FMG3401 Cloud-Based Cyber-Physical Systems in Manufacturing 6.0 credits

Molnbaserade cyberfysiska system inom produktion

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

Establishment

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Degree of Master in technology, or the equivalent

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:
• Apply and explain relations are important for modern ICT technician for production system.
• Describe how a cyber physical system is established and utilised in the production environment through supervision event control and prediction of maintenance need.
• Explain how ICT- technician can support sustainable production with regard to energy efficiency, human safety, cyber security and cooperation between man and robot
• Describe a cyber physical system's architecture, standards and use based on a "Internet of Manufacturing Things" - perspective
• Explain the individual research domain in a broader context of sustainable production

Course contents

The course consists of 4 important parts:
Part 1: Literature survey and trends
Part 2: Cloud Based supervision, planning and control of cyber physical systems (cps)
Part 3: Sustainable Robot assembly in a CPS environment
Part 4: Design and life-cycle analysis for cps

Examination

- INL1 - Assignment, individual report, 1.0 credits, grading scale: P, F
- INL2 - Assignment, report, 1.0 credits, grading scale: P, F
- INL3 - Assignment; laboratory work, 1.0 credits, grading scale: P, F
- INL4 - Assignment, report, 1.0 credits, grading scale: P, F
- INL5 - Assignment, individual research article, 1.0 credits, grading scale: P, F
- LAB1 - Assignment, laboratory work, 1.0 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.

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

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.