



HÖGSKOLAN I GÄVLE

Simulation Technique in Logistics 7.5 cr

Simulering av logistiksystem 7,5 hp

Set by Faculty of Engineering and Sustainable Development

Version

Set at

Valid from

6/2/16

HT2016

Level	G1F
Education level	First cycle
Course identifier	IEG306
Credits	7.5 cr
Main field of study	Industrial Economics
Subject group	Industrial Engineering and Management
Disciplinary domain	Technology 100.0 %

Learning outcomes After completion of the course the student shall be able to:

1. introduce basic methods for simulation of logistics systems
2. use the theory to formulate and analyze a logistics system
3. applying a relevant program to simulate and analyze a system
4. assess and evaluate the importance of simulation technology for various applications.

Course content Overview of simulation techniques

Random variables, simple probability, concept of probability distributions, descriptive statistics, commonly used distributions; Goodness-of-fit test, data analysis techniques

Stochastic process, Poisson process, queue systems, theory on waiting time, utilization, length of queue, etc.

Nature of simulation, simulation process, benefits and limitation of simulation, classification of simulation, application of systems simulation, output analysis and experimentation for systems simulation, building systems simulation models

Skills in usage of relevant simulation program , Basics in relevant programming language, tutorial models in logistics and production.

Teaching

Lectures, labs and project work.

Prerequisites

Data Analysis and Statistics, Manufacturing Logistics and Distribution logistics or equivalent courses.

Examination

Written examination, project work and labs.

Grade

A, B, C, D, E, Fx, F

Other regulations

Criteria for final grade will be handed out at the beginning of the course.

Sustainable environment

A minor part of the course content deals with sustainable development.

Module

0010	Written examination	3 cr	Grade: AF
0020	Laborations	1.5 cr	Grade: UG
0030	Project work	3 cr	Grade: AF