JÖNKÖPING UNIVERSITY
School of Engineering

COURSE SYLLABUS
Analyses, Simulations and Assessment systems, 7.5 credits

Analyses, Simulations and Assessment systems, 7,5 högskolepoäng

Course Code:	TASR22	**Education Cycle:**	Second-cycle level
Confirmed by:	Dean Mar 1, 2022	**Disciplinary domain:**	Technology
Valid From:	Aug 1, 2022	**Subject group:**	BY1
Version:	1	**Specialised in:**	A1N
		Main field of study:	Built Environment

Intended Learning Outcomes (ILO)

After a successful 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

Contents

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.

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, architecture engineering, 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.

Registration of examination:

Name of the Test	Value	Grading
Project[I]	4.5 credits	5/4/3/U
Exercises	3 credits	U/G

[I] 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.

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