

Course Facility Logistics Management

Date:	29 March, 5 April, 12 April, 24 May 2017
Time:	10:00-16:00 h.
Location:	Utrecht
Course leader:	Prof. René de Koster
Lecturers:	Prof. René de Koster (EUR) and Prof. Ivo Adan (TU/e)
Days:	4
ECTS:	1 (attendance) / 4 (assignment)
Course fee:	Free for TRAIL/Beta/OML members, others please contact the TRAIL office
Registration:	www.gp-oml.nl

Objectives

The aim of the course is to:

- Develop insight and elementary design skills in material handling and facility (particularly warehouse and transshipment) operations management;
- Develop analytical skills in regards to logistics operations. Tools will be provided to enable you to structure, analyze and master the issues at hand.

Course description

The Netherlands is well known for its expertise in distribution operations. Many American and Asian multinational companies have established their European logistics centre in the Netherlands (about 55%, according to HIDC, 2001), and it is the home base of many logistics service providers and operations. The logistics sector has a big impact on the Dutch economy. Warehousing and distribution are core businesses for many large and smaller firms.

This course focuses on process design and execution: operations, particularly those within facilities (internal logistics). External and internal logistics are heavily related and, even stronger, interdependent. We will address such questions as: what is the impact of a company's distribution structure on the internal logistics system, and vice versa? What storage systems should be used under which circumstances, what handling systems, what is the best layout, which information systems are appropriate, and what is the resulting system performance in terms of, for instance, throughput, utilization and order flow times? Besides matters of system choice, operational storage and order picking strategies are also discussed.

During the course, a number of case-based assignments will be carried out.

The course addresses several skills. These include presentations, data-mining with a database tool, design (make good quality layout drawings), and (stochastic) analysis and modeling of material handling systems.

Program

A detailed program per day will be made available before the course

Assignment

(About 4) Group and individual assignments, class participation.

Compulsory course material

- Articles, lecture notes, slides and other information posted on Internet (location to be announced);
- E. Frazelle, World-class warehousing and material handling, McGraw-Hill, 2001, ISBN 0071376003
- Selected chapters from: R. De Koster, Past and Future. Perspectives on Material Handling, , ERIM, 2015, ISBN 978-90-5892-26-1, downloadable at: <http://repub.eur.nl/pub/79094>

Further background reading:

- J. Tompkins, White, Bozer, Tanchoco, Frazelle, Trevino, Facilities Planning, Wiley, 2003, ISBN: 0-471-38937-4 (WIE), or 0-471-41389-5 (selected chapters);

Methodology

De Koster: I do not focus on any particular research methodology. We discuss research with background in OR (deterministic and stochastic) and empirical research (surveys, experimentation).

Adan: queueing network theory

Prerequisite

Elementary knowledge of probability, queueing and inventory models, basics in operations management and logistics management.