

# Réseaux Locaux



## Component

École Nationale  
Supérieure  
d'Électrotechnique  
d'Électronique  
d'Informatique  
d'Hydraulique  
et des  
Télécommunications

## In brief

> **Code:** N7EN06A

# Presentation

## Objectives

At the end of the course, students will be able to recognize the specificities of a local area network, to explain the operation of a local area network architecture, to produce configurations for Ethernet devices, to differentiate between WiFi technologies

## Description

- 1-IEEE architecture and standardization - MAC addressing - concept of bridging - LLC frame exchange and services
- 2- Ethernet- Segmentation and Virtualization -Frame format- Architectures with and without LLC- Ethernet segmentation: VLANs- InterVLAN communication by router- CoS class of services- Virtual bridging
- 3- Bridged network: Principle of redundancy - Spanning tree algorithms - STP and RSTP protocols - VLAN and spanning trees - other routings
- 4- Ethernet link - Bit rate and transmission support - Flow control - Autonegotiation - Aggregation - Energy saving
- 5- WiFi - 802.11 Transmissions and Architectures - Basic MAC access control mechanisms: CSMA / CA and polling – Advanced mechanisms: energy saving and quality of service, multimedia WiFi

