RÉSEAUX INFORMATIQUES

COMPUTER NETWORKS

Lecturers: **René CHALON, Alexandre SAIDI**

| Lecturers : 16.0 | TC : 0.0 | PW : 0.0 | Autonomy : 0.0 | Study : 12.0 | Project : 0.0 | Language : FR

Objectives

This course is presenting main concepts and protocols of computer networks. Design features and architectures of local area networks, medium and high speed networks as well as Internet protocols are systematically and methodically detailed. This conceptual and practical approach enables each one to better understand the current supply, the evolution and the prospect of present and future computers networks.

Keywords : networks, ISO model, Ethernet, Wi-Fi, Internet, IP, TCP, UDP, DNS, HTTP

Programme	Lecture : 1- Introduction: main concepts, ISO model ans TCP/IP architecture 2- Physical layer: physical medium and data transmission 3- Local Area Network: topology, Ethernet, Wi-Fi 4- Network layer: internet principles, IP protocol, addressing, routing, IPv6 5- Transport layer: TCP, UDP, SCTP 6- Application layer: client/server model, DNS, e-mail, FTP, World Wide Web Labs: 1- Detailed study of Ethernet with a netwok simulator
Learning outcomes	• To know computer networks concepts • To analyse and design Ethernet local aera networks • To analyse and design TCP/IP based networks
Independent study	Objectifs : Every student gets a personal licence of the network simulator for making the labs and designing his/her own network architectures Méhodes :
Core texts	G. Pujolle et al., *LES RÉSEAUX*, Eyrolles, 2018 D. Comer *INTERNETWORKING WITH TCP/IP - VOLUME 1, PRINCIPLES, PROTOCOLS AND ARCHITECTURE*, Pearson, 2015 C. Servin*RÉSEAUX ET TÉLÉCOMS*, Dunod, 2013
Assessment	Final mark = 50% knowledge + 50% know-how Knowledge = 100% final exam Know-how = 100% continuous assessment