



COURSE SYLLABUS **Integrated Product Development 2, 7.5 credits**

Integrerad produktutveckling 2, 7,5 högskolepoäng

Course Code: TI2S29	Education Cycle: Second-cycle level
Confirmed by: Dean Dec 1, 2018	Disciplinary domain: Technology
Revised by: Director of Education Nov 29, 2019	Subject group: MT1
Valid From: Jan 1, 2020	Specialised in: A1F
Version: 2	Main field of study: Product Development

Intended Learning Outcomes (ILO)

On completion of the course, the student should;

Knowledge and understanding

- display knowledge of selection of appropriate research methods
- demonstrate knowledge of how to find, read and analyze scientific reports and to critically examine and evaluate the works
- demonstrate comprehension of different methods of data collection and analysis, and its impact on the result.

Skills and abilities

- demonstrate an ability to use additive manufacturing as a mean in product realization
- demonstrate an ability to critically and creatively work in a project following a structured and efficient process applicable for development of new products as well as product maintenance
- demonstrate an ability to analyze and assess how a product's design affects various aspects of production and vice versa
- demonstrate an ability to systematically enhance the manufacturability of products using methods from product development.

Judgement and approach

- demonstrate an understanding of the importance of a holistic approach in product development
- demonstrate an understanding of how to integrate essential product life-cycle aspects in a product development process.

Contents

Course covers additive manufacturing as an approach for manufacturing and prototyping. In addition, it covers research methodology and methods and techniques for writing a proper academic report.

The course includes the following parts:

- Additive manufacturing as method for prototyping and manufacturing

- Production aspects and product design properties that are mutually dependent
- Scientific methods used for doing research
- Methods and techniques for writing a proper academic report
- Planning, management and reporting of product development projects.

Type of instruction

The course consists of lectures, exercises and a project. The project work from the course IPD 1 will be continued and examined in this course.

The teaching is conducted in English.

Prerequisites

Passed courses at least 90 credits within the major subject Mechanical Engineering, 21 credits Mathematics, and completed course in Integrated Product Development I, 7,5 credits. Proof of English proficiency is required (or the equivalent).

Examination and grades

The course is graded 5,4,3 or Fail.

The final grade for the course is based upon a balanced set of assessments and the final grade will only be issued after satisfactory completion of all assessments.

Registration of examination:

Name of the Test	Value	Grading
Written examination	3 credits	5/4/3/U
Project work part 2 ¹	4.5 credits	U/G

¹ Part 2 of the project work from Integrated Product Development 1. In addition to the P/F grading on the project, a merit value is given that can affect the student's grade on the course positively.

Other information

Exemption from entry requirement allowed according to the selection groups of the program, where the course is included.

Course literature

The literature list for the course will be provided one month before the course starts.

Product design for manufacture and assembly

Geoffrey Boothroyd

cop. 2002 2. ed., rev. and expanded. New York : Dekker