

# TS111 : Digital communications

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SEE6-D Mathematical tools

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## ECTS credits :

2.00

## Evaluation :

S1: ET(1h30,E,sd,ca) x0.7 + Proj(Rap) x0.3; S2: ET(30m,O,sd,sc) x1

## Number of hours :

Combined lecture and tutorial classes : 32.00

## Teacher(s) :

FERRE Guillaume

## Title :

Digital communications

## Abstract :

Ce cours permet d'introduire les communications numériques, au travers de cours, d'applications pratiques et d'un projet.

## Plan :

1. Introduction
2. Introduction to random signals
3. Principle of a base band digital communications
4. Power spectral density of a digital communications signal
5. Optimal receiver, theoretical performance on AWGN channel
6. Digital modulators/demodulators

## Prerequisite :

Signal processing and probability

## Document(s) :

Polycopié de cours, de TD et de TP

## Keyword(s) :

Modulations, AWGN Channels, Band Limited Channels, Matched Filter, Nyquist Criterion, power spectral density