TCP/IP networking

Summary
In the lectures you will learn and understand the main ideas that underlie and the way communication networks are built and run. In the labs you will exercise practical configurations.

Content

Keywords
TCP/IP
Computer Networks

Learning Prerequisites
Required courses
A first programming course

Learning Outcomes
By the end of the course, the student must be able to:
• Run and configure networks
• Understand the main ideas that underlie the Internet
• Write simple communicating programs
• Use communication primitives for internet and industrial applications.

Transversal skills
• Access and evaluate appropriate sources of information.
• Continue to work through difficulties or initial failure to find optimal solutions.

Teaching methods
Lectures with questionnaires.
Labs on student's computer and in the Internet Engineering Workshop

**Expected student activities**
Participate in lectures
Participate in graded test every other week
Make one lab assignment every other week, including handing in a written report
Optional: research exercise: gather information about a specific topic and explain it to class

**Assessment methods**
Theory grade = max(40\% \text{ tests} + 60\% \text{ final exam}, \text{ final exam})
Practice grade = average of labs
Final grade = harmonic mean of theory grade and practice grade.
The research exercise may give a bonus of at most 0.5 points in 1-6 scale.
When computing the test grade, the best 5 out of 7 tests are taken.

**Supervision**
Office hours Yes
Assistants Yes
Forum Yes

**Resources**

- **Bibliography**
  "Computer Networking : Principles, Protocols and Practice", O. Bonaventure, open source textbook,
  http://inl.info.ucl.ac.be/CNP3

- **Ressources en bibliothèque**
  • Computer Networking / Bonaventure

- **Notes/Handbook**
  Slides are on moodle

- **Websites**
  • http://moodle.epfl.ch/course/view.php?id=523

- **Moodle Link**
  • http://moodle.epfl.ch/course/view.php?id=523

- **Videos**
  • http://moodle.epfl.ch/course/view.php?id=523