Teaching Guide				
Identifying Data				2015/16
Subject (*)	PROXECTO DE SISTEMAS DE PROPULSIÓN		Code	730G02138
Study programme	Grao en Enxeñaría en Propulsión e Servizos do Buque			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	Third	Obligatoria	6
Language	SpanishEnglish			
Teaching method	Face-to-face			
Prerequisites				
Department	Enxeñaría Naval e Oceánica			
Coordinador	Seijo Jordan, Indalecio	E-mail	indalecio.seijo1@udc.es	
Lecturers		E-mail		
Web				
General description				

Study programme competences / results	
Code	Study programme competences / results
A23	Coñecemento dos métodos de proxecto dos sistemas de propulsión naval.

Learning outcomes			
Learning outcomes	Study programme competences / results		
To have knowledge of the marine propulsion systems design methodologies.	A23		

Contents	
Topic	Sub-topic
Introduction to the marine propulsion systems	Introduction
Diesel engines	Introduction Working principles Diesel engine selection Ancilliary systems Engine room arrangement
Gas turbines	Introduction Working principles Marine gas turbines Ancilliary systems Engine room arrangement
Electric propulsion	Introduction Working principles Electric generator selection Electric motor selection Associated propulsors
Combined propulsion systems	Introduction Propulsion plant arrangement Propulsion plant selection and associated systems

Steam turbines	Introduction Working principles Ancilliary systems Conventional steam propulsion plants Nuclear steam propulsion plants Engine room arrangement
Design of propulsion ancilliary systems	Engine room ventilation Cooling systems Lube oil systems Fuel systems
Non conventional propulsion systems	Introduction Characteristics, selection and installation of non conventional propulsors.
Machinery arrangement within the ship design process	Introduction Design constraints Rules and regulations Building strategy

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Supervised projects		3	42	45
Supervised projects		1	9	10
Oral presentation		6	6	12
Objective test		4	0	4
Guest lecture / keynote speech		32	45	77
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	To develop the design of the engine room of a given vessel, that will be defined at the beggining of the course. On it, some of the knowledge acquired along the course will have to be applied. At the beggining of the course, and depending on the number of students, it will be decided if the project has to be done individually or in groups of students.
Supervised projects	To develop a project work about a given topic within the contents of the course, that will be defined at the beggining of it. This project will be orally presented. At the beggining of the course, and depending on the number of students, it will be decided if the project has to be done individually or in groups of students.
Oral presentation	Oral presentation of the project work about a topic of the course, in front of the professor and the rest of the students. Moreover, the student will also evaluate the oral presentations of the rest of the groups
Objective test	Theoretical/practical written examination about the different contents of the course.
Guest lecture / keynote speech	Lecture sessions where the contents of the course will be explained and described by the professor.

Personalized attention	
Methodologies	Description

Supervised projects Supervised projects	Regarding the two project works to be carried out during the course, individualized guiding sessions will be done, where bibliographic references, information sources and advice will be provided at the different stages of development of both works, also including oral presentation basic techniques.

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Supervised projects		The maximum assigned score to the project work about a especific topic is a 5 % of the total score of the course. It is a compulsory assignment that has to be acomplished to pass the course. Its maximum score will be 10 points. A minimum of 4 points are required to pass the course.	5
Objective test		Theoretical/practical written examination about the different contents of the course. The maximum assigned score to this item is a 6 % of the total score of the course. It is a compulsory assignment that has to be acomplished to pass the course. Its maximum score will be 10 points. A minimum of 4 points are required to pass the course.	60
Oral presentation		The maximum assigned score to the oral presentation of the project work about a especific topic, together with the evaluation of the other presentations, is a 5 % of the total score of the course. It is a compulsory assignment that has to be acomplished to pass the course. Its maximum score will be 10 points. A minimum of 4 points are required to pass the course.	5
Supervised projects		Project work about the design of the engine room of a ship. This work has a maximum assigned score of a 30 % of the total score of the course. It is a compulsory assignment that has to be acomplished to pass the course. Its maximum score will be 10 points. A minimum of 4 points are required to pass the course.	30

Assessment comments

Sources of information	
Basic	- Casanova Rivas, E. (2001). Máquinas para la Propulsión de Buques. Universidade da Coruña - Watson, D.G.M. (2002). Practical Ship Design. Elsevier - Lamb, T. (2003). Ship Design and Construction. Society of Naval Architects and Marine Engineers (SNAME)
Complementary	

Recommendations
Subjects that it is recommended to have taken before

CONSTRUCIÓN NAVAL E SISTEMAS DE PROPULSIÓN/730G02112
Subjects that are recommended to be taken simultaneously
MOTORES DE COMBUSTIÓN INTERNA ALTERNATIVOS/730G02135
Subjects that continue the syllabus
REGULAMENTACIÓN TÉCNICA APLICABLE AOS SISTEMAS/730G02147
Other comments

(*)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.