

# Basic Logistics Algorithms

Programme course

6 credits

Grundläggande logistikalgoritmer

TNSL20

Valid from:

**Determined by**  
Board of Studies for Industrial  
Engineering and Logistics

**Date determined**

## Main field of study

Logistics

## Course level

First cycle

## Advancement level

G2X

## Course offered for

- Air Transportation and Logistics, Bachelor's Programme
- Civic Logistics, Bachelor's Programme

## Prerequisites

Basic algorithmic and/or programming concepts.

## Intended learning outcomes

The course introduces the students to several models of basic logistics problems and algorithms for their solution. After the course students should be able to:

- Identify critical tasks in project planning
- Schedule maximum number of non-conflicting jobs
- Optimally allocate tasks to processing facilities
- Find stable distributions of goods
- Program MATLAB routines for basic logistic problems

## Course content

- Assignment and matching
- Paths and flows in transportation networks
- Covering and packing
- Facility location
- MATLAB scripts and functions

## Teaching and working methods

The course consists of lectures and seminars. The lectures give the theoretical background. During the seminars, assignments and problems are discussed.

## Examination

TEN1	Written examination	3 credits	U, 3, 4, 5
UPG1	Hand-in assignments	3 credits	U, G

## Grades

Four-grade scale, LiU, U, 3, 4, 5

## Department

Institutionen för teknik och naturvetenskap

## Director of Studies or equivalent

Erik Bergfeldt

## Examiner

Valentin Polishchuk

## Education components

Preliminary scheduled hours: 40 h

Recommended self-study hours: 120 h

## Course literature

Fastställs senare.