COMPUTER NETWORKS

ECTS credits: 4   **Period : year 2, semester 1**

Objectives:
Learn basic concepts of computer networking and acquire practical notions of protocols with the emphasis on TCP/IP.
A lab provides a practical approach to Ethernet/Internet networking: networks are assembled, and experiments are made to understand the layered architecture and how do some important protocols work.
Network configuration and management on UNIX.

Contents:
The course presents the details of communication networks. We start with the layered architecture of network protocols and we analyze their performance. Then we discuss the data link layer and local area networks (Ethernet and 802.11) and the network layer – the IP protocol (IP, ICMP, ARP) and ATM networks. Finally, we analyze the transport layer with TCP and UDP as well as the socket interface.
Networking project in a lab parallel to the course will give you the opportunity of acquiring practical knowledge and learning implementation details.
Lab contents :
Network cabling (twisted pairs, hubs, switches), Ethernet.
Performance measurements.
Protocol study: IP, ICMP, ARP, UDP et TCP ; UNIX sockets.

Prerequisites:
Introduction to Computer Networks, basic Unix practice (user level).