Product Development

Programme course

6 credits

Product Development

TMKT78

Valid from: 2017 Spring semester

Determined by
Board of Studies for Mechanical Engineering and Design

Date determined
2017-01-25

Main field of study
Product Development, Mechanical Engineering

Course level
First cycle

Advancement level
G2X

Course offered for
- Mechanical Engineering, Master's Programme
- Sustainability Engineering and Management, Master's Programme
- Energy-Environment-Management
- Industrial Engineering and Management, Master's programme

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Knowledge equivalent to a bachelor degree in an engineering subject.

Intended learning outcomes

The main objective of the course is to give students an introduction to product development, which is an important industrial process with high impact on manufacturing performance etc. It is therefore very important for everyone, not just engineering designers and other directly involved in product development, to understand product development. It is also important to be able to participate in product development organizations as representatives of other functions in a business.
After completing the course the student will be able to:

- know and describe the most central parts of product development as development processes, engineering design, preparation of specifications, concept generation, concept evaluation, prototyping and testing, product architecture, design, environment-driven and production -driven product development and patents.
- attack a minor technical problem in a systematic way using general methodology for concept generation. From needs and requirements through functional analysis and solution generation to concept proposals .
- in a small group, perform a minor concept generation project and both orally and in writing report such a project.
- describe basic design principles of sustainable environmental development.

Course content

Different types of development processes and organizations , product planning , customer requirements and specifications , concept generation , concept evaluation , prototyping and testing, product architecture, design, environment-driven product development , production, adaptation and patents.

Teaching and working methods

A series of lectures will introduce the theoretical content of the course and a smaller projects carried out in groups of approx . 4-5 students.

Examination

PRA1	Product design project	2 credits	U, G
TEN1	Written examination	4 credits	U, 3, 4, 5

Grades

Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent
Peter Hallberg

Examiner
Jonas Detterfelt

Course website and other links
lisam.liu.se

Education components
Preliminary scheduled hours: 48 h
Recommended self-study hours: 112 h

Course literature

Additional literature

Books

Karl T Ulrich och Steven D Eppinger, (2012) *Product Design and Development* 5
ISBN: 978-007-108695-0

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.