Computer Networks

Overview

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Computer Networks

Course Directions:
- network types
- communication protocols (TCP/IP),
- network architecture models
- client/server paradigm,
- BSD socket interface,
- Winsock interface,
- application protocols (terminal, SMTP, FTP, POP, et.al.),
- RPC paradigm,
- peer-to-peer(P2P) paradigm,
- wireless networks,
- security aspects in computer networks

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Bibliography:

- …
- Andrew S. Tanenbaum, David J. Wetherall, Computer Networks (5th Edition), ISBN-10: 0132126958 , Publication Date: October 7, 2010
- James F. Kurose, Keith W. Ross; Computer Networking: A Top-Down Approach (6th Edition), 2013 (http://www-net.cs.umass.edu/kurose-ross-ppt-6e/)
- Larry L. Peterson , Bruce S. Davie, Computer Networks, Fifth Edition: A Systems Approach, ISBN-10: 0123850592, March 25, 2011
- Tamara Dean, Network +Guide to Networks, ISBN-10: 1-423-90245-9, 2009
- Richard Stevens, Unix Network Programming Volume 1 Sockets API - Richard Stevens, Unix Network Programming Vol 2 Inter process Communication
- Behrouz A. Forouzan, Data Communications and Networking, 2nd Edition

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Computer Networks

Laboratory:

- UNIX/Linux system programming in C

- Communication among processes running on the same computers (signals, pipes, FIFOs, descriptors duplication)

- Communication between processes laying on different computers
  - Iterative / Concurrent servers
  - I/O multiplexing
  - Exception handling communication

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Computer Networks

- The main focus is centered on computer network programming (Internet application programming)
- The network hardware part is approached at an informative level

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It requires knowledge about:

- Computer Architecture

- Operating systems

- Programming language: C/C++

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Evaluation

- Final mark(N)
  N = 0.3*P+0.4*T+0.2*L+1

Where:

- P – the project;
  - Types: A (maximum 10), B (maximum 8), C (maximum 6)
- T - test;
  - During evaluation session (the mark is from 0 to 10);
- L – laboratory mark;

  Calculated as it follows:
  - Mandatory problems during the semester;
    - 4th & 10th weeks;
  - Individual activities;
  - Other laboratory activities;

The final mark is computed in accordance with ECTS

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Details:

Discipline site:

- http://profs.info.uaic.ro/~adria/teach/courses/net/

Discipline team:

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Questions?

Computer Networks

FAQ answers:

- It will focus on conceptual understanding and problem solving skills

- ...

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Computer Networks

"Everyone is a genius. But if you judge a fish on its ability to climb a tree, it will live its whole life believing it is stupid." (A. Einstein)

```
server.sin_family = AF_INET;
server.sin_port = htons (atoi (argv[2]));
memcpy (&server.sin_addr.s_addr,
ip_addr->h_addr, sizeof (ip_addr->h_addr));
client.sin_family = AF_INET;
client.sin_port = 0;
client.sin_addr.s_addr = htonl (INADDR_ANY);
```

... ???

The answer: Course & Laboratory