



Faculty of Health, Science and Technology
Mechanical and Materials Engineering

Syllabus

Course Approval

The syllabus was approved by the Faculty Board of Health, Science and Technology on 26 June 2013, and is valid from the Autumn semester of 2013 at Karlstad University.

Course Code: MSGA18

Introduction Course IaD, 7.5 ECTS Credits

(Introduktionskurs IoD, 7.5 Swedish credit points)

Degree Level: Bachelor

Progressive Specialisation: G1N (First cycle, has only upper-secondary level entry requirements)

Language of Instruction

Swedish

Prerequisites

General admission requirements plus upper secondary level Mathematics D, Physics B and Chemistry A, Standard eligibility E3 or general eligibility plus Mathematics 3c, Physics 2, Chemistry 1, field-specific eligibility A8, or equivalent

Major Field of Study

MTA (Mechanical Engineering)

Learning Outcomes

Students are introduced to the professional role of the design engineer and to design and product development processes, and develops knowledge and skills in basic report writing and presentation.

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

- formulate and give an account of the basic principles for the product and design process components,
- outline the role of the engineer,
- 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 basic 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,
- present result orally and in writing.

Content and Form of Instruction

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 combinations than the verbal-linguistic construction of reality does.

The unit comprises the following components:

- Visual and aesthetic thinking
- Perspective theory
- Colour theory
- Analogue and digital image techniques
- Presentation techniques

Reading List

See separate document.

Examination

Assessment is based on oral, written and creative presentations. Some components are mandatory.

Grades

One of the grades FFail (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 assessment is based on student views and experiences as reported in written course evaluations and/or group discussions. Students will be informed of the result of the evaluation and of the measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional Information

Students who enrolled before 1 July 2007 will complete their studies in accordance with the requirements of the earlier admission. Upon completion students may request degree and course certificates to be issued under the current ordinance if they meet its requirements.

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

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