



KURSPLAN

Integrerad produktutveckling I, 7,5 högskolepoäng

Integrated Product Development I, 7.5 credits

Kurskod:	TIIS29	Utbildningsnivå:	Avancerad nivå
Fastställd av:	VD 2018-12-01	Utbildningsområde:	Tekniska området
Reviderad av:	Utbildningschef 2019-11-29	Ämnesgrupp:	MT1
Gäller fr.o.m.:	2020-01-01	Fördjupning:	A1F
Version:	2	Huvudområde:	Produktutveckling

Lärandemål

On completion of the course, the student should;

Kunskap och förståelse

- demonstrate knowledge of working methods and organization of integrated collaboration in product development projects including in-depth knowledge in planning, reporting and managing product development projects.
- have knowledge of costing methods and cost analyzes that are applicable during the product development process
- demonstrate in-depth knowledge of product development methods and computer-based tools for product modeling and integration of product related information.
- demonstrate knowledge of planning for design variants in product development
- demonstrate knowledge on sustainable development in product development.

Färdighet och förmåga

- demonstrate the ability to plan, form and start up a project following a structured and efficient process applicable for development of new products as well as product maintenance
- demonstrate an ability to critically analyze a product's manufacture and assembly.

Värderingsförmåga och förhållningssätt

- demonstrate an understanding of the multidisciplinary character of product development.

Innehåll

Course covers the relationship between a product's design, stakeholders' requirements and life cycle aspects, and resulting effects on these caused by decisions taken during product development. Various methods and tools to support integrated product development are introduced and applied. A strong emphasis is put on the integration between design and production. The course also includes activities where practical skills in planning, management and reporting of project are trained.

The course includes the following parts:

- A holistic approach to product development and a life-cycle view on the product design

- Methods and tools for integrated product development (DFA, DFM, FMT, DSM, FMEA)
- Integration of product models and product related information
- Production aspects and product design properties that are mutually dependent
- Methods and approaches in engineering design supporting efficient manufacture and assembly
- Operation and organization of integrated collaboration
- Cost estimation and costs analyzes in product development
- Design for Sustainability in practice
- Design for packaging and logistics
- Design for variety and Set-based concurrent engineering
- Production economics and aspects on product design
- Management and organization of integrated product development
- Planning, management and reporting of product development projects.

Undervisningsformer

The course consists of lectures, exercises, seminars and a project. The project work is to be continued in the Integrated Product Development 2 course.

Undervisningen bedrivs på engelska.

Förkunskapskrav

Genomgångna kurser med lägst 90 hp i huvudområdet Maskinteknik samt 21 hp Matematik. Dessutom krävs genomgången kurs i Industriell produktframtagning i samverkan, 6 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 del 1 [†]	3,5 hp	U/G
Övningar och seminarier	1 hp	U/G

[†] Project work part 2 will be conducted and examined in Integrated Product Development 2.

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

Articles and course compendium free of charge.