MG219V Maintenance Management 12.0 credits

Maintenance Management

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

Establishment

Course syllabus for MG219V valid from Spring 2010

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

- Minimum 120 university credits (Swedish university points, hp) and
- English A or equivalent

Language of instruction

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

Intended learning outcomes

Course goals: The course explains how to develop a maintenance strategy, and how to implement it across the organization. Both managerial issues as well as maintenance engineering are covered. The main issue is to understand the mechanisms affecting plant availability, and how to shape the maintenance function to achieve the maintenance objectives required by the current and future goals of the production process. The course covers also the state-of-the-art maintenance strategies, techniques and methods in a life cycle perspective. The course content is divided into four modules – reliability performance of production plants, maintenance methods and techniques, maintenance information systems, and management and organization.

Course contents

Course contents: To become competent to manage and develop the maintenance activities in a modern enterprise and to run them cost effectively requires broad knowledge from several areas, and understanding of specifics of the maintenance field. This course provides both the theoretical knowledge as well as extensive training on case studies. The following is a list of topics to be covered:

Management and Organization: This course module treats the contemporary managerial (organizational and economical) topics in maintenance activities. The curriculum covers also the maintenance activities in the development and procurement of new production equipment, translation of production requirements into maintenance objectives, and how to achieve the objectives with optimized resources. Also covered is how the maintenance experience can be used during the design phase, and how to define the future maintenance needs of a company. Actual European standards within maintenance are discussed. As well as laws and regulations regarding labor, liability, guarantee environment, energy, etc.

Reliability performance of production plants: This course module covers knowledge about how to guide, control and develop the availability performance activities, in order to assure the performance of the production, the quality of the products, the safety regulations and the environment conditions. After studying this module, the student will have good knowledge of all the availability performance activities that shall be taken into account during the entire life cycle of the production system.

Maintenance methods and techniques: This part of the course covers definition and development of the maintenance work plan. The theories and methods that are used to optimize the mix between corrective maintenance, preventive maintenance, strategies, and modifications are discussed – how to choose the right methods for the best cost effectiveness.

Maintenance information systems: This part covers the different methods and systems used in the decision making process, how to assure that the maintenance activities are cost effective, and are supporting the company profit. Further, the means how to specify the system requirements and how to develop and use the information systems for planning, control, feedback analysis and improvements are discussed.

Disposition

1-2 occations. The course is taught in English.

Course literature

Lecture notes, Jan Frånlund “The Maintenance Management Tutorial”E-learning documentation.

Equipment

Internet access.

Examination

- INL1 - Assignment, 1.5 credits, grading scale: P, F
- INL2 - Assignment, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 6.0 credits, grading scale: A, B, C, D, E, FX, F
- INL3 - Assignment, 1.5 credits, grading scale: P, F
- INL4 - Assignment, 1.5 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.

Examination, assignments.

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.