

Course guide 310721 - 310721 - Fluid Installations

 Last modified: 04/07/2024

 Unit in charge:
 Barcelona School of Building Construction

 753 - TA - Department of Architectural Technology.

 Degree:
 BACHELOR'S DEGREE IN ARCHITECTURAL TECHNOLOGY AND BUILDING CONSTRUCTION (Syllabus 2019).

 Academic year: 2024
 ECTS Credits: 6.0
 Languages: Catalan

LECTURER		
Coordinating lecturer:	Tarragona Roig, Joan	
Others:	Sedo Beneyto, Elena	
	Torra Guarch, Oriol	
	Dolcet Butsems, David	
	Tarragona Roig, Joan	

PRIOR SKILLS

REQUIREMENTS

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Transversal:

1. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.

2. ENTREPRENEURSHIP AND INNOVATION - Level 1. Showing enterprise, acquiring basic knowledge about organizations and becoming familiar with the tools and techniques for generating ideas and managing organizations that make it possible to solve known problems and create opportunities.

TEACHING METHODOLOGY

The teaching methodology is divided into three parts:

- Face-to-face for content presentation.
- Face-to-face for practical work (exercises and problems).
- Autonomous work.

In the content presentation sessions, the lecturer will present the theoretical bases of the subject, concepts, methods and illustrative results with examples to facilitate general understanding.

In the face-to-face practical work sessions, the lecturer will guide the student in the application of the theoretical concepts for problem solving, promoting at all times critical reasoning. Students will have to solve exercises during the face-to-face sessions and at home.

Students, must work autonomously the material provided by the lecturer and the result of the work-problem sessions to assimilate and fix the concepts. The lecturers will provide a study plan and follow-up of activities (through Atena).



LEARNING OBJECTIVES OF THE SUBJECT

The course aims at providing the capacity to design mechanical fluid systems for buildings, considering their use, the applicable regulations and the suitability and energy efficiency of their systems.

STUDY LOAD

Туре	Hours	Percentage
Hours small group	6,0	4.00
Hours large group	30,0	20.00
Self study	90,0	60.00
Hours medium group	24,0	16.00

Total learning time: 150 h

CONTENTS

title english

Description:

- Introduction to Building systems.
- Regulations.
- Initial concepts.
- Cold water supply.
- Elements of cold-water systems.
- Cold water distribution.
- Materials for the piping network.
- Water treatment.
- Sizing cold water systems.

Related activities:

Fluid Systems project. Cold water part. Practicum exercicis.

Full-or-part-time: 30h Theory classes: 9h Practical classes: 6h Self study : 15h



Module 2: Fire Systems

Description:

- Regulations.
- Initial concepts.
- Elements of fire systems.
- Fire water supply and storage.
- Sizing fire systems.

Specific objectives:

Fluid Systems project. Fire systems part. Practicum exercicis.

Full-or-part-time: 30h Theory classes: 9h Practical classes: 6h Self study : 15h

Module 3: Hot water Systems.

Description:

- Regulations.
- Initial concepts.
- Hot water generation.
- Elements of hot water systems.
- Hot water distribution.
- Regulation of hot water systems.
- Energy efficiency of hot water systems.
- Sizing hot water systems.

Related activities:

Fluid Systems project. Hot water part. Practicum exercicis.

Full-or-part-time: 30h

Theory classes: 9h Practical classes: 6h Self study : 15h

Module 4. Solar energy Systems.

Description:

- Regulations.
- Initial concepts.
- Elements of solar energy systems.
- Energy efficiency of solar energy systems.
- Sizing solar energy systems.

Related activities:

Fluid Systems project. Solar energy systems part. Practicum exercicis.

Full-or-part-time: 30h

Theory classes: 9h Practical classes: 6h Self study : 15h



Moduel 5: Sanitary and rainwater drainage Systems.

Description:

- Regulations.
- Initial concepts.
- Elements of sanitary and rainwater drainage systems.
- Ventilation systems.
- Pumping systems.
- Materials for sanitary and rainwater drainage network
- Sizing sanitary and rainwater drainage systems.

Related activities:

Fluid Systems project. Sanitary and rainwater drainage systems part. Practicum exercicis.

Full-or-part-time: 18h

Theory classes: 6h Practical classes: 4h Self study : 8h

Module 6: Gas systems

Description:

- Regulations.
- Initial concepts.
- Supply and Distribution.
- Elements of gas Systems.
- Syzing gas Systems.

Related activities:

Fluid Systems project. Gas systems part. Practicum exercicis.

Full-or-part-time: 12h Theory classes: 4h Practical classes: 2h Self study : 6h

GRADING SYSTEM

- Mid-term exam, weight: 30%
- Final exam, weight: 30%
- Group project, weight: 40%

Reassessment

The student who has obtained a final grade of failure with a numerical grade between 3.5 and 4.9 will have the option to take a single reassessment exam, which will include all of the contents and will be carried out in period established for the purpose. If you pass this test, the final grade of the subject will be passed (5.0) Students who meet any of the following conditions will not be able to take the reassessment exam: i) has already passed the subject

ii) your final grade is below 3.5 (includes the NP case, which is 0 NP)

EXAMINATION RULES.



BIBLIOGRAPHY

Basic:

- CTE-DB-HS (Codi Tècnic de l'Edificació Document Bàsic Salubritat).
- CTE-DB-HE(Codi Tècnic de l'Edificació Document Bàsic Estalvi d'Energia).
- CTE-DB-SI (Codi Tècnic de l'Edificació Document Bàsic Seguretat Contra Incendis).
- RIPCI (Reglament d'instal·lacions de protecció contra incendis).
- RIGLO (Reglament d'instal·lacions de gas en locals destinats a usos domèstics, col·lectius o comercials).

RESOURCES

Other resources: Class handouts.