

- Canvas.iuc.edu.tr }

- 1 mid-term exam. } 1/5
1 final exam } 1/5

- Textbook → Haykin K
Van Veen.

Oppenheim, "Signals & Systems"

- { Reading the book is }
very important.

- Exercises !!!

- Attendance (70 %) is
required.

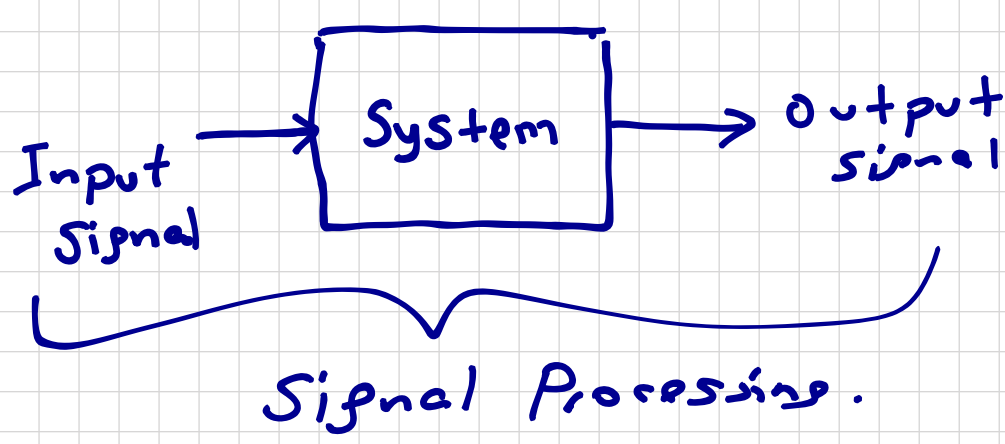
- What is a signal?

- Speech
- Emails
- Heartbeat
- Radio waves

"A signal is a function of one or more variables that conveys information on the nature of a physical phenomenon"

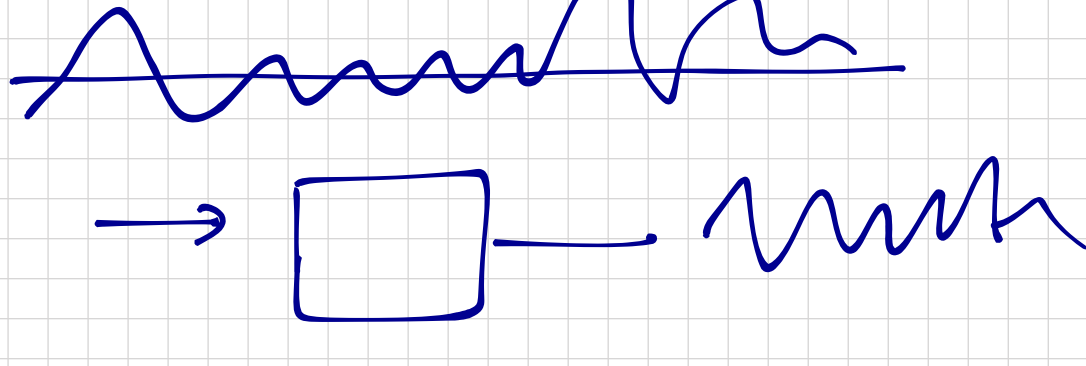
System

A system is an entity that manipulates one or more signals to accomplish a function, thereby yielding new signals.

