UNIVERSITY OF SKÖVDE

TRANSLATION FROM SWEDISH

COURSE SYLLABUS

Industrial Design and Modelling G1F

7.5 credits

Course code: PR340G
Version number: 2
Valid from: 1 July 2022
Ratified by: Curriculum Committee for Engineering Science
Date of ratification: 6 December 2021

1. General information about the course

The course is provided by the University of Skövde and is named Industrial Design and Modelling G1F (Industriell design och modellering G1F). It comprises 7.5 credits and is a first-cycle course. The level of progression is G1F.

The course is a part of the main field of study in Industrial Engineering. It can also be a part of the main field of study in Product Design Engineering. The disciplinary domain of the course is Technology.

2. Entry requirements

The course has the following entry requirements: passed PR026G Manufacturing Technology and Production Equipment G1N (or the equivalent).

3. Course content

The course deals with parametric solid modeling in 3D-CAD and simple 2D drawings. Based on drawing rules and standards, the student must learn to read and create simpler detailed drawings. Furthermore, the course deals with model based systems engineering (MBSE), how to use CAD models as information carrier for the product life cycle and support domain work, e.g., production planning, production system analysis and simulation.

4. Objectives

After completed course the student should be able to:

- create parameterized CAD models where several parameters controls the geometry,
- use CAD system for assembly and simulation of moving mechanisms,
- interpret and create simple technical drawings based on technical rules and standards,
- use standard component libraries in CAD,
- use 3D-models as information carrier, such as material, mass, measurements and tolerances,
- describe model based systems engineering and how it can be implemented in domain work through the product life cycle such as manufacturing processes,
- use 3D-models to support domain work in the product life cycle.

5. Examination

The course is graded VG (Pass with distinction), G (Pass) or U (Fail).

For the final grade Pass, Pass is required for all examination parts. For the final grade Pass with Distinction, Pass with Distinction is required for all examination parts.

The examinations of the course consist of the following modes of assessment:

- **Written assignment - CAD**
  4 credits, grades: VG/G/U
- **Written assignment - MBSE**
  3.5 credits, grades: VG/G/U

Students with a permanent disability who have been approved for directed educational support may be offered adapted modes of assessment.

6. Types of instruction and language of instruction

The teaching is comprised of supervision, exercises and lectures.

The teaching is conducted in Swedish. Some teaching in English may occur.

7. Course literature and other educational materials

Taavola, K. (2009). *Ritteknik 2000 faktabok*. Nyköping: Athena lär. ISBN 9188816214.

According to the teacher's instructions on the learning platform.

8. Student influence

Student influence in the course is ensured by means of course evaluation. The students are informed about the results of the evaluation and potential measures that have been taken or are planned, based on the course evaluation.

9. Additional information

The content of the course corresponds completely or partially with the following course(s) and cannot be included in the required credits of a degree qualification:

- IP104G - CAD I: Introduction G1N 3 credits
- IP336G - CAD II: Modeling and Documentation G1F 3 credits

Further information about the course, as well as national and local governing documents for higher education, is available on the website of the University of Skövde.