

Digital Communications

Instructor: Prof. Dimitris Maroulis

Semester: 6th

Basic Course - Sector of Communications and Signal Processing

Optional Course - Sector of Computer Systems and Applications

[Course website](#)

Quantitative and qualitative analysis of the transmission of analog signals by digital communication systems
, practical
sampling
and
difficulties
in signal
reconstruction, quantization techniques and quantization
noise
, PCM,
bandwidth
requirements
,
noise
in PCM
systems
,
differential

PCM systems
and impact
of channel's
noise
on
PCM systems,
Delta modulation systems
,
bandwidth
requirements
and
signal
to
noise
ratio
(S / N)
of the
transmitted
signal
, introduction
to
dispersed
spectrum
communications
(CDM),
comparison
of
PCM
and
DM
systems
with
TDM, AM,
and
FM
as well as
the
ideal
system
,
coding
for
error
control
,
linear

block
codes

,
binary
cyclic
codes

,
burst
error
codes

,
convolutional
codes

,
efficiency of
codes
in error
detection
and
correction.