

# 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://stydokument.liu.se/Regelsamling/Innehall/Utbildning\\_pa\\_grund-\\_och\\_avancerad\\_niva](http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva).