

COURSE SYLLABUS

Analyses, Simulations and Assessment systems, 7.5 credits

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Course Code: TASR22	Education Cycle: Second-cycle level
Confirmed: Nov 07, 2024	Disciplinary domain: Technology
Valid From: Aug 31, 2026	Subject group: Building Technology
	Specialised in: A1N Second cycle, has only first-cycle course/s as entry requirements
	Main field of study: Built Environment

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and understanding

- show familiarity with the concept of BIM
- display knowledge of the most common systems and methods of assessing sustainability within the field of Construction Engineering
- demonstrate comprehension of the concept of multicriteria decision making

Skills and abilities

- demonstrate skills to modify and develop BIM models for sustainability analyses and simulations
- demonstrate the ability to use BIM based tools and software to perform sustainability analyses and simulations

Judgement and approach

- demonstrate the ability to apply different BIM based sustainability assessment systems and tools for a sustainable built environment
- demonstrate the ability to identify, analyze, simulate, and evaluate vital building performance criteria from a sustainability aspect

Content

The course focuses on the concept of BIM, sustainability assessment systems and creation of BIM models to perform analyses and simulations for buildings' sustainability and performance assessments.

The course includes the following elements:

- The concept of BIM
- Sustainability assessment systems
- BIM based sustainability assessment tools
- Design Authoring

Type of instruction

Instruction is conducted through lectures, exercises, and project work. A limited number of guest lectures in Swedish might occur.

Language of instruction is English.

Entry requirements

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 U.

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
Exercises	3 credits	G/U
Project ¹	4.5 credits	5/4/3/U

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

Course literature

Please note that changes may be made to the reading list up until eight weeks before the start of the course.

Scientific papers and other course material will be available in Canvas, free of charge.