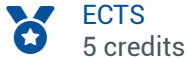


# COMMUNICATIONS NUMERIQUES SUR CANAUX SELECTIFS



ECTS  
5 credits



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

## In brief

- **plugin.odf-inp:PLUGINS\_ODF\_COURSE\_NBHOURS\_TXT:** 17 lectures, 2 sessions of exercises, 8 sessions of practical work
- **Ametys Code:** N7EN02

## Presentation

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### Objectives

To be able to define a more complete channel modelization, compared to the one studied during the first year teaching unit "Bases on Telecommunications".

To be able to implement one of the following techniques to transmit through a time and frequency selective channel:

- Equalization,
- Orthogonal Frequency Division Multiplexing (OFDM),
- Code Division Multiple Access (CDMA).

### Description

This teaching unit presents the telecommunication network physical layer solutions allowing to communicate on time varying and frequency selective channels: equalization, OFDM and CDMA. These solutions are currently used in several telecommunication

systems, such as, for example, 3G, 4G, WiFi, ADSL and Digital Terrestrial TV. They rely on channel models described in the first teaching module.

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## Pre-requisites

Bases on telecommunications