

Course syllabus

Industriellt miljöarbete Industrial Environmental Management

KIIF01, 7,5 credits, G2 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED W

Date of Decision: 2023-03-27

General Information

Elective Compulsory for: MLIV1

Elective for: C4, D4, E4, F4, I4, W4, R4

Language of instruction: The course will be given in English on demand

Aim

Based on previous gained knowledge in a particular field of engineering, the student should be able to identify and evaluate preventive solutions to environmental problems using both technical and management-oriented tools and methods.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- have knowledge of common technical strategies to improve efficiency in the management of water, energy and material flows, including monitoring, maintenance, recycling, cleaner technologies and good housekeeping.
- understand how environmental management systems are set up and their role in industrial environmental management
- learn technological strategies for effectivisation of water, energy and material flows (including surveillance, maintainance, reuse, cleaner technology, process modifications, good housekeeping, etc.)
- understand how life cycle thinking affects industrial environmental management.

- understand the role and responsibility of the engineer in reducing environmental impact from industrial operations.

Competences and skills

For a passing grade the student must

- be able to solve problems together with students from other engineering programmes
- be able to solve real-life cases within the subject field

Judgement and approach

For a passing grade the student must

- understand the role and responsibility of the engineer in reducing environmental impact from industrial operations.

Contents

Pollution prevention solutions are attractive both to society in general and to industry but require knowledge in the fields of processes, products and management in modern business organisations. The course gives participants the chance to explore solutions that use technical as well as managerial tools and methods. The various course elements deal with the key aspects of process integrated environmental protection, including technical strategies to increase efficiency in water- energy- and material flows (exploring methods such as monitoring, maintenance, cleaner technology, process modification, on-site recycling, good housekeeping) and environmental management (including supply chain management and an introduction to current environmental management standards such as ISO 14000). Product related issues constitute a central part of the course looking into life cycle analysis, ecodesign and ecolabeling. The course also takes a wider perspective and look at industrial development and the engineer's role and responsibility to work with industry to reduce environmental impacts. The course consists of lectures in combination with seminars, exercises and a major assignment; all with an ambition to have a high level of student activity. Professionals in environmental management regularly contribute to the course.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: Assignment and written exam.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

The number of participants is limited to: 60

Selection: Credits remaining for the degree. Priority is given to students enrolled on programmes that include the course in their curriculum.

The course might be cancelled: If the number of applicants is less than 25.

The course overlaps following course/s: KII010

Reading list

- Rodhe, H. & Karlsson, M. (eds.): Textbook on Cleaner Production. IIIIEE Lund University , 2002.
- Johansson, A., et al.: Strategies for Cleaner Technology. IIIIEE, Lund University, 2003.

- Brorson T., & Almgren R.: ISO 14001 för små och medelstora företag. SIS förlag, 2012, ISBN: 9789171628435.
- Moltan-Hill P.: The Business Student's Guide to Sustainable Management. Greenleaf Publishing, 2014, ISBN: 9781783531394.

Contact and other information

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Course homepage: <http://www.iiee.lu.se>