

30040 - Industrial Heat and Cold

Información del Plan Docente	
Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	436 - Bachelor's Degree in Industrial Engineering Technology
ECTS	6.0
Course	4
Period	First semester
Subject Type	Optional
Module	
1.Basic info	
1.1.Recommendations to take this course	
1.2.Activities and key dates for the course	
2.Initiation	
2.1.Learning outcomes that define the subject	
2.2.Introduction	
3.Context and competences	
3.1.Goals	
3.2.Context and meaning of the subject in the degree	
3.3.Competences	
3.4.Importance of learning outcomes	
4.Evaluation	
5.Activities and resources	
5.1.General methodological presentation	
5.2.Learning activities	
5.3.Program	
Part 1: Refrigeration	

- Refrigeration cycles and systems. ApplicationsRefrigerants



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- Refrigeration equipment and installations
- Principles of air conditioning

Part 2: Heat generation and transfer equipment

- Heat generation systems. Boilers and burners
- Heating and hot water installations in buildings
- Solar thermal energy
- Production and distribution of thermal energy

Part 3: Energy efficiency

- Thermal process integration
- Thermal energy recovery

5.4.Planning and scheduling

5.5.Bibliography and recomended resources