

# **Construction Operation Simulation**

## **Course Overview**

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**Construction Engineering and Management**



# Construction Operation Simulation

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## □ Purpose of the course


- To introduce simulation as an applied tool for analysis and design of construction operations.

## □ Prerequisites:

- General engineering knowledge; Basic knowledge of computer programming; Basic knowledge of statistics; Basic knowledge of construction operations.

## □ Class audiences

- Construction Engineering and Management Students; Civil Engineering Students (BSc, MSc and PhD) who are interested in construction operation planning.

 How many of you come from construction group? How many come from other civil programs? Is there any body from other disciplines than Civil Engineering?

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## □ Course outline

#	Topic
1	Introduction to construction operation simulation
2	Discrete Event Simulation (DES) modeling concepts
3	DES engine and hand simulation
4	Stochastic simulation and random number generation
5	Introduction to DES modeling software
6	Simulation model input analysis
7	Model verification and validation
8	Simulation model output analysis
9	Simulation as an optimization tool
10	Construction operation simulation examples

# Construction Operation Simulation

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## □ **Grade Distribution:**

- Home Assignments: 15%
- Lab/ in Class Exercises: 10%
- Term Project: 15%
- Final Exam: 60%

## □ **Texts and References**

- Banks, J., Carson, J.S., Nelson, B.L. And Nicol D.M. (2004) “Discrete event simulation” Prentice Hall, ISBN: 0131446797.



**Thank you!**