

Graduate module: Hands on sensor networking systems and actuation

Instructor:

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Time: Spring Semester March 4th – April 30th 2020

Overview: The module will introduce the different elements required to build a network of sensors. It is going to take a hands-on approach, in which after an introductory class the students will work in connecting sensors to educational microcontrollers and extend their connectivity to other microcontrollers and/or PCs. By the end of this course it is expected that the students will be able to; distinguish between analogue and digital sensors, identify the requirements to connect and manipulate sensor data in computers, and establish communication between sensors and computers.

Prerequisites:

Enrollment in a graduate program.

Delivery: After an introductory session, this module will have six 2-hour sessions once a week which will include lab work and discussion, and a final week to present the projects (Total of 8 weeks). In the project, the students will demonstrate their ability to build their own sensor network systems by choosing relevant hardware and writing necessary software.

Evaluation: Assessment of this module will be in the form of participation in the lectures, one report about sensor networking submission and project demonstration in the eighth week.

Class Participation: 20%

Report: 40%

Project demonstration: 40%