Once the student has passed the subject, they would have the basic knowledge to understand what completing an executive professional project consists of.

### Others:
- JOANA RUBIO-JOAN MAJO-EDUARD HERNÁNDEZ

### Coordinating unit:
- 390 - ESAB - Barcelona School of Agricultural Engineering

### Teaching unit:
- 745 - DEAB - Department of Agri-Food Engineering and Biotechnology

### Academic year:
- 2019

### Degree:
- BACHELOR’S DEGREE IN AGRONOMIC SCIENCE ENGINEERING (Syllabus 2018). (Teaching unit Compulsory)

### ECTS credits:
- 6

### Teaching languages:
- Catalan, Spanish

### Teaching staff

#### Coordinator:
- Francisco IRANZO IRANZO

#### Others:
- JOANA RUBIO-JOAN MAJO-EDUARD HERNÁNDEZ

### Opening hours

#### Timetable:
- The students will be informed at the beginning of the course.

### Teaching methodology

The methodology is based on the learning through practical cases. The necessary information to develop calculations to produce the next designs will be delivered to groups of 3 students.

They will have to project:
- Design of a sprinkler irrigation system
- Design of electric installation

The students shall do an executive project including the designs previously made and the following documents:
- Doc-I. Report and Annexes
- Doc-II. Plans
- Doc-II. Budget

### Learning objectives of the subject

Once the student has passed the subject, they would have the basic knowledge to understand what completing an executive professional project consists of.

### Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 40h</th>
<th>26.67%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours small group: 20h</td>
<td>13.33%</td>
</tr>
<tr>
<td></td>
<td>Self study: 90h</td>
<td>60.00%</td>
</tr>
</tbody>
</table>
# Content

## PROJECT THEORY

<table>
<thead>
<tr>
<th>Learning time: 20h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 20h</td>
</tr>
</tbody>
</table>

**Description:**

## LOW VOLTAGE ELECTRIC INSTALLATIONS

<table>
<thead>
<tr>
<th>Learning time: 20h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical classes: 20h</td>
</tr>
</tbody>
</table>

**Description:**
Regulation. Equipments. Line sizing (Highest intensity, brownout, shorting). Electrical safeguards for electrical lines, people and engines. Photometric calculations. Singleline schematic. Results implementation to be developed Project by the students group.

**Related activities:**

## SPRAY IRRIGATION INSTALLATIONS

<table>
<thead>
<tr>
<th>Learning time: 20h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical classes: 20h</td>
</tr>
</tbody>
</table>

**Description:**
Equipment, Agronomic design: Constraints and agronomic design parameters. Hydraulic design: Criteria and section design. Criteria and main pipe design. Analysis of the piezometric levels and determination of operational pressures. Typology and characterization of the management elements. Types and selection of the Pumping equipment. Results implementation to be developed Project by the student group.

**Related activities:**

## Bibliography

**Basic:**