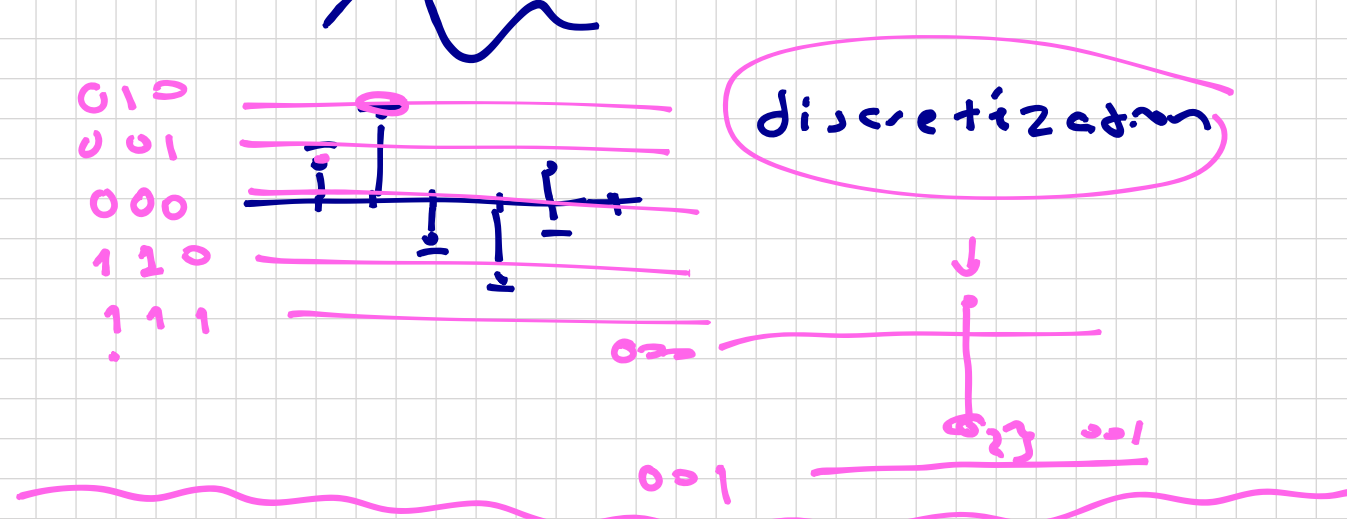


Analog and Digital Signal Processing

* Analog signal processing involves
"Continuous signals"



- Digital Signal Processing involves
Discrete and Quantization



In this course we will focus on
one dimensional single valued signals.

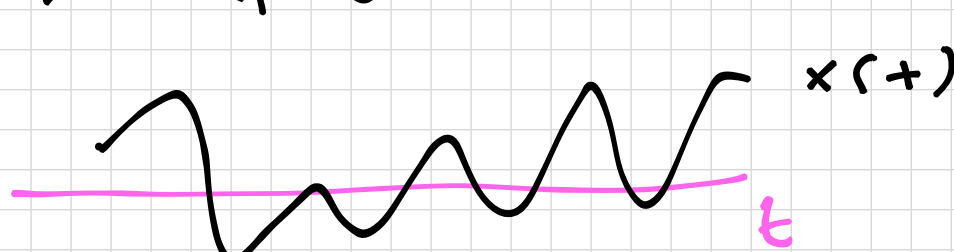
* we will represent the signals
as functions of time.

time
(x-axis)

Classification of Signals

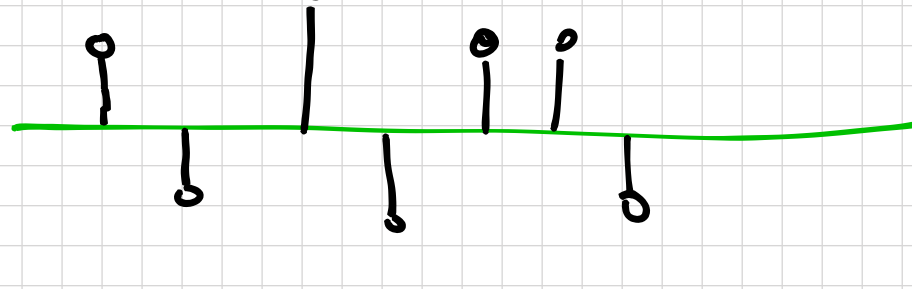
⊗ Continuous-Time (CT)
and Discrete-Time Signals

$x(t)$
independent variable
dependent "

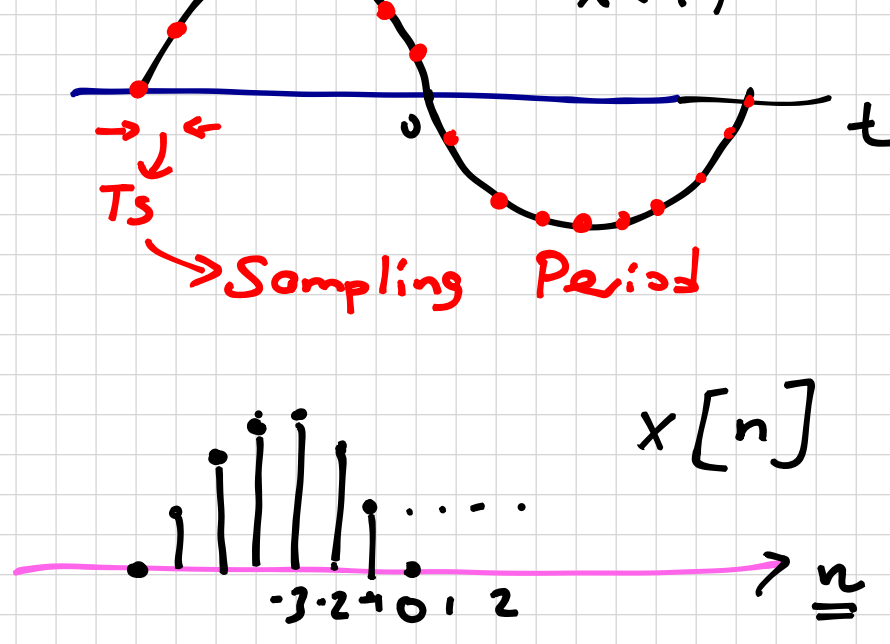


A CT signal, $x(t)$, is
defined for all time t

DT signals are defined only
on discrete instants of time



Sampling — is used to derive a
DT signal from a CT signal by
taking the values at a uniform
rate.



$x[n] = x(n \cdot T_s)$, $n = 0, \pm 1, \pm 2, \dots$

independent variable

dependent "