Production Development

Programme course

6 credits

Produktionsutveckling

TMMI47

Valid from: 2017 Spring semester

Determined by
Board of Studies for Mechanical Engineering and Design

Date determined
2017-01-25

Main field of study
Mechanical Engineering

Course level
First cycle

Advancement level
G2X

Course offered for
- Mechanical Engineering, B Sc in Engineering

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.

Intended learning outcomes
The course in production development will provide knowledge about the production process in respect of qualified development, planning and coordination of production.
The students should after the course be able to analyze, evaluate and modify a production process with respect to economic, technological, ergonomic and organizational factors. After completing the course, students will be able to:

- Prepare and plan the production of a product
- Mapping process flows and perform value stream mapping
- Improve value streams in order to provide added value and eliminate wastage, ie, promote economic growth and secure employment
- Describe production layout impact on workplace design
- Describe methods of statistical quality control
- Describe the concept of lean production and relevant tools

After the course the student can:

- Develop production variant for manufacturing and assembly to final product
- Conduct a study and provide suggestions for streamlining the production process with respect to ergonomic, economic, quality of technical aspects.
- Prepare and present proposals on how changes can best be used for the development of a production section

Course content
From strategy to production,
Development of production systems in practice and theory
Lean Production in theory and practice, and Value Stream Mapping
Selection of production process and layout
Line balancing
Design of process layout
Start up
Evaluation
Physical, psychosocial and organizational aspects of workplace design

Teaching and working methods
The course consists of lectures, case studies and laboratorywork

Examination

UPG2	Required case exercises	1 credits	U, G
LAB1	A mandatory laboratory course	1 credits	U, G
TEN2	A written examination	4 credits	U, 3, 4, 5

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

Other information
Supplementary courses: Industrial Automation. Industrial Automation - Project.

Department
Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent
Mats Björkman

Examiner
Mats Björkman

Course website and other links
http://www.iei.liu.se/indprod/grundutbildning/tmmi47-produktionsutveckling/info?l=sv

Education components

Preliminary scheduled hours: 36 h
Recommended self-study hours: 124 h

Course literature

Additional literature

Books

Bellgran, M:, Säfsten, K, (2005) *Produktionsutveckling – Utveckling och drift av produktionssystem*
ISBN: 91-44-0336-5

Compendia

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.