



Faculty of Health, Science and Technology  
Mechanical Engineering

# Syllabus

## Design processes in theory and practice

<b>Course Code:</b>	MSGC34
<b>Course Title:</b>	Design processes in theory and practice <i>Designprocesser i teori och praktik</i>
<b>Credits:</b>	7.5
<b>Degree Level:</b>	Undergraduate level
<b>Progressive Specialisation:</b>	First cycle, has at least 60 credits in first-cycle course/s as entry requirements (G2F)

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

### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2022-09-07, and is valid from the Spring semester 2023 at Karlstad University.

### Prerequisites

Registered for introductory Design, 7.5 ECTS credits, Visual thinking, 7.5 ECTS credits, and Communication tools for industrial design, 7.5 ECTS credits, or equivalent

### Learning Outcomes

The aim of the course is for students to acquire the ability to communicate concepts through visual rhetoric such as sketches, models, and graphic design, and connect them to current research, methodology, and processes. The concepts must be based on a comprehensive sustainability approach in accordance with the UN Global Goals for Sustainable Development.

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

- apply the basics of graphic design and justify choices made in relation to aims and relevant theories and methods,
- identify a problem area which can be solved by means of a service or a service-product

combination,

- apply a few service design tools such as Service Blueprint, Customer Journey, Storytelling,
- complete an independent design project focused on the final stages of the design process,
- reflect upon design processes in relation to current theories on design methods and processes,
- communicate through sketches and models,
- give an account of and reflect upon their own projects in relation to current design theories and methods, and
- critically examine and review another student's project in relation to design theories and methods.

### **Content**

The course covers the following:

- storytelling
- photography and lighting
- surface modelling
- research methods for developing services
- vacuum forming and other manufacturing methods
- projects
- sketching and presentation techniques in graphic design
- introduction to innovation engineering

Instruction is in the form of lectures, literature study, projects, and supervision.

### **Reading List**

See separate document.

### **Examination**

Assessment is based on oral and written assignments related to an individual design project presented in 2D and 3D techniques, and the oral and written review of another student's work.

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.