Course guide
390350 - TP - Projects

Unit in charge: Barcelona School of Agri-Food and Biosystems Engineering
Teaching unit: 745 - DEAB - Department of Agri-Food Engineering and Biotechnology.

Degree: BACHELOR’S DEGREE IN AGRONOMIC SCIENCE ENGINEERING (Syllabus 2018). (Compulsory subject).
Academic year: 2022  ECTS Credits: 6.0  Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: Francisco IRANZO IRANZO
Others: JOANA RUBIO-JOAN MAJO-EDUARD HERNÁNDEZ

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>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>40,0</td>
<td>26.67</td>
</tr>
<tr>
<td>Hours small group</td>
<td>20,0</td>
<td>13.33</td>
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</tbody>
</table>

Total learning time: 150 h
CONTENTS

PROJECT THEORY

Description:

Full-or-part-time: 20h
Theory classes: 20h

LOW VOLTAGE ELECTRIC INSTALLATIONS

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:

Full-or-part-time: 20h
Practical classes: 20h

SPRAY IRRIGATION INSTALLATIONS

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:

Full-or-part-time: 20h
Practical classes: 20h

GRADING SYSTEM

BIBLIOGRAPHY

Basic: