



COURSE SYLLABUS

Implementation of Digital Technologies and the Construction Industry, 7.5 credits

Implementation of Digital Technologies and the Construction Industry, 7,5 högskolepoäng

Course Code: TIDR23	Education Cycle: Second-cycle level
Confirmed by: Dean Mar 1, 2022	Disciplinary domain: Technology
Revised by: Director of Education Nov 7, 2024	Subject group: TE9
Valid From: Jan 1, 2025	Specialised in: A1N
Version: 3	Main field of study: Built Environment

Intended Learning Outcomes (ILO)

After a successful course, the student shall

Knowledge and understanding

- show familiarity with the major approaches to socio-technical systems and technology-related organizational change processes

Skills and abilities

- demonstrate the ability to analyze and explain the basic foundations of major approaches to technology-related organizational change processes
- demonstrate the ability to analyze and explain the blurred boundaries between the technology and the social aspects when designing and implementing digital technologies
- demonstrate the ability to analyze how the characteristics of the built environment sector shapes implementation of digital technologies

Judgement and approach

- demonstrate the ability to identify barriers and drivers in a technology-related organizational change processes
- demonstrate the ability to evaluate the implications for implementation strategies

Contents

Digital technologies have come to play an increasing role among organizations in the built environment sector, but technology-related organizational change and development processes are seldom as straight forward as described by advocates for new technologies.

In order to gain an enhanced understanding of implementation of digital technologies and the Built Environment the course includes the following elements:

- Socio-technical research in new technology and information systems in built environment
- Introduction to alternative approaches to understand socio-technical systems, such as;

technological determinism, innovation studies, multi-level perspective, institution theory, social constructivism, actor-network theory, critical and political perspectives

- Analysis of structures shaping the built environment sector
- Analysis of underlying structures shaping the built environment sector Industry analysis and analysis of underlying structures shaping the built environment sector

Type of instruction

Lectures, exercises, and assignments and project work.

The teaching is conducted in English.

Prerequisites

The applicant must hold the minimum of a bachelor's degree (i.e., the equivalent of 180 ECTS credits at an accredited university) with at least 90 credits in Construction Engineering, Civil Engineering, Built Environment, Architecture Engineering, Product Development (with relevant courses in lighting design) or equivalent. The bachelor's degree should comprise a minimum of 15 credits in mathematics and 7,5 credits in BIM or CAD 3D, or equivalent. Proof of English proficiency is required.

Examination and grades

The course is graded 5,4,3 or Fail.

Some course components, such as lectures, labs, or seminars, may be mandatory due to their unique and non-repeatable nature.

Registration of examination:

Name of the Test	Value	Grading
Examination ¹	4 credits	5/4/3/U
Assignments/Project work	3.5 credits	U/G

¹ Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

The literature list for the course will be provided 8 weeks before the course starts.

The literature will be based on scientific articles.