



## COURSE SYLLABUS

# Integrated Product and Production Development, 9 credits

*Integrerad produkt- och produktionsutveckling, 9 högskolepoäng*

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<b>Course Code:</b> TPPS29	<b>Education Cycle:</b> Second-cycle level
<b>Confirmed by:</b> Dean Dec 4, 2018	<b>Disciplinary domain:</b> Technology
<b>Revised by:</b> Director of Education May 27, 2019	<b>Subject group:</b> IE1
<b>Valid From:</b> Jan 1, 2020	<b>Specialised in:</b> A1F
<b>Version:</b> 2	<b>Main field of study:</b> Production Systems

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### Intended Learning Outcomes (ILO)

After completing the course, the student shall

Knowledge and understanding

- Demonstrate knowledge about and be able to describe the structure and content of the product development process.
- Have knowledge of methods and approaches that are used during product development to analyze and improve a product's manufacturability
- Have knowledge of cost management techniques used during the product development

Skills and abilities

- Demonstrate skills in describing and analyzing how various product development activities and decisions affect production
- Demonstrate an ability to explain how the physical design of a product affects production
- Demonstrate skills in describing the various factors that affect the interaction between product development and production

Judgement and approach

- Demonstrate the ability to relate a company's practical work to theories of collaboration between product development and production
- Demonstrate the ability as a group member to perform and present project and seminar assignments, both orally and in writing and to critically and constructively provide feedback on such presentations.

### Contents

The course covers the activities undertaken and decisions made during the product development process that affects the ability to achieve efficient and effective production. The course further addresses the methods and approaches that can be used to make product development and production to work together in a cost effective way for the holistic picture.

The course includes the following topics:

- Product development process structure and content: product planning, product specifications, concept development, prototyping use, etc.
- Methods and approaches for design for manufacturing and assembly
- Product architecture impact on production
- Collaboration between product development and production
- Cost analysis during product development

### Type of instruction

Lectures, seminars and project work.

The teaching is conducted in English.

### Prerequisites

Passed courses 180 credits in first cycle, at least 90 credits within the major subject Mechanical Engineering, Industrial Engineering and Management or Civil Engineering, and 15 credits in Mathematics, and completed courses Production Development I, Strategy and System, 9 credits and Production Development II, Methods and Tools, 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 grade is decided from the weighted results of the written exam and the performed project as well as passed grade for all other tests.

Registration of examination:

Name of the Test	Value	Grading
Examination	3 credits	5/4/3/U
Project Assignment	4 credits	5/4/3/U
Seminars and Exercises	2 credits	U/G

### Other information

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

### Course literature

Literature

The literature is preliminary until one month before the course starts.

Title: Product Design and Development, (6:e ed)

Authors: Ulrich, K., Eppinger, S, 2016

Publisher: McGraw-Hill

ISBN: 978-0-07-802906-6