



Teaching Guide

Identifying Data					2017/18
Subject (*)	Ship and offshore design 2		Code	730G05037	
Study programme	Grao en Enxeñaría Naval e Oceánica				
Descriptors					
Cycle	Period	Year	Type	Credits	
Graduate	2nd four-month period	Fourth	Obligatoria	6	
Language	Spanish				
Teaching method	Face-to-face				
Prerequisites					
Department	Enxeñaría Naval e Industrial				
Coordinador	Junco Ocampo, Fernando		E-mail	fernando.junco@udc.es	
Lecturers	Díaz Casás, Vicente Junco Ocampo, Fernando		E-mail	vicente.diaz.casas@udc.es fernando.junco@udc.es	
Web					
General description	O contido do curso abrangue o desenvolvemento de coñecementos e técnicas para o proxecto dunha embarcación ou dispositivo mariño con base nos requisitos esperados de actividade. Así, o obxectivo do curso é desenvolver o conxunto de cadernos que compoñen o proxecto dun barco.				

Study programme competences / results

Code	Study programme competences / results
A36	Knowledge of the methods of project of the systems of naval propulsion.
A37	Knowledge of the methods of project of the auxiliary systems of the ships and artifacts.
B1	That the students proved to have and to understand knowledge in an area of study what part of the base of the secondary education, and itself tends to find to a level that, although it leans in advanced text books, it includes also some aspects that knowledge implicates proceeding from the vanguard of its field of study
B2	That the students know how to apply its knowledge to its work or vocation in a professional way and possess the competences that tend to prove itself by the elaboration and defense of arguments and the resolution of problems in its area of study
B3	That the students have the ability to bring together and to interpret relevant data (normally in its area of study) to emit judgments that include a reflection on relevant subjects of social, scientific or ethical kind
B4	That the students can transmit information, ideas, problems and solutions to a public as much specialized as not specialized
B5	That the students developed those skills of learning necessary to start subsequent studies with a high degree of autonomy
B6	Be able to carrying out a critical analysis, evaluation and synthesis of new and complex ideas.
C1	Using the basic tools of the technologies of the information and the communications (TIC) necessary for the exercise of its profession and for the learning throughout its life.
C2	Coming across for the exercise of a, cultivated open citizenship, awkward, democratic and supportive criticism, capable of analyzing the reality, diagnosing problems, formulating and implanting solutions based on the knowledge and orientated to the common good.
C3	Understanding the importance of the enterprising culture and knowing the means within reach of the enterprising people.
C4	Recognizing critically the knowledge, the technology and the available information to solve the problems that they must face.
C5	Assuming the importance of the learning as professional and as citizen throughout the life.
C6	Recognizing the importance that has the research, the innovation and the technological development in the socioeconomic and cultural advance of the society.
C7	Capacidade de traballar nun ámbito multilingüe e multidisciplinar.

Learning outcomes

Learning outcomes	Study programme competences / results



Capacidade para o deseño de desenvolvemento completo de un barco. Capacidade de realizar cálculos aplicados para enviar deseño.	A36 A37	B1 B2 B3 B4 B5 B6	C1 C2 C3 C4 C5 C6 C7
Capacidade de describir e calcular os sistemas, equipos e construción do barco e os seus compoñentes.			

Contents	
Topic	Sub-topic
Los bloques o temas siguientes desarrollan los contenidos establecidos en la ficha de la Memoria de Verificación, que son:	Desarrollo general del proyecto del buque. Métodos de proyecto de buques y de su tecnología específica ; diseño y cálculo de los espacios habitables de los buques y artefactos marinos y de los servicios que se disponen en dichos espacios, e integración en la estructura de los equipos y sistemas del buque
Situacións de carga e resistencia lonxitudinal	Cálculo de condicións de carga normativas. Valores aplicables de estabilidade e criterios de estabilidade. Curva de forzas de cisallamento e momentos de flectores
Previsión de potencia e deseño de hélices e timón.	Estimando potencia de propulsión. Métodos e resultados do cálculo do motor. Cálculo do timón. Esbozo do perfil do codaste, skeg e timón.
Disposición xeral.	Justificación da disposición xeral.
Caderna mestra	Xustificación de escantillóns e cálculos de resistencia lonxitudinal. Plano de cuaderna maestra.
Francobordo e arqueo	Cálculo de francobordo Cálculo de arqueo
Definición da planta propulsora e seus auxiliares	Xustificación do equipamento de propulsión. Definición de servizos e equipos de propulsión auxiliar. Estimación de consumo e verificación de autonomía. Equilibrio térmico. Esquema preliminar da cámara de máquinas
Definición da planta eléctrica	Elección das características de distribución de enerxía eléctrica. Justificación do balance eléctrico. Diagrama xeral da instalación eléctrica.
Equipos e servizos	Descrición dos servizos e equipos do buque Xustificación das características de servizos e equipamentos.
Orzamento	Orzamento de servizos, materiais, equipos e man de obra.

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Supervised projects	A36 A37 B1 B2 B3 B4 B5 B6 C1 C2 C3 C4 C5 C6 C7	5	80	85
Guest lecture / keynote speech	A36 A37 B3 C1 C6 C7	40	0	40
Case study	A36 A37 B1 B2 B3 B4	15	5	20
Personalized attention		5	0	5

(*)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	Elaboración do anteproyecto dun buque ou artefacto
Guest lecture / keynote speech	Explicación dos coñecementos e técnicas da asignatura
Case study	Estudio de casos particulares e principais dificultades no desenvolvemento no proxecto do buque

Personalized attention	
Methodologies	Description
Supervised projects	Seguimento continuo do avance do proxecto.
Guest lecture / keynote speech	Tutorías individualizadas o de grupos reducidos para resolver as incidencias o dificultades detectadas na elaboración no proxecto.
Case study	

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Supervised projects	A36 A37 B1 B2 B3 B4 B5 B6 C1 C2 C3 C4 C5 C6 C7	Desenvolvemento completo do proxecto co alcance definido no moodle da materia.	100
Others			

Assessment comments
Posto que a avaliación dos traballos tutelados realizarase nas clases presenciais será necesario asistir a lo menos a un 75% das mesmas para que sexan avaliadas. En casos debidamente xustificadas poderase dispensar ao alumno deste requirimento.

Sources of information	
Basic	<ul style="list-style-type: none"> - Alvariño y Otros (2000). Proyecto básico del buque mercante. - Watson (1998). Practical ship design. - Fernando Junco (2003). Proyectos de buques y artefactos. - Schneekluth (1987). Ship Design for Efficiency & Economy. - (). SOLAS.
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

(*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.