Course guide
390228 - TENG - Engineering Workshop

Last modified: 06/06/2023

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 FOOD ENGINEERING (Syllabus 2009). (Compulsory subject).

Academic year: 2023 **ECTS Credits:** 6.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: FRANCISCO 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 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

Type	Hours	Percentage
Self study	90,0	60.00
Hours large group	40,0	26.67
Hours small group	20,0	13.33

Total learning time: 150 h

CONTENTS

title english

Description:
Definitions and methodology on the project elaboration. Cycle project and agents involved. Structure of the executive projects. Budget planning, Security and health study. Quality control. Programming. Economic appraisal. The professional college.

Full-or-part-time: 30h
Theory classes: 30h

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.

Full-or-part-time: 10h
Laboratory classes: 10h

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.

Full-or-part-time: 10h
Laboratory classes: 10h

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.

Full-or-part-time: 10h
Laboratory classes: 10h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:
- Gordon, J. E. Estructuras : o por qué las cosas no se caen. Madrid: Calamar, 2004. ISBN 8496235068.
- Portocarrero, Felipe; Gironella, Natalia. Redacción profesional : técnicas de redacción para la empresa del siglo XXI. Oleiros, La Coruña: Netbiblo, DL 2009. ISBN 9788497452472.