



Course guides

820064 - PI - Facilities Projects

Last modified: 04/06/2021

Unit in charge: Barcelona East School of Engineering
Teaching unit: 717 - DEGD - Department of Engineering Graphics and Design.

Degree: BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).

Academic year: 2021 **ECTS Credits:** 6.0 **Languages:** Spanish

LECTURER

Coordinating lecturer: JOSÉ LUIS RODRÍGUEZ ESPANTOSO

Others: Primer quadrimestre:
JOSE LUIS RODRIGUEZ ESPANTOSO - T11

REQUIREMENTS

have completed Q7

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. Study the feasibility of a proposed project.

Transversal:

2. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.
3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

TEACHING METHODOLOGY

The unfulfilled methodology uses the exhibition by 25% in individual workplaces by 25%, a job in the group by 20% and the Learning Projects based on 30%.

LEARNING OBJECTIVES OF THE SUBJECT

Learn to make different Facilities Engineering Projects from a practical perspective, covers design, the rules, calculations, plans and budgets inherent to these embodiments.



STUDY LOAD

Type	Hours	Percentage
Hours small group	30,0	20.00
Self study	90,0	60.00
Hours large group	30,0	20.00

Total learning time: 150 h

CONTENTS

(ENG) -Chapter 1. INTRODUCTION A LEGAL AND REGULATORY BASIC INDUSTRIAL

Description:

Engineers in free exercise, professional attributions, responsibilities, the Professional College and the Visa.
Legalization of Municipalities, Law 20/2009.
Legalization in front of S.S.T.T. of Industry, industrial registration number and Industrial Security regulations.
The E.I.C. Functions and performances.
Teach models of projects that have already been legalized, inspection records, completion of technical documentation.

Full-or-part-time: 3h

Theory classes: 1h

Self study : 2h

(ENG) -Chapter 2. DATA AND BASIC CRITERIA FOR DESIGN OF SPECIFIC INSTALLATIONS

Full-or-part-time: 3h

Theory classes: 1h

Self study : 2h

(ENG) -Chapter 3. LIGHTING PROJECTS

Description:

Basic concepts of lighting technology. Types of lamps Stroboscopic effect. Typical electrical diagrams for lighting lights. Lighting projects using the DIALUX computer application.

Full-or-part-time: 6h

Theory classes: 1h

Laboratory classes: 1h

Self study : 4h



(ENG) -Chapter 4. ELECTRICAL SYSTEMS PROJECTS

Description:

General scheme of transport and distribution of electrical energy. The low voltage receiving installations: classification and essential electrical parts. Types of electrical conductors and transport elements. Basic electrical protections. Calculation of: Load forecast, conductor sections and grounding. Scripts of minimum contents of electrical projects.

Full-or-part-time: 9h

Theory classes: 2h

Practical classes: 1h

Self study : 6h

(ENG) -Chapter 5. INDUSTRIAL SECURITY MEASURES

Description:

Know and interpret the basic regulations on fire protection: CTE-DB SI, RSCIEI and RIPCI. Scripts of minimum contents in terms of fire protection.

Full-or-part-time: 9h

Theory classes: 2h

Practical classes: 1h

Self study : 6h

(ENG) -Chapter 6. PLUMBING PROJECTS

Description:

General scheme of the sanitary cold water installation. Points of consumption and calculation of pipes.

Full-or-part-time: 9h

Theory classes: 2h

Laboratory classes: 1h

Self study : 6h

(ENG) -Chapter 7. VENTILATION PROJECTS

Description:

Know the importance of ventilating the premises. Dimension networks of conduits and fans needed, and know the auxiliary elements typical of a ventilation installation.

Full-or-part-time: 9h

Theory classes: 1h

Laboratory classes: 2h

Self study : 6h

(ENG) -Chapter 8. ALTERNATIVE ENERGY

Description:

Core items. Hydraulic diagrams Calculations of demand for domestic hot water and dimensioning of the solar installation required. Scripts of minimum contents of this type of projects.

Full-or-part-time: 6h

Laboratory classes: 2h

Self study : 4h



ACTIVITIES

(ENG) LLIÇÓ 1. INTRODUCCIÓ A L'ENGINYERIA LEGAL I NORMATIVA INDUSTRIAL BÀSICA

Full-or-part-time: 3h

Theory classes: 1h

Practical classes: 1h

Laboratory classes: 1h

(ENG) LLIÇÓ 2. DADES I CRITERIS BÀSICS EN DISSENY DE INSTAL.LACIONS ESPECÍFIQUES

(ENG) LLIÇÓ 3 .- PROJECTES D'IL-LUMINACIÓ

(ENG) LLIÇÓ 4. PROJECTES D'ELECTRIFICACIÓ

(ENG) LLIÇÓ 5 PROJECTES DE SISTEMES DE PROTECCIÓ CONTRA INCENDIS

(ENG) LLIÇÓ 6. PROJECTES D'INSTAL.LACIONS D'AIGUA

(ENG) LLIÇÓ 7. PROJECTES DE VENTILACIÓ

(ENG) LLIÇÓ 8 .- PROJECTES D'INSTALACIONS DE CALEFACCIÓ I ACS PER ENERGIA SOLAR

GRADING SYSTEM

Continuous evaluation of the student's work.

The student and autonomous work is evaluated, as well as in group, both face-to-face and non-face-to-face, applied to all the training activities.

- Individual evaluation in each session of autonomous learning in theoretical contents. 15 %
- Individual evaluation by house autonomous exercise. 20%
- Individual assessment of skills acquired in practical cases. 20%
- Evaluation of the group of projects (including "Teamwork"). 40%

The specific weight in the final grade of the transversal competences is 5% each.



BIBLIOGRAPHY

Basic:

- Código Técnico de la Edificación : (C.T.E.). Madrid: Ministerio de Vivienda : Boletín Oficial del Estado, 2006. ISBN 8434016311.
- Guía técnica de aplicación al REBT 2002 : actualizada a febrero de 2009. [Barcelona]: Cano Pina, 2009. ISBN 9788496960312.
- Reglamento de seguridad contra incendios, establecimientos industriales y NBE-CPI-96. 2a ed. Barcelona: Ceysa, 2005. ISBN 8486108586.
- Reglamento de instalaciones térmicas en los edificios RITE. 5ª ed. Madrid: Paraninfo, cop. 2008. ISBN 9788428330206.

RESOURCES

Other resources:

Notes on ATENA.