S-38.145
Introduction to Teletraffic Theory (2 cr)
Fall 2000

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

General information

- Fall 2000 course given in English
  - mainly intended for the *Master's Programme in Telecommunications*
  - Spring 2001 course will be given in Finnish
- Course material
  - lectures delivered as a compendium via Edita
  - lectures and exercises available **electronically** (via the web pages)

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

- 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 (13 times)
    - First time: 11 September
    - Last time: 4 December
- **Exercises** (1 hour/week):
  - On Wednesday mornings between 9-10 in room S1 (11 times)
    - First time: 20 Septenber
    - Last time: 29 November
- **Course completion**:
  - Solve enough homework exercises (see next slide) **and**
  - Pass the examination!
    - Examination on 15 December between 13-16 in room S1
    - Two retrial examinations

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More details on the exercises

- The weekly exercise class consists of
  - **one homework exercise**, the answer to which has to be delivered
    - into the mail box of the course (located near the notice board of the laboratory at G-wing/2nd floor), or
    - directly to the course assistant before the exercise class
  - **two additional exercises** for demonstrative purposes only
- Exercises distributed just **electronically** via the web page

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http://keskus.hut.fi/opetus/s38145/s00/harjoitukset.shtml
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- Each homework exercise is
  - worth **2 points**
- To pass the course a student has to have
  - a total of at least **10 points**, of which
  - at least **5 points** have to be obtained **from homeworks 6 through 10**

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Object of the course

- 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 Network planning and dimensioning
11 Traffic management (1): Introduction to ATM
12 Traffic management (2): Traffic and congestion control in ATM

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