

## GUIDE EL5205 Advanced Control Laboratory

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### Overview

1. To perform the experiments must form groups of two to three members.
2. The sessions will be held at the Automation Laboratory (2nd floor of Electrotechnologies).

### Reservations at Automation Laboratory

1. Groups must make reservations in the available modules (see module schedule on U-Cursos).
2. The reservation is only valid for the requested module (day / block). Reservations must be made 24 hours before the requested module, without exceptions.
3. For each experience at the laboratory, the groups will have 3 to 5 modules to reserve. This amount will depend on the experience.
4. The procedure for making a reservation is:
  - a. Send an e-mail to: [lab.automatica.uch@gmail.com](mailto:lab.automatica.uch@gmail.com)
  - b. Subject: EL5205 + *name of the module assistant*
  - c. Body: Write the module you want to reserve, specifying date and time. Include at least the name of one member of the group, preferably all of them.
  - d. The reservation will be effective when they receive a reply mail from the person in charge of the module and the reservation is published on U-Cursos.

### Experiences

The following experiences will take place during the fall semester 2018:

1. System Identification applied to a water tank modelation
2. Model predictive control applied to a 3dof crane
3. Experience at microgrids control laboratory
4. Experience at power electronics laboratory

### Development of each experience

1. Lecture (Day 1)
2. Presentations (Day 8) (25% of experience score)

3. Submission of report (Day 23 or 31 depending on the experience (50% of experience score))
4. Participation in laboratory score (25% of experience score)
5. The submission of the final report of each experience must be done in digital format on U-Cursos with a deadline until 23:59 of the set date. The data and codes used must be attached.

## Evaluations

### Presentation score

1. Correspond to the 25% of the experience final score.
2. The presentation must consider the design of all of the experiments required by the experience and include the methods that you will use.
3. For this presentation you should consider a maximum of 10 slides and all group members must present.

### Participation in laboratory score

1. Correspond to the 25% of the experience final score.
2. Consist of questions during laboratory work.
3. The questions will be related to the theory or to what is being done in the experience.

### Report score

1. Correspond to the 50% of the experience final score.
2. The report must have a maximum of 15 pages.
3. Must contain:
  - a. Summary (5%): It must contain the objectives of the experience and the main methods used together with the relevant conclusions of the work (1 page max.).
  - b. Development (60%): You must consider the methodology used and the results obtained.
  - c. Analysis and conclusions (35%): It should include the analysis of the results obtained and the most important conclusions.

## Course rules

All experiences must be approved to pass the course. Only a failed experience can be repeated at the end of the course.