UNIVERSIDADE DA CORUÑA

Teaching Guide				
Identifying Data				2017/18
Subject (*)	Thermal Instalations		Code	770523018
Study programme	Mestrado Universitario en Eficiencia e Aproveitamento Enerxético			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	2nd four-month period	First	Optativa	3
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Enxeñaría Industrial			
Coordinador	Lopez Vazquez, Jose Antonio	E-mail	jose.lopez@udc.es	
Lecturers	Fernandez Ibañez, Maria Isabel Lopez Vazquez, Jose Antonio	E-mail	isabel.fibanez@udc.es jose.lopez@udc.es	
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General description	Thermal Installations are fixed installations for climatization (ventilation, refrigeration and heating) and sanitary hot water production installations in order to attend people welfare and hygiene demands in any type of building, even buildings for industrial use.			

Study programme competences	
Code	Study programme competences
A10	Capacidad para analizar e incluir energías renovables en diferentes instalaciones.
A13	Capacidad para analizar, aplicar y optimizar los sistemas de aprovechamiento energético.
B4	Que los estudiantes posean las habilidades de aprendizaje que les permitan continuar estudiando de un modo que habrá de ser en gran medida autodirigido o autónomo.
B7	Desarrollar las capacidades de análisis y síntesis; fomentar la discusión crítica, la defensa de argumentos y la toma de conclusiones.
B9	Extraer, interpretar y procesar información, procedente de diferentes fuentes, para su empleo en el estudio y análisis.
B12	Analizar de forma crítica la propia experiencia de prácticas.
C2	Fomentar la sensibilidad hacia temas medioambientales.
C3	Aplicar una metodología que fomente el aprendizaje y el trabajo autónomo.
C5	Adquirir la capacidad para elaborar un trabajo multidisciplinar

Learning outcomes			
Learning outcomes	Study programme competences		
Know air conditioning systems. (ventilation, refrigeration and heating)	AJ10 AJ13	BC4 BC7 BC9 BC12	CC2 CC3 CC5
Know sanitary hot water installations.	AJ10 AJ13	BC4 BC7 BC9 BC12	CC2 CC3 CC5

Contents	
Topic	Sub-topic
Unit 1. Air conditioning systems (ventilation, refrigeration and heating)	Regulations. Design and configuration.

Unit 2. Sanitary hot water installations.	Regulations. Design and configuration.

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Supervised projects	A10 A13 B4 B7 B9 B12 C2 C3 C5	14	45	59
Oral presentation	A10 A13 B9 C2	7	7	14
Personalized attention		2	0	2
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Supervised projects	The practical works of design and dimensionado of the installations will realize applying the methodology BIM (Building Information Modeling).
Oral presentation	The matter will be developed in theoretical-practical modules. Basic concepts of each subject will be present with the purpose to transmit knowledges and ensure the learning.

Personalized attention	
Methodologies	Description
Supervised projects	Periodic controls will be realized aiming to avoid possible detours in non-attendance time.

Assessment			
Methodologies	Competencies	Description	Qualification
Supervised projects	A10 A13 B4 B7 B9 B12 C2 C3 C5	Practical works realized by the students both on-site or by non-attendance time will be evaluated.	100

Assessment comments

Sources of information	
Basic	- Asociación Técnica Española de Climatización y Refrigeración - ATECYR (). Comentarios al Reglamento de instalaciones térmicas en los edificios - RITE. Instituto para la Diversificación y Ahorro de la Energía - Francesc Buqué (). Manual básico para el cálculo de instalaciones de calefacción. Marcombo - Carlos González Sierra (). Diseño y Cálculo de Instalaciones de Climatización. Cano Pina - Asociación Técnica Española de Climatización y Refrigeración - ATECYR (). Fundamentos de Climatización. Asociación Técnica Española de Climatización y Refrigeración - ATECYR - Ministerio de Fomento (). Codigo Técnico de la Edificación. http://www.codigotecnico.org/
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments

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(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.