



# ML1906 Factory Design - Shop Layout, Production Flow and Work Environment 7.5 credits

Verkstadsutformning - layout, flöde och arbetsmiljö

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

## Establishment

Course syllabus for ML1906 valid from Spring 2016

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

First cycle

## Main field of study

Technology

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

After passing the course, the student should be able to:

- Explain the principle of digital factories and their relation to real factories
- Use digital visualisation for: creation of layouts for complete factories, specific production and assembly cells and for assessment of manufacturing concepts
- Design a workplace with regard to ergonomics, light and sound
- Design a workplace considering ecologically, socially and economically sustainable development
- Compare and evaluate the benefits of designing workshops digitally, compared to doing it in real life

## Course contents

- Introduction to digital factories- what is a digital factory and why is it needed? Relation between digital and real factories
- Workshop layout and production philosophies in practice
- Introduction of a visualization program
- Digital visualisation and modelling of manufacturing concepts
- Digital visualisation and modelling of factory layouts
- Industry guest lectures on usage and benefits of digital factories
- Laboratory sessions on a specific use case for a digital factory
- Group assignment to develop proposal for a workshop-to-be, where one or more of Ecologically, Socially and Economically Sustainable Development are considered

## Specific prerequisites

### Examination

- INL1 - Assignment, 1.5 credits, grading scale: P, F
- TEN1 - Written examination, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Exercises, 2.0 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

### Ethical approach

- All members of a group are responsible for the group's work.

- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.