



S-38.188 Computer Networks (3 cr) Spring 2005

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Networking Laboratory

S-38.188 - Computer Networks - Spring 2005

General information

- Mandatory subscription through TOPI

<http://www.topi.hut.fi>

- Course homepage

<http://www.netlab.hut.fi/opetus/s38188/2005>

- Personnel:

- Lectures:

- Pasi Lassila (e-mail: pasi.lassila@tkk.fi)
- Jouni Karvo (e-mail: jouni.karvo@tkk.fi)
- Jörg Ott (e-mail: joerg.ott@tkk.fi)

- Exercises: Ilmari Juva (e-mail: ilmari.juva@tkk.fi)

Course material

- **Course book:**
 - Larry. L. Peterson and Bruce S. Davie, “Computer Networks: A Systems Approach”, 2nd edition, Morgan Kaufman Publishers, San Fransisco, USA, 2000, 748 p.
 - price: £31.95 (Amazon UK), main building’s book shop may also have it
 - 1st ed. is basically OK, but course requirements based on 2nd ed.
 - updated 3rd ed. is also out now, but course is still based on 2nd ed.
- **Other material**
 - slides cover all the issues required in the course, but slides are not necessarily fully self-explanatory (book explains all and even more!)
 - lecture slides delivered as a compendium via Edita
 - lectures also available **electronically** (via the web pages)
 - **NOTE!** Printing the material on the university’s printers is strickly forbidden!

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Lectures & assignments

- **Lectures** (2 hours/week):
 - On Mondays between 14 - 16 in hall S1 (12 lectures)
 - First lecture: January 17, last lecture: April 18
 - Lectures are given in Finnish
 - slides in English
- **Homeworks**
 - Mandatory!
 - Consists of two parts
 - Done in pairs (pair can not be changed during course)
 - **NOTE!** Last year’s (or earlier) homeworks are not valid any more

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Homework schedule

- Project work, part 1
 - will appear Fri, February 4
 - must be returned by Wed, March 9
 - simple calculations, delay measurements over Internet (“pinging”), “trace routing”, routing exercises
- Project work, part 2
 - will appear Fri, March 11
 - must be returned by Mon, April 18
 - “guided tour” of ns2 simulation tool featuring TCP congestion control
 - + some more advanced traffic scenarios

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Exercise classes

- To be used as “question hours” for doing the project works
- Part 1:
 - Wed, February 9 (week 6), at 12-14, hall S5
 - Wed, March 2 (week 9), at 12-14, hall S5
- Part 2:
 - Wed, March 16 (week 11), at 12-14, hall S5
 - Wed, April 6 (week 14), at 12-14, hall S5
 - Wed, April 13 (week 15), at 12-14, hall S5

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Course completion

- To complete the course, you **must**
 - Pass the exam
 - 1st exam on Mon, May 16, at 16 - 19, in halls S2 and S4
 - + two retrial examinations (Sep/Oct 2005, Dec/Jan 2006)
 - **and** pass the project works

- Grading based both on exam and project works
 - Project grade: Part 1 is worth 30 points and Part 2 is worth 50 points. The points obtained in both parts are summed together to form the grade of the project work. The project grade will be given according to **FAIL, -1, 0, +1**
 - Project grade will influence your final grade with respect to the exam grade by -1, 0 or +1 (with the exception that exam grade 1 and project grade -1 still gives you final grade 1, and obviously $5 + 1 = 5$)

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Schedule

17.1.	Introduction	PL
24.1.	Link layer review and LAN technologies	PL
31.1.	Interconnecting nets – Internet	PL
7.2.	Routing in Internet	PL
14.2.	IPv6 and Multicast	PL
21.2.	Transport layer in Internet (UDP, TCP,...)	PL
28.2.	TCP congestion control	PL
7.3.	QoS in Internet (IntServ, DiffServ)	PL
14.3.	Name service (DNS), Network management	JK
21.3.	Mobility (Mobile IP, ad hoc nets, WLAN hot spots)	JK
11.4.	Security	JO
18.4.	Applications (non-realtime and realtime)	JO

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