



## COURSE SYLLABUS **Ergonomics (Human Factors 2), 15 credits**

*Ergonomi (Human Factors 2), 15 högskolepoäng*

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| <b>Course Code:</b> TERS27            | <b>Education Cycle:</b> Second-cycle level                            |
| <b>Confirmed by:</b> Dean Mar 1, 2016 | <b>Disciplinary domain:</b> Technology (95%) and social sciences (5%) |
| <b>Valid From:</b> Jan 2, 2017        | <b>Subject group:</b> AE1   |
| <b>Version:</b> 1                     | <b>Specialised in:</b> A1F  |
| <b>Reg number:</b> JTH 2016/631-313   | <b>Main field of study:</b> Product Development                       |

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### **Intended Learning Outcomes (ILO)**

On completion of the course, the student should

Knowledge and understanding

- Gain knowledge and understanding of human / machine interaction and human capabilities and limitations
- Have knowledge of ergonomics
- Demonstrate knowledge and understanding of the human role in the community
- Have knowledge of cognition, perception and affect and its influence on product format.
- Have knowledge of the human mind and its relation to aesthetics
- Demonstrate an understanding of the interaction between humans and artefacts
- Demonstrate an understanding of the connection between sensations and design aspects like; form, light, sound, color, texture,

Skills and abilities

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

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**

The course is intended to provide a basic understanding of ergonomic principles and its impact on the design of products, rooms and systems, and an in-depth knowledge of human capabilities and limitations and their impact on product design.

The course includes the following topics:

- Ergonomics, concepts and methods
- Customer requirements and analysis
- Idea generation and proposal work
- Study and analysis
- Lighting Science
- Cognitive Science
- Perception and perception psychology
- Presentation Skills
- Semantics, semiotics
- Morphology and design format.

### **Type of instruction**

Teaching consists of lectures, seminars, tutorials and applied project work.

The teaching is conducted in English.

### **Prerequisites**

Passed courses 180 credits in first cycle, at least 90 credits within the major subject Mechanical Engineering or Civil Engineering (with relevant courses in construction and design), and 15 credits Mathematics. In addition, completed course Design Philosophy and Practice, 6 credits and English Language requirements corresponding to English 6 or English B in the Swedish upper secondary school (or the equivalent).

### **Examination and grades**

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

Registration of examination:

| Name of the Test        | Value     | Grading |
|-------------------------|-----------|---------|
| Examination             | 3 credits | 5/4/3/U |
| Assignments             | 3 credits | U/G     |
| Individual Project Work | 9 credits | 5/4/3/U |

### **Other information**

Exemption from entry requirement allowed according to the selection groups of the program, where the course is included.

### **Course literature**

Literature

The literature is preliminary until one month before the course starts.

The Semantic Turn- Klaus Krippendorf