



Course syllabus

Faculty of Technology
Department of Mechanical Engineering

1SE019 Tillståndsövervakningssystem I, 7,5 högskolepoäng
Asset health management I, 7.5 credits

Main field of study

Total Quality Maintenance

Subject Group

Industrial Engineering and Management

Level of classification

First Level

Progression

G1F

Date of Ratification

Approved by Faculty of Technology 2014-10-03
The course syllabus is valid from autumn semester 2015

Prerequisites

Basic eligibility and knowledge corresponding to Industrial measurement and failure analysis 7,5 hec (1SE006), Maintenance planning 7,5hec (1SE016) and Computational methods for technical application 15 hec (1MA112), or the equivalent.

Objectives

After completing the course the student is expected to be able to

- account for technologies and methods used in condition monitoring
- design a measuring round
- understand the technical and economical effects of condition-monitoring on machinery and production processes
- describe KPIs that can be used to monitor the effects of condition monitoring and how the use of condition monitoring affects the organization
- understand the role of condition-monitoring in maintenance and production planning, in-service training and working environment and also in the profitability of the company
- write a technical report with linguistic and logical precision

Content

The course comprises the following elements:

- Methods used in condition monitoring
- Measurement and analysis methods
- Impact of condition monitoring on production, quality, man and environment
- Laboratory work in condition monitoring and SPM

- Project work within the field of condition monitoring

Type of Instruction

The teaching consists of lectures, group work, seminars, laboratory work, assignments and a case study.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.

The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

The examination is based on submitted reports and oral or written presentation of compulsory assignments.

In order to receive the grade Pass students must demonstrate knowledge that corresponds to the expected learning outcome.

Course Evaluation

A course evaluation will be carried out and compiled after the course is completed. The compilation will be presented to the current board as well as to the students and filed.

Credit Overlap

This course cannot be part of a degree in combination with another course in which the content fully or partly correspond to the content of this course: Overlaps fully with Condition monitoring - production, man and environment SEC927 and to about 5 hp with Condition monitoring technology SE9973 (SEC917). 1SE015 Asset health management I, 7,5 hec.

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Some elements in the course may entail costs defrayed by the course participant.

The course language is English if international students attend the course.

Required Reading and Additional Study Material

Required reading

Girdhar, Pares, *Practical machinery vibration analysis and predictive maintenance*, edited by C. Scheffer, Newnes, Oxford, 2004.

Hagberg, Leo & Henriksson, Tomas,
Profitable maintenance: 8 steps to assured production. Part 3. Stockholm: Mentor Communications, Latest edition.

Hagberg, Leo & Henriksson, Tomas,
Profitable maintenance: 8 steps to assured production. Part 7. Stockholm: Mentor Communications, Latest edition.

Björk, L., Räisänen, C., *Academic writing A university writing course*, Lund, Studentlitteratur, 2003.

Current scientific articles

Reference Literature

Preventive maintenance/essential care and condition monitoring, Raleigh, IDCON, N.C., 2006.

