



Faculty of Health, Science and Technology  
Mechanical Engineering

# Syllabus

## Ergonomics

<b>Course Code:</b>	MSGB36
<b>Course Title:</b>	Ergonomics <i>Ergonomi</i>
<b>Credits:</b>	7.5
<b>Degree Level:</b>	Undergraduate level
<b>Progressive Specialisation:</b>	First cycle, has less than 60 credits in first-cycle course/s as entry requirements (G1F)

**Major Field of Study:**  
MTA (Mechanical Engineering)

### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2022-08-31, and is valid from the Autumn semester 2023 at Karlstad University.

### Prerequisites

Registered for Product Development, 15 ECTS credits, or equivalent

### Learning Outcomes

Upon completion of the course, students should be able to:

- apply basic knowledge of physical ergonomics such as physical load, anthropometry, biological variation, and biomechanics,
- explain and apply basic knowledge of cognitive ergonomics such as perception, memory, information processing, attention, learning, decision-making, stress, mental workload, and maltreatment,
- apply basic knowledge of physical factors affecting human beings in relation to light, lighting, sound and noise, climate and vibrations,
- identify and relate factors affecting human performance in the interaction with products,
- analyse and reflect on the results of ergonomic analysis of product systems and draw

conclusions and give recommendations for product improvement,

- present a completed ergonomic analysis of product and workplace orally and in writing, and
- prepare documents for production ergonomic analysis.

### **Content**

The introductory part of the course is theoretical and includes lectures and study of course literature on

- basic anatomy and physiology
- workload ergonomics, system ergonomics, and information ergonomics
- product ergonomics
- product ergonomics and design

The second part of the course involves application of theory in the form of minor projects. Students study and make observations of products and workplace design to collect facts for analysis and assessment.

### **Reading List**

See separate document.

### **Examination**

Assessment of the theoretical component is based on a written exam. Assessment of the application component is based on an individual report of a product analysis and a workplace analysis, presented orally and in writing.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

### **Grades**

One of the grades Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course.

### **Quality Assurance**

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

### **Course Certificate**

A course certificate will be provided upon request.

### **Additional information**

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.