

# System 101

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Figure: [sys-101.auzias.net](http://sys-101.auzias.net)

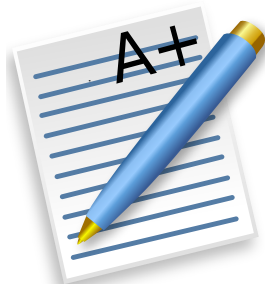
# Course details

## Objectives

- ▶ How do *computers* communicate?
- ▶ What are the mechanisms **under** an HTTP request or a telegram message?
- ▶ Networks are all around us, better study them!



## Course details



### Evaluation

- ▶ Short test at the end of each practice
- ▶ Final exam (1 hour)
- ▶ All equal weighting

### Material

- ▶ Slides available at [sys-101.auzias.net](https://sys-101.auzias.net) (github too)

# Presentation Outline

Physical

# Aims

- ▶ Interface data link layer,
- ▶ (De)Encode,
- ▶ Transmit: 1 after 0 (after 0 or 1, after 0... or 1)

## Hardware medium

- ▶ IEEE 802.3 (a.k.a. Ethernet): <100Gbit/s
- ▶ IEEE 802.11 (a.k.a. Wi-Fi): <50 Mbit/s (802.11ad goes up to 6.75 Gbit/s)
- ▶ IEEE 802.15.1 (a.k.a. Bluetooth): <1 Mbit/s
- ▶ IEEE 802.15.4 (a.k.a. ZigBee): <250 kbit/s
- ▶ IEEE 802.16 (a.k.a. Wi-Max): <40 Mbit/s
- ▶ IEEE 1394 (a.k.a. Firewire): <3200 Mbit/s
- ▶ USB, serial port such as RS-232...

I hope you liked it and learnt something new !



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