



# ML1324 PLC- Programming, Minor Course 6.5 credits

PLC-programmering, mindre kurs

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

## Establishment

Course syllabus for ML1324 valid from Autumn 2014

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

Programming, basic course, ML1300, or the equivalent

## Language of instruction

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

## Intended learning outcomes

- On completion of the course the student should be able to: analyse and solve control system problems that has been presented verbally or with simple schematic sketches
- use GRAFCET as tools to solve control system problems
- put an unknown PLC in operation based on manuals and similar documentation
- connect the sensors and actuators for a control system to a PLC
- program in LD, FDB, SFC and ST (programming languages that are included in the IEC 61131-3 standard)
- identify the different components of a profibus system
- indicate common problems associated with a profibus system and how these can be prevented or resolved

## Course contents

- Description of control systems: timing diagrams, sequence charts, flow charts and sequential functions charts (GRAFCET).
- Sensors and actuators
- Programming in LD, FDB, SFC and ST
- Laboratory implementations on control systems and control problems
- PROFIBUS

## Disposition

- Lectures
- Laboratory exercises
- Presentation

## Course literature

Meddelas 1 månad före kursstart

## Examination

- RED1 - Presentation, 1.5 credits, grading scale: P, F
- LAB1 - Laboratory Work, 5.0 credits, grading scale: A, B, C, D, E, FX, 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.

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

## Other requirements for final grade

LAB1 and RED1 approved.

The final grade is decided by the grade in LAB1.

## 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.