



## COURSE SYLLABUS

# Sensation, Perception and Human Interaction in Design, 7.5 credits

*Sensorik, perception, människa maskin interaktion, 7,5 högskolepoäng*

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<b>Course Code:</b> TSRS22	<b>Education Cycle:</b> Second-cycle level
<b>Confirmed by:</b> Dean Mar 1, 2021	<b>Disciplinary domain:</b> Technology
<b>Revised by:</b> Director of Education Oct 24, 2022	<b>Subject group:</b> DE1
<b>Valid From:</b> Jan 1, 2023	<b>Specialised in:</b> A1F
<b>Version:</b> 3	<b>Main field of study:</b> Product Development

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### Intended Learning Outcomes (ILO)

After a successful course, the student shall;

The course is intended to provide a basic understanding of ergonomic principles and its impact on the design of products, rooms, and systems.

#### Knowledge and understanding

- display knowledge of human / machine interaction and human capabilities and limitations.
- display knowledge of cognition, perception and affect and its influence on product format.
- display knowledge of the human mind and its relation to aesthetics.
- demonstrate comprehension of the connection between sensations and design aspects like; form, color, and texture.

#### Skills and abilities

- demonstrate the ability to explain the ergonomic principles of methods for defining a design project as data collection and analysis, and its impact on the result.

#### Judgement and approach

- demonstrate an understanding of how different competences in product development process contributes to the whole of a product
- demonstrate an understanding of aesthetics related to sensory perception, judgment and experience

### Contents

Literature, lectures and hands on observation will give an in-depth knowledge of human capabilities and limitations and their impact on product design.

The course includes the following elements:

- Ergonomics, concepts and methods
- Customer requirements and analysis

- Idea generation and proposal work
- Study and analysis
- Cognitive Science
- Perception and perception psychology
- Semantics and semiotics

### **Type of instruction**

The course is implemented through lectures, supervision, assignments and projects.

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 within the major subject Mechanical Engineering or Civil Engineering (with relevant courses in construction and design), and 15 credits Mathematics, or equivalent. Passed the course Design Philosophy and Practice 7.5 credits. Proof of English proficiency is required.

### **Examination and grades**

The course is graded Fail (U) or Pass (G).

Registration of examination:

Name of the Test	Value	Grading
Assignments	3 credits	U/G
Project work <sup>†</sup>	4.5 credits	U/G

<sup>†</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 eight weeks before the course starts.

The student is provided with relevant literature at the start of the course.