

CT5970 **Special subjects: graphic data analysis** **4****Co-ordinator** **Reza Beheshti****Instructor** **Reza Beheshti****Instructor** **Edwin Dado****Education Period** 1st Education Period, 3rd Education Period**Exam Period** 1st Exam Period, 3rd Exam Period**Course Language** English**Course Contents** The students can choose a research project in one of the following domains:

computer-Aided Design and Parametric Design (follow-up CT3920):
 computer graphics, geometry and topology, intelligent CAD systems, design information environment, design decision support systems, design knowledge-based systems, design expert systems, parametric design.

product modelling in building design and construction (follow-up CT4260):
 product modelling and product data technology, data communication systems, simulation of physical phenomena, buildings robotics

knowledge engineering for building design and construction (follow-up CT4270):
 process modelling, information modelling, knowledge modelling, building design and construction knowledge systems building design and construction expert systems.

geographic information system / GIS (follow-up CT3930):
 spatial information systems, integration of mathematical models and GIS, applied GIS for (civil) engineering domains, integration of GIS and decision support systems.

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

Study Goals The goal of the course (as a follow-up of CT3920, CT3930, CT4260 and CT4270) is to provide the students with additional knowledge and skills of ICT tools in building design and construction. The students can combine this course with their MSc Graduation Project. The approval of the course leader is required regarding the research subject and the combination with the MSc Graduation Project.

Education Method discussion
 tutorial

Selfstudy:
 the selfstudy of literature provided and/or recommended for the course

The selfstudy of additional relevant literature (books, journals and the Internet sources) by the research group.

Research:

the students will carry out research on an approved assignment. A limited number of tutorials will be provided and the students have to spend additional hours completing the research project.

Report of the research project:

the research group will prepare a written report (essay) of the research project carried out (conform instructions). One bounded hardcopy of the essay together with a CD-ROM containing all project files have to be delivered before the examination date (by appointment).

Presentation of the research:

the research group will prepare a PowerPoint presentation of the research project to be presented during the examination session.

Literature and Study Materials

material via blackboard

Assessment

Oral exam (group)

Oral presentation of the research results (group)

An essay (bounded hardcopy) and a CD-ROM of all research files

Prerequisite:

A written report (essay) of the research project, the presentation of the research results and oral examination.

Remarks

Summary

This is a selfstudy course on theories, methods and techniques regarding the application of information and communication technologies, to improve the quality, efficiency and affectivity of design and construction processes. The main emphasis of the course is investigating a research topic in one of the following fields: parametric design, product modelling or information management and knowledge technology for building and construction industry. Prerequisite for taking part in this research-based course is an adequate knowledge of the chosen research domain.

Judgement

The final mark of the course will be an average of the written report of the exercises and the oral examination.