



Faculty of Health, Science and Technology  
Mechanical Engineering

# Syllabus

## Introduction Course IaD

<b>Course Code:</b>	MSGA18
<b>Course Title:</b>	Introduction Course IaD <i>Introduktionskurs IaD</i>
<b>Credits:</b>	7.5
<b>Degree Level:</b>	Undergraduate level
<b>Progressive Specialisation:</b>	First cycle, has only upper-secondary level entry requirements (G1N)

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

### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2019-09-11, and is valid from the Spring semester 2020 at Karlstad University.

### Prerequisites

General admission requirements plus upper secondary level Mathematics 3c, Physics 2, and Chemistry 1, or equivalent

### Learning Outcomes

The course aims to provide students with an overview of design work and its processes, as well as knowledge of and basic skills in academic writing and presentation.

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

- formulate and give an account of the basic principles for design process components,
- describe the concepts used in industrial design,
- write briefs and project descriptions,

- apply different methods for generating ideas,
- describe methods for evaluating ideas and concepts,
- apply industrial design approaches to simple projects,
- use a sketching technique as a problem-solving method,
- use the terms and concepts of basic colour theory,
- work with images and simple models in presentations,
- demonstrate knowledge of the basic materials and tools of analogue and digital image production, and
- present results orally and in writing.

### **Content**

The course consists of two units, Visual Thinking and Design as a Process. Throughout the course students develop their oral and written communicative skills and their skills in using both analogue and digital techniques. They also acquire basic understanding of colour theory, perspectives, and using images in presentation techniques.

The unit Visual Thinking is a theoretical and practical approach to visual thinking and the importance of its practice to the technological development. Students develop knowledge and understanding of theories on how and why visual thinking generates different potential combinations compared to the verbal-linguistic construction of reality.

The unit comprises the following components:

- Visual thinking
- Perspective theory
- Colour theory
- Analogue and digital image techniques
- Academic presentation techniques

The unit Design as a Process includes theoretical and practical components through which students acquire knowledge of the different stages of the design process. There is a special emphasis on the introductory steps of the process, in order for students to learn about the importance of effective problem formulation. The course includes a small project which students document individually in the final written hand-in assignment.

### **Reading List**

See separate document.

### **Examination**

Assessment is based on oral, written, and creative presentations. Examination of oral and creative assignments involves a small project which is presented in a mandatory final seminar. Examination of written assignments involves an individual hand-in assignment.

If students have a decision from Karlstad University entitling them to special pedagogical 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 Fail (U), Pass (G), or Distinction (VG) 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.