

Academic Year/course: 2022/23

## 28960 - Building installations

### Syllabus Information

**Academic Year:** 2022/23

**Subject:** 28960 - Building installations

**Faculty / School:** 201 - Escuela Politécnica Superior

**Degree:** 583 - Degree in Rural and Agri-Food Engineering

**ECTS:** 5.0

**Year:** 4

**Semester:** Second semester

**Subject Type:** Optional

**Module:**

### 1. General information

### 2. Learning goals

### 3. Assessment (1st and 2nd call)

### 4. Methodology, learning tasks, syllabus and resources

#### 4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as: Theoretical sessions, Problem-based learning, a Project based learning and Computer lab sessions.

#### 4.2. Learning tasks

The course includes the following activities:

- Theoretical sessions (2,5 ECTS):
  - The teacher explains the theoretical content of each session. One of the objectives of this activity will be the promoting of the participation of the students and cooperative learning.
  - Problem-solving sessions. The teacher will resolve specific problems.
- Practical sessions (2,5 ECTS):
  - Problem-based learning. Students, working individually or in groups, gain knowledge and skills by working to respond to problems and questions.
  - Computer lab sessions. Students use technical software.
  - Project-based learning. Students gain knowledge and skills by working with examples of real projects.

In relation to the Sustainable Development Goals (SDG) and in particular targets 6.3 and 6.4, the problem-solving and case-based learning activities include these targets in the case of the activities focused on sizing and conditioning of water supply and disposal networks.

#### 4.3. Syllabus

**The course will address the following topics:**

## Theory Program

### Section 1. Coldwater supply and distribution

1. Basic regulation.
2. Components of the installation.
3. Calculating the installation.

### Section 2. Domestic hot water production and distribution

1. Basic regulation.
2. Components of the installation.
3. Calculating the installation.

### Section 3. Water evacuation

1. Basic regulation.
2. Components of the installation.
3. Calculating the installation.

### Section 4. Fire protection installation

1. Basic regulation.
2. Components of the installation.
3. Calculating the installation.

### Section 5. Emergency electrical installations

1. Basic regulation.
2. Components of the installation.
3. Calculating the installation.

### **Practical program**

1. Calculating a water supply installation for a building in the agricultural and/or food processing domain.
2. Calculating a water evacuation installation for a building in the agricultural and/or food processing domain.
3. Calculating the fire protection installations for a building in the agricultural and/or food processing domain.
4. Calculating the emergency lighting installation for a building in the agricultural and/or food processing domain.

## 4.4. Course planning and calendar

Week	Lectures (h)	Practice sessions (h)	Autonomous work (h)	Evaluation (h)	Total (h)
1	1	0	0		1
2	2	2	6		10
3	2	2	6		10
4	2	2	6		10
5	2	2	6		10
6	2	2	6		10
7	2	2	6		10
8	2	2	6		10
9	2	2	6		10
10	2	2	6		10
11					
12	2	2	5		9
13	2	2	5		9
14	2	2	3,5		7,5
15	0	1	1,5		2,5
16				6	6
Total hours	25	25	69	6	125

## 4.5. Bibliography and recommended resources

- BB** España. Ministerio de Industria, Comercio y Turismo. Reglamento de Seguridad Contra Incendios en los Establecimientos Industriales RSCIEI (Real Decreto 2267/2004, de 3 de diciembre) y Guía Técnica de Aplicación (octubre 2007) / [Ministerio de Industria, Comercio y Turismo]. Madrid : Paraninfo, D.L. 2008
- BB** España. Ministerio de la Vivienda. Código técnico de la edificación. Edición septiembre 2009. Madrid : La Ley, 2009
- BC** Arizmendi Barnes, Luis Jesús. Cálculo y normativa básica de las instalaciones en los edificios. Tomo 1, Instalaciones hidráulicas, gases combustibles y de ventilación / Luis Jesús Arizmendi. 7ª ed. renovada. Pamplona : EUNSA, 2005
- BC** Arizmendi Barnes, Luis Jesús. Cálculo y normativa básica de las instalaciones en los edificios. Tomo 2, Instalaciones energéticas / Luis Jesús Arizmendi. 6ª. ed. renovada. Pamplona : EUNSA, 2003
- BC** España. Dirección General de la Vivienda, la Arquitectura y el Urbanismo. Normas tecnológicas de la edificación NTE. Instalaciones : diseño, cálculo, construcción, control, valoración, mantenimiento / Dirección General de la Vivienda, la Arquitectura y el Urbanismo. [14ª reimpr.]. Madrid : Ministerio de Fomento, Centro de Publicaciones, 2000
- BC** Martín Sánchez, Franco. Nuevo manual de instalaciones de fontanería y saneamiento : (Adaptado al Código Técnico de la Edificación) / Franco Martín Sánchez. 3ª ed. Madrid : A. Madrid Vicente, 2008

The updated recommended bibliography can be consulted in:<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=28960>