computer program)

the final project report, The User Manual and the Maintenance Report

the Final presentation of the product in a public examination setting  
The students are obliged to be present during a weekly meeting with both informatics and domain supervisors. The duration of the course is 16 weeks.

The students can combine this project with their MSc Graduation Project provided the request is made by the graduation project supervisor and is accepted by the course leader.

The students of all disciplines at Faculty of Civil Engineering and Geosciences can take part in this course that is also open to the students of other faculties at Delft University of Technology and in particular Faculty of Architecture. More detailed information about the course content, time-schedule, registration, etc. can be found on the course website at

	Blackboard.
<b>Study Goals</b>	The goal of this course is to provide the students with the fundamental knowledge and skills related to the design and development of ICT tools in (building and civil) engineering disciplines by means of a real-life project. The course also aims at providing insight into the advantages of ICT tools for engineering disciplines and the training of ICT-minded (building and civil) engineers.
<b>Education Method</b>	exercise tutorial
<b>Literature and Study Materials</b>	material via blackboard
<b>Assessment</b>	Oral presentation of exercises (group)

One bounded hardcopy of the exercise report together with a CD-ROM containing all project files (The program, all listings, PowerPoint presentation and the MS Word file of the written reports) have to be delivered at least two weeks before the examination date (by appointment)

Prerequisite:

A written report of the exercises and the presentation of the product in a public examination setting (group).

<b>Expected prior knowledge</b>	CT5940 uses CT2081 CT5940 uses CT4260 CT5940 uses CT4270 CT5940 uses CT3920
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<b>Remarks</b>	Summary
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The goal of this project is to allow a group of (preferably two) students to design and implement a system (ICT-tool) for mainly a civil engineering problem. This applied informatics exercise is also open to all TU Delft students of other disciplines. The goal of the exercise is to familiarise the students with practical aspects of system development, enabling them to employ ICT enabled tools whenever required for the purpose of their MSc Graduation thesis or during their professional work.

<b>Judgement</b>	The final mark of the course will be an average mark of the process, the written reports of the exercise, the computer program and the public presentation of the product.
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