ML1605 Industrial Maintenance and Reliability for Sustainable Production 6.0 credits

Industriell underhållsteknik och driftsäkerhet för hållbar produktion

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

Establishment

Course syllabus for ML1605 valid from Spring 2018

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

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:

- account for which factors influence availability and operational reliability
- account for the different types of maintenance work- corrective/preventive, operator/specialist maintenance and when they are applied
- characterise errors, their sources and distribution patterns
- carry out FMEA on a technical system
- calculate the reliability of a technical system
- understand relationships between maintenance strategies and sustainability of a technical system
- choose maintenance strategy based on economics and technical feasibility
- account for basic concepts and technologies in preventive maintenance- inspections, troubleshooting, condition monitoring
- account for basic tribology
- assess the maintenance characteristics of an equipment
- account for the fundamentals of improvement work
- analyse a technical system from a maintenance perspective
- terminology and definitions according to std the SS-EN 13306 in Swedish and English
- account for the basics of metrology theory (knowledge of measuring techniques in different technical domains) as well as practical exercises.
- carry out a visual planning of maintenance work
- use basic tools for systematic problem solving

Course contents

- RCM
- Reliability
- Maintenance engineering
- Tribology
- Project management

Course literature

Meddelas vid kursens start.

Examination

- PRO2 - FMEA project, 1.5 credits, grading scale: P, F

- PRO1 - Assignment, reliability analysis, 1.5 credits, grading scale: P, F
- TEN1 - Written examination, 3.0 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

Examination

Written assignment Reliability analysis

FMEA Project

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.