### 220236 - Design of Experiments

**Coordinating unit:** 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
**Teaching unit:** 715 - EIO - Department of Statistics and Operations Research  
**Academic year:** 2018  
**Degree:** MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2013). (Teaching unit Optional)  
**ECTS credits:** 3  
**Teaching languages:** Catalan

#### Teaching staff

**Coordinator:** MONTSERRAT PEPIÓ VIÑALS

**Others:** INÉS M. ALGABA JOAQUÍN  
SALVADOR CASADESÚS PURSALS

#### Teaching methodology

The course is divided into parts:
- Theory classes
- Practical classes
- Self-study for doing exercises and activities.

In the theory classes, teachers will introduce the theoretical basis of the concepts, methods and results and illustrate them with examples appropriate to facilitate their understanding.

In the practical classes (in the classroom), teachers guide students in applying theoretical concepts to solve problems, always using critical reasoning. We propose that students solve exercises in and outside the classroom, to promote contact and use the basic tools needed to solve problems.

Students, independently, need to work on the materials provided by teachers and the outcomes of the sessions of exercises/problems, in order to fix and assimilate the concepts.

The teachers provide the curriculum and monitoring of activities (by ATENEA).

Observation: Although the documentation is in Catalan this course might be taught in Spanish, if needed.

#### Learning objectives of the subject

The main objective is to capacitate the students to model and optimize the behavior of processes. To this end, they will learn how to design the experimentation and to analyze and interpret the obtained results using relevant statistical tools.

#### Study load

<table>
<thead>
<tr>
<th>Total learning time: 75h</th>
<th>Hours large group: 27h</th>
<th>36.00%</th>
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<tbody>
<tr>
<td>Self study:</td>
<td>48h</td>
<td>64.00%</td>
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The final grade depends on the following assessment criteria:
- Linear regression project, weight: 20 %
- Classroom deliverable, weight: 30 %
- Exam, weight: 50 %

Any student who cannot attend any of the written tests (classroom deliverable and/or exam) or that wants to improve the obtained grade, will have the opportunity to improve that grade by taking an additional global written exam that will take place the date fixed in the calendar of final exams. The grade obtained in this test will range between 0 and 10, and will replace that of the two written tests in case it is higher.

Qualification system

Bibliography

Basic:

Others resources: