



## KURSPLAN **Integrerad produktutveckling 2, 7,5 högskolepoäng**

*Integrated Product Development 2, 7.5 credits*

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<b>Kurskod:</b>	TI2S29	<b>Utbildningsnivå:</b>	Avancerad nivå
<b>Fastställd av:</b>	VD 2018-12-01	<b>Utbildningsområde:</b>	Tekniska området
<b>Reviderad av:</b>	Utbildningschef 2019-11-29	<b>Ämnesgrupp:</b>	MT1
<b>Gäller fr.o.m.:</b>	2020-01-01	<b>Fördjupning:</b>	A1F
<b>Version:</b>	2	<b>Huvudområde:</b>	Produktutveckling

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### Lärandemål

On completion of the course, the student should;

Kunskap och förståelse

- 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.

Färdighet och förmåga

- 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.

Värderingsförmåga och förhållningssätt

- 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.

### Innehåll

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.

### Undervisningsformer

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.

Undervisningen bedrivs på engelska.

### Förkunskapskrav

Genomgångna kurser med lägst 90 hp i huvudområdet Maskinteknik samt 21 hp Matematik. Dessutom krävs genomgången kurs i Integrerad produktutveckling I, 7,5 hp samt kunskaper i Engelska 6/Engelska B (eller motsvarande kunskaper).

### Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

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.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Skriftlig tentamen	3 hp	5/4/3/U
Projektarbete 2 <sup>1</sup>	4,5 hp	U/G

<sup>1</sup> 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.

### Övrigt

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

### Kurslitteratur

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