390228 - TENG - Engineering Workshop

**Coordinating unit:** 390 - ESAB - Barcelona School of Agricultural Engineering  
**Teaching unit:** 745 - EAB - Department of Agri-Food Engineering and Biotechnology  
**Academic year:** 2018  
**Degree:** BACHELOR'S DEGREE IN FOOD ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)  
**ECTS credits:** 6  
**Teaching languages:** Catalan, Spanish

**Teaching staff**

**Coordinator:** FRANCISCO 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 cold chamber  
- Design of a fire installation  
- 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 an executive professional project consists of.

**Study load**

<p>| Total learning time: 60h | Hours large group: 30h | Hours small group: 30h | 50.00% | 50.00% |</p>
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<th>Content</th>
<th>Title English</th>
<th>Learning time: 30h</th>
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<td>Theory classes: 30h</td>
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**Description:**

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**LOW VOLTAGE ELECTRIC INSTALLATIONS**

**Description:**
Regulation. Equipment. Line sizing (the 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.

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**FIRE INSTALLATIONS**

**Description:**
Analysis and implementation of the Regulation Fire in the Industrial Establishments (RSCIEI). Results implementation to be developed Project by the student group.

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**REFRIGERATING FACILITIES**

**Description:**
Design of the refrigerating facility of a chamber, through a conventional system of simple compression. Location definition and constraints analysis. Thermal load calculation. Refrigerant selection. Calculation of the refrigeration cycle parameters through a commercial software. Selection of the main equipment of the installation composition. Compressor, implementation to be condenser, expansion valve, vessel and refrigerant pipelines. Results developed Project by the student group.
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Bibliography

Basic: