

# Sensor network : design and networking



## Presentation

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### Description

Programme (detailed contents):

This course is composed of :

1) *lectures* :

20 lectures (1.25h each)

2) *practical labs* :

They consist of :

- \* *Project 1* : 7 lab sessions (2.75h each)

The students have to implement three different sensors (one accelerometer, one photoresistor, and one pyroelectric infrared sensor). Then, they have to design, size and test an electronic circuit dedicated to process the sensor signal.

- \* *Project 2* : 7 lab sessions (2.75h each)

On a microcontroller platform : setup transfer protocols through a sensor network to exchange information to a GSM mobile terminal.

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## Objectives

By the end of this module, the student will have understood and be able to explain (main concepts) :

*About the sensors part :*

- \* the way various sensors operate (optronic, thermal, mechanical, acoustic ...),
- \* the operation of these sensors and the associated signal conditioning.

*About the communication between sensors part:*

Wireless communication technologies and sensor networks, internet of things (IOT), machine to machine communication (M2M).

## Useful info

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### Contacts

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