



## COURSE SYLLABUS

# Scientific Introduction to BIM and Sustainability, 7.5 credits

*Scientific Introduction to BIM and Sustainability, 7,5 högskolepoäng*

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<b>Course Code:</b> TSIR22	<b>Education Cycle:</b> Second-cycle level
<b>Confirmed by:</b> Dean Mar 1, 2022	<b>Disciplinary domain:</b> Technology
<b>Revised by:</b> Director of Education Oct 25, 2023	<b>Subject group:</b> BY1
<b>Valid From:</b> Aug 1, 2024	<b>Specialised in:</b> A1N
<b>Version:</b> 2	<b>Main field of study:</b> Built Environment

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### Intended Learning Outcomes (ILO)

After a successful course, the student shall:

Knowledge and understanding

- demonstrate comprehension of the concept of BIM in research
- demonstrate comprehension of the concept of sustainability and assessment systems in research
- display knowledge of identifying the components of scientific approach in research
- display methodological knowledge of the practice of academic reading and writing regarding BIM and sustainability

Skills and abilities

- demonstrate the ability to evaluate different BIM based sustainability assessment systems for a sustainable built environment
- demonstrate the ability to describe, analyze and reflect on relevant scientific topics in orally and writing form

Judgement and approach

- demonstrate an understanding of the state-of-art regarding the concepts of BIM and sustainability within the built environment
- demonstrate the ability to independently and critically select and analyze relevant scientific literature

### Contents

In this course the focus will be on developing academic reading and writing skills about the scientific approaches regarding the concept of BIM and sustainability.

The course includes the following elements:

- Theoretical introduction to the concept of Building Information Management
- Theoretical introduction to the concept of Sustainability in the building sector

- Introduction to the scientific approach
- Introduction to scientific research methods
- Training in academic reading and analysis
- Training in academic writing

### **Type of instruction**

Instruction is conducted through lectures and seminars.

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.

Registration of examination:

Name of the Test	Value	Grading
Written report <sup>1</sup>	4.5 credits	5/4/3/U
Oral presentation	3 credits	U/G

<sup>1</sup> 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.