S-38.145
Introduction to Teletraffic Theory (2 cr)
Fall 1999

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http://keskus.hut.fi/opetus/s38145/

General

- Fall 1999 course given in English
  - mainly intended for the *Master's Programme in Telecommunications*
  - Spring 2000 course given in Finnish
- Course material
  - distributed **electronically** (via the web pages)

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http://keskus.hut.fi/opetus/s38145/
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- Status:
  - **obligatory** for the major/minor *Teletraffic Theory*
  - **optional** for the *Master's Programme in Telecommunications*
- Personnel:
  - Lectures: *Samuli Aalto* (e-mail: `samuli.aalto@hut.fi`)
  - Exercises: *Eeva Nyberg* (e-mail: `eeva.nyberg@hut.fi`)

Lectures, exercises and course completion

- **Lectures** (2 hours/week):
    - On Mondays between 12-14 in room S3 (12 times)
        - First time: 13 September
        - Last time: 29 November
        - **Exception**: the lecture on 15 November will be held in room S1
- **Exercises** (1 hour/week):
    - On Wednesday mornings between 8-9 in room S3 (10 times)
        - First time: 29 Septenber
        - Last time: 1 December
        - voluntary but **highly recommended**
- **Course completion**:
    - Pass the examination!
    - First examination in December; two retrial examinations

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Object

- First step into the world of

Traffic issues in telecommunications

- Purpose is to **familiarize** the participants with
    - mathematical modelling of
        - various telecommunication systems and
        - their traffic
    - performance analysis and dimensioning of such systems
    - methods used for
        - traffic management and
        - their analysis

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Planned contents

1 Introduction
2 Modelling (1): Modelling of telecommunication systems (1)
3 Modelling (2): Modelling of telecommunication systems (2)
4 Modelling (3): Traffic modelling and measurements
5 Theoretical background (1): Basic probability theory
6 Theoretical background (2): Introduction to stochastic processes
7 Performance analysis (1): Loss systems
8 Performance analysis (2): Queueing systems
9 Performance analysis (3): Simulation
10 Traffic management (1): Introduction to ATM
11 Traffic management (2): Traffic and congestion control in ATM
12 Network planning and dimensioning

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