JÖNKÖPING UNIVERSITY
School of Engineering

COURSE SYLLABUS

Integrated Product and Production Development, 7.5 credits

Integrerad produkt och produktionsutveckling, 7.5 högskolepoäng

Course Code:	TPPR25	Education Cycle:	Second-cycle level
Confirmed:	Feb 01, 2025	Disciplinary domain:	Technology
Valid From:	Sep 01, 2025	Subject group:	Mechanical Engineering
		Specialised in:	A1N Second cycle, has only first-cycle course/s as entry requirements
		Main field of study:	Product Development, Production Systems

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and understanding

- display knowledge of ways of working, methods, and tools used during the development of products to analyze and improve a product's manufacturability
- display knowledge of cost management techniques used during product realization
- display knowledge of factors that affect the integration of product development and production during product realization

Skills and abilities

- demonstrate the ability to apply methods and tools to strengthen the integration among different organizational functions such as product development and production
- demonstrate the ability to analyze and improve products from a manufacturing point of view

Judgment and approach

- demonstrate the ability to relate a company's practical work to theories of integration between product development and production.

Content

The course contains a holistic perspective on product realization with a focus on the integration between product and production. The course considers methods and tools to support work at the interface between product and production development. The course contains methods to support creativity in product and production development, as well as considering analysis and improvement of a product from a cost, quality, manufacturability, assembly and sustainability point of view.

The course includes the following elements:

- Methods and approaches for design for manufacturing, assembly, disassembly
- Design for cost
- Product architecture´s impact on production
- Methods and tools to support integration between product development and production during the development of new products
- Factors that affect integration between product development and production during the development of new products

Type of instruction

Lectures, seminars, exercises and assignments.

Language of instruction is in English.

Entry requirements

The applicant must hold the minimum of a bachelor´s degree (i.e the equivalent of 180 ECTS credits at an accredited university) with at least 90 credits in mechanical engineering, industrial engineering and management, product development, materials engineering, manufacturing engineering, industrial engineering, civil engineering or construction engineering. The bachelor's degree should comprise a minimum of 15 credits in mathematics. Proof of English proficiency is required (or the equivalent).

Examination and grades

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

Registration of examination:

Name of the Test	Value	Grading
Examination [1]	3 credits	5/4/3/U
Assignment	2.5 credits	G/U
Seminar	2 credits	G/U

[1]Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

Please note that changes may be made to the reading list up until eight weeks before the start of the course.

Title: Product Design and Development, Seventh Edition
Authors:Karl T. Ulrich. Steven D. Eppinger. Maria C. Yang (2020)
Publisher: McGraw-Hill Education
ISBN: 9781260566437