

SYLLABUS FOR

# Environmental Management Systems (EMS)

7.5 ECTS

CODE  
NML702

## APPROVAL

Approved 2008-08-28 by The Faculty Board at Gotland University, revised 2010-xx-xx. Valid as from spring term 2011.

## SUBJECT AND LEVEL

Environmental and Quality Management Undergraduate level 100.

## LEARNING OUTCOMES

After completing the course the students should be able to:

- Explain basic concepts on sustainable development
- Explain and reflect on the status of sustainable development worldwide
- Explain and evaluate total quality management (TQM) principals, PDCA-cycle, Profound Knowledge (E. Deming), ISO 9000, EMS principals, Life Cycle Analysis (LCA), Eco-Management and Audit Scheme (EMAS), ISO 14000, ISO 26000 and their applications
- Apply EMS tools.

## CONTENTS

*Unit 1. EMS Fundamentals, 3 ECTS:* Basic concepts of sustainable development. Status and trends of sustainable development worldwide. TQM principles, PDCA-cycle, Profound Knowledge (E. Deming) and ISO 9000. EMS principals, Life Cycle Analysis (LCA), Eco-Management and Audit Scheme (EMAS), ISO 14000 and ISO 26000.

*Unit 2. EMS Assignment, 1.5 ECTS:* An EMS instruction for a specific case.

*Unit 3. Individual Project Report, 3 ECTS:* EMS applied to a real or realistic system.

## ENTRANCE REQUIREMENTS

General entrance requirements.

## TYPE OF TEACHING

Internet based with compulsory assignments, discussions and report.

## EXAMINATION AND GRADES

Units 1 and 2 are examined by assignments and unit 3 by a report. Grades on units and course are Pass with distinction (VG), Pass (G), and Fail (U). The grade Pass requires Pass or higher on all units. The grade Pass with distinction requires in addition Pass with distinction on unit 2 and 3.

## LITERATURE

EMAS - Eco Management and Audit Scheme,

[http://ec.europa.eu/environment/emas/index\\_en.htm](http://ec.europa.eu/environment/emas/index_en.htm)

EMAS Toolkit for small organizations,

<http://ec.europa.eu/environment/emas/toolkit/>

Environmental Management System, US Environmental Protection Agency,

<http://www.epa.gov/ems/>

Facts of the Planet, <http://www.forskning.se/theplanet/>

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<http://www.hgo.se>

International Institute for Sustainable Development, *Global green standards: ISO 14000 and sustainable development*, <http://www.iisd.org/pdf/globlgrn.pdf>

Introduction to Environmental Management Systems Training, EPA, <http://www.epa.gov/osw/inforesources/ems/ems-101/>

Part 1 & 2a of Guinée et al., *LCA - An operational guide to the ISO-standards*, 2001, <http://www.leidenuniv.nl/cml/ssp/projects/lca2/lca2.html>

The European Commission's information hub on life cycle thinking based data, tools and services <http://lca.jrc.ec.europa.eu/lcainfohub/index.vm>

The Story of Stuff, <http://www.storyofstuff.com/>

The TV-documentary *The Planet*, Sveriges television, <http://svt.se/planeten>

Wall, Göran. *Exergy, Ecology and Democracy – Concepts of a Vital Society or A Proposal for An Exergy Tax*, 1993 <http://www.exergy.se/ftp/eed.pdf>