



Course syllabus

Faculty of Technology

Kalmar Maritime Academy

1DU17D Miljökunskap för drifttekniker, 5 högskolepoäng

1DU17D Environmental Science for Operating Engineering, 5 credits

Main field of study

Environmental Science

Subject Group

Environmental Science

Level of classification

First Level

Progression

G1N

Date of Ratification

Approved by Faculty of Technology 2017-12-18

The course syllabus is valid from autumn semester 2018

Prerequisites

General entry requirements and Mathematics 2a / 2b / 2c, Physics 1b1 / 1a or

Mathematics B, Physics A (Field-specific entry requirements 7/A7). Physics A, Physics 1b1 / 1a can be replaced by Natural Science 2 or equivalent.

Objectives

After completing the course, the student should be able to:

- account for sustainable development
- describe an ecosystem and its structure
- explain some important environmental problems
- describe biodiversity and resilience
- describe how environmental profiling can provide competitive advantages for an activity
- briefly explain the concept of circular economy
- explain the structure of Swedish environmental legislation
- discuss the meaning of different legal principles
- describe environmental legislation to simpler environmental issues
- describe some of the most important methods and tools for environmentally-friendly activities, such as environmental management system, ecodesign, life

- cycle analysis and eco-labeling
- briefly explain the different consequences of chemical use.

Content

Basic Ecology with Environmental Effects

- Ecosystem design and function
- Energy flow and material turnover
- Important land and water ecosystems
- Biodiversity and Resilience
- Anthropogen environmental impact globally, regionally and locally in air, soil, water and biota

Strategies in Environmental Work

- Development of environmental work
- Environmental Protection Strategies
- Environmental impact from material and process selection
- Circular economy and waste management
- Tools in environmental work (environmentally sound product development, life cycle analysis, eco-labeling, environmental management system, environmental risk analysis, etc.)

Environmental legislation

- Introduction to environmental legislation: the Environmental Code with Consequential Legislation and other relevant environmental legislation.
- Function of central, regional and local environmental authorities

Chemical products

- Chemical Groups
- Labeling of chemicals
- Safety
- Legislation governing the work of chemical products

Type of Instruction

The teaching consists of comprehensive lectures, excursions, study visits and seminars. Mandatory elements are specified in the course schedule.

Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

Examination done through written examinations and by evaluating performance in connection with excursions and seminars.

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed.

Required Reading and Additional Study Material

Bernes, Claes. 2016. *A warmer world*. Third Edition. monitor23. Naturvårdsverket ISBN 9789162013004. Available as an ebook for free download. 200 pages.

European Environment Agency (EEA), 2015. *The European Environment State and Outlook 2015: Assessment of Global Megatrends*. EEA, Copenhagen. 140 pages. ISBN9789292135348.

Alriksson, Stina. *Company environmental work*. Compendium. Linnaeus University. Latest issue (pdf on the course page) 98 pages.