SYLLABUS

Simulation Methods 7.5 credits T7012B

Simuleringsmetoder

Course syllabus admitted: Autumn 2011 Sp 1 - Spring 2012 Sp 4

DECISION DATE
2011-08-17

Luleå University of Technology 971 87 Luleå, Sweden
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LULEÅ TEKNISKA UNIVERSITET

Simulation Methods 7.5 credits T7012B

Simuleringsmetoder

Second cycle, T7012B

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Berg- och mineralteknik	Mining and Mineral Technology

Entry requirements

The students shall have basic knowledge of mathematics, physics, computers, mining and civil engineering. The students must be able to successfully work indepedently and in groups.

Selection

The selection is based on 30-285 credits

Examiner

Jenny Greberg

Course Aim

The course will provide the students with knowledge regarding theoretical foundations for simulation of production processes, as well as some of the available software for simulation..You will also be able to

- describe the practical applications of the simulation tools in general, and in detail for civil and mining engineering projects
- apply the general tools of simulation methods to different tasks
- solve simpler problems in mining and civil engineering with simulation methods
- interpret the results from a simulated production process.

Contents

Basic simulation theory: operations research, linear programming, discrete event simulation, robot simulation, dynamic simulation, analytic simulations
How to perform a simulation study.
Computer based excercises.

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
Classroom lectures and exercises. Computer based excercises. Project work; the students will submit a written report and make an oral presentation of the project work. The students will work in groups and with problems related to the rock engineering/mining industry.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.
Written exam, grade F, 3,4,5. Project work, written and oral presentation.

Overlap

The course T7012B is equal to ABT065

1000

Literature. Valid from Autumn 2011 Sp 1

Handbook of Simulation, Jerry Banks, John Wiley & Sons Inc. 1998 (preliminary)

Course offered by

Department of Civil, Environmental and Natural Resources Engineering

Items/credits

Number	Type	Credits	Grade
0001	Written exam	4.5	G U 3 4 5
0002	Project work	3	U G#

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Department of Civil, Environmental and Natural resources engineering 2011-08-17

Syllabus established

The plan is established by the Department of Civil and Environmental Engineering 2007-01-31 and is valid from H07.