



Course syllabus

Faculty of Technology
Kalmar Maritime Academy

4SJ03A Grönare Sjötransporter, 7,5 högskolepoäng
Greening Maritime Transport, 7.5 credits

Main field of study

Maritime Science

Subject Group

Shipping

Level of classification

Second Level

Progression

A1N

Date of Ratification

Approved by Faculty of Technology 2015-05-22

The course syllabus is valid from spring semester 2016

Prerequisites

180 ECTS credits in a relevant area of maritime science, and English language skills corresponding to English B, IELTS or TOEFL.

Objectives

Knowledge and understanding

After completing the course the participant is expected to:

- Understand the environmental impact of shipping activities in relation to domestic and global ecological challenges such as climate change, resource depletion and the loss of biodiversity, and demonstrate the ability to evaluate the complexity of mitigation possibilities.
- Understand the history and evolution of maritime environmental governance and green shipping from different perspectives (international conventions, European Commission Directives, policies, corporate social responsibility) at EU and international level.
- Be able to identify best practices in maritime transport towards sustainable activities.
- Understand the importance of integrating environmental considerations and trade-offs in decision making processes.

Competence and skills

After completing the course the student is expected to verbally and in writing:

- Be able to articulate the complexity and diversity of global, regional and local environmental issues related to shipping with specific focus on the marine

- environment.
- Be able to show knowledge in the use of standardized methods to evaluate the environmental performance of ships.
- Be able to critically discuss effective environmental governance in the maritime sector.

Content

The course includes the following elements:

- Environmental impact of shipping in different marine ecosystems, in relation to climate change, resources, biodiversity, and human health (e.g. emissions air-water, chemical waste, fuel, ship recycling, shipping lanes, ballast, noise).
- Best practices related to maritime environmental issues (e.g. pollution prevention,

sustainable technology to reduce emissions to air-water, green ships, environmental awareness, sustainable industry).

- Maritime environmental governance: existing and developing EU and international regulations, environmental and energy management systems, economic incentives, providers and personal responsibilities.

The course consists of three mandatory physical meetings. The first meeting is a start-up in Kalmar with information and lectures, followed by self-studies on distance. Additional material will be available on the e-learning platform MyMoodle. The second meeting consists of literature seminars in Kalmar, followed by completion of a written report on distance. The third meeting will be a one day seminar on the written reports.

Type of Instruction

Lecturers, group assignment, seminars, activities on MyMoodle platform.

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 written reports, oral presentations and active participation in 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 at the Faculty.

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: 4GM01A Greening Maritime Transport, 7.5 credits

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.

Required Reading and Additional Study Material

Required reading

OECD (2010). Globalization, transport and the environment. ISBN 9786407919.
(selected chapters)

Michael Roe (2012). Maritime governance and policymaking (selected chapters)

Fridell et al. (2013). Ships and air pollution. Booklet written for NMU-project. Copies can be supplied for the course by IVL.

Reference Literature

Fridell et al. (2013). An analysis of environmentally differentiated port fees. Report for the project Clean Baltic Sea shipping.

Second IMO GHG Study (2009). Prevention of air pollution from ships. Marine Environment Protection Committee.

Alvik et al. (2010). Pathways to low carbon shipping. Abatement potential towards 2030. Report made by DNV.

European Environmental Agency (2006). Transport and Environment: facing a dilemma, Term 2005: Indicators tracking transport and environment in the European Union. Luxembourg: Office for Official Publications of the European Communities, 2006 (ISBN 92-9167-811-2)

Selected articles by James Corbett.