

The Faculty of Engineering
Department of Technology and Innovation, Odense

**Sustainability****Sustainability**

Teaching language: English.

Teaching activity id: OM-SU-U1.

ECTS / weighting: 5 ECTS / 0.083 full-time equivalent.

Approved: 24-10-16.

Period: Spring 2017.

Offered in: Odense.

Programmes:

MSc in Engineering (Operations Management)

3. semester, mandatory. Offered in: Odense.

MSc in Engineering (PDI)

3. semester, elective subject. Offered in: Odense.

Subject director:

Associate Professor Jens Arvad Johansen, Institut for Teknologi og Innovation.

Prerequisites:

Basic Supply chain management theory

Content - Key areas:

The aim of the course is intended to provide students with a good understanding of several topics within corporate sustainability, green and sustainable procurement and manufacturing, reverse logistics, green, sustainable, and closed loop supply chain management. In addition, the course provides broad overview about the intra- and inter-organizational implications of environmental practices and policies.

Learning outcomes:

The course will provide knowledge to the following topics:

- Benchmarking the green Supply Chain and Performance Measurement
- Green / Sustainable purchasing
- Green / sustainable supplier development
- Sustainable forward and reverse logistics provider
- Green inventory and facility location
- Organizational theories for green and sustainable supply chains
- Green / Sustainable materials
- Green / Sustainable manufacturing
- Closed-loop supply chains
- Corporate Social Responsibility (CSR)
- Organisational change management for sustainability
- Sustainability Reporting
- Green logistics and CO2 footprint management.

Skills:

After attending this course, the students have the following skills.

- Understand the scope and history of reverse, closed loop, green, and sustainable supply chain and various frameworks involved in it
- Identify the green and sustainable supply chain performance measures to improve the overall sustainability of the company
- Understand the process related to sustainable purchasing, supplier selection and supplier development
- Relate theories and models used in reverse, closed loop, green and sustainable supply chain to real-life problems.
- Understand a range of concepts, tools, and techniques available to companies to better contribute to sustainability

Competences:

After attending this course, the students have the following competencies.

- Be able to handle the green and sustainability issues for various industries
- Capable to deal with several organizational theories to improve the sustainability of a company.
- Competent in using decision-making and mathematical model in relation to reverse, closed loop, green and sustainable supply chain.

Time of classes:

Spring 2017

Lessons:

48 hours

Form of instruction:

Lectures and exercises on class based on the theory, journal articles and case studies

Examination conditions:

The students have to complete one assignment.

Evaluation

Individual paper examined with internal co-examiner assessed according to the 7-point grading scale based on an overall assessment of:

- Individual performance on written assignments (approx. 30 % of the grade)
- Final semester report max of 15 pages (approx. 70 % of the grade)