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T-110.5290 Seminar on Network Security 2006:

Security and Privacy in Pervasive Computing

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Course Staff and Contact Info

- Responsible teacher: professor Jukka Manner
- Course assistant: Laura Takkinen
- Both students and tutors please use course email address to contact us: T-110.5290@tml.hut.fi
- Main communication channel of the course is newsgroups: opinnot.tik.netsec
- All information can be found from the course web page: http://www.tml.tkk.fi/Opinnot/T-110.5290/

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Prerequisites

- To whom: graduate and advanced undergraduate students, who plan to finish their master level studies within a year.
- Bachelor level studies completed (or at least 100 old credits)
- Basic courses in data communication completed:
  - T-110.2100 Introduction to Datacommunications (old courses T-110.250 Fundamentals of Network Media and T-110.300 Telecommunications Architectures)
  - T-110.4200 Tietoturvallisuustekniikka or equivalent course T-110.4206 Information Security Technology (old courses T-110.420 Tietoturvallisuustekniikka or T-110.430 Information Security Technology)
  - Recommended: T-110.4100 Computer Networks (old course T-110.350 Computer Networks)

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Carrying out the Seminar

- A student will write a seminar paper with the guidance of a tutor according to a given schedule.
- The papers are presented in a two day conference in the middle of December (11th and 12th of December).
- Each participant will act as an opponent to a paper of another student/students.
- Each student also participates in a small English course during the autumn.
- Not following the course schedule is interpreted as dropping the course.

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Sign up

- Sign up begins after the first meeting – deadline is Tuesday 19th of September at midday
- Sign up is done by writing an application which is sent to the course staff (use the course email address)
- Please read the instructions for application: http://www.tml.tkk.fi/Opinnot/T-110.5290/2006/sign_up.html

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Topics

- Student chooses 3 topic candidates and puts those in the application.
- Topics are allocated based on your study background (number of your credits and study program).
- If two or more students are applying the same topic, the student who has most credits or telecommunications software as a major or minor will get the topic.

TKK Writing and Presenting a Scientific Paper in English

- English course is mandatory for all students.
- The course consists of two lectures (lecture hall T5):
  - 25th September
  - 23rd October both from 10.00-12.00.
- If you cannot participate in the lectures, you have to do some additional assignments

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Course Material and Tools

- There are no separate study material for the course.
  - You can use previous years T-110 seminar handouts if you wish (sold by Edita)
- All submissions are done by using a learning environment called Optima
  - In order to use the Optima you need to have a TKK's Computing Centre user account and service password.
- Information about Optima can be found from the course web page

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Seminar Overall Topic 2006

- Computing devices are becoming parts of our everyday life.
- The devices we carry include increasing amounts of computing power, various wireless connectivity, and intelligence.
- The computing environment is becoming very dynamic, and moving into a decentralized and distributed direction
- The devices are mobile, understand contexts and adapt to the environments the user moves in.
- Security of the user's device and the services he wants to make use of become very challenging.
- Privacy of the user is a concern, and the handling of these countless keys and certificates becomes a serious usability problem for the average user.

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Paper Topics

- Authentication and authorization architectures and using AAA schemes in various services and protocols
- Security and intrusion detection in WLAN
- RFID security and privacy
- P2P networks
- Home networks: threats, usability, access control
- Mobil Health care
- Instant messaging, VoIP and location services security
- Multicast address assignment
- User behavior and security awareness in pervasive computing