



Teaching Guide

Teaching Guide				
Identifying Data				2015/16
Subject (*)	Análise de Estructuras e Materiais Avanzados		Code	632508002
Study programme	Mestrado Universitario en Investigación en Enxeñaría Civil (2013)			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	Yearly	First	Optativa	6
Language	SpanishGalicianEnglish			
Teaching method	Face-to-face			
Prerequisites				
Department	Enerxía e Propulsión MariñaTecnoloxía da Construción			
Coordinador	Romera Rodriguez, Luis EstebanGalan Díaz, Juan José	E-mail	l.romera@udc.esjuan.jose.galan@udc.es	
Lecturers	Díaz Garcia, Jacobo Manuel Fontan Perez, Arturo Norberto Galan Díaz, Juan José Romera Rodriguez, Luis Esteban Toledano Prados, Mar	E-mail	jacobitoledano@udc.es arturo.fontan@udc.es juan.jose.galan@udc.es l.romera@udc.es mar.toledano@udc.es	
Web	campusvirtual.udc.es/moodle/			
General description				

Study programme competences

Code	Study programme competences
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Learning outcomes

Learning outcomes	Study programme competences		

Contents

Topic	Sub-topic
Análisis de Fatiga	Resistencia y Límite de Fatiga

Planning

Methodologies / tests	Competencies	Ordinary class hours	Student's personal work hours	Total hours
Guest lecture / keynote speech		20	20	40
Problem solving		20	20	40
ICT practicals		30	20	50
Laboratory practice		2	4	6
Workbook		0	12	12
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
Guest lecture / keynote speech	
Problem solving	
ICT practicals	
Laboratory practice	Prácticas de ensayos de fatiga en el laboratorio de Ciencia Materiales
Workbook	

Personalized attention	
Methodologies	Description
ICT practicals	Se le ayudará al alumno en las dudas que surgan durante la realización de las prácticas
Laboratory practice	

Assessment			
Methodologies	Competencies	Description	Qualification
Problem solving			25
Guest lecture / keynote speech			25
ICT practicals			25
Laboratory practice			25

Assessment comments

Sources of information	
Basic	- Reddy, J. N. (2004). Mechanics of laminated composite plates and shells. CRC Press - Gürdal, Z., Haftka, R. T. and Hajela, P. (1999). Design and optimization of laminated composite materials. John Wiley & Sons - Barbero, E. J. (2011). Introduction to composite materials design. CRC Press - Kassapoglou, K. (2010). Design and analysis of composite structures. Wiley - Mallick, P. K. (2008). Fiber-reinforced composites. CRC Press - Choi, S-K, Grandhi, R.V. and Canfield, R.A (2007). Reliability-based Structural Design,. Springer Verlag - Haldar, A. and Mahadevan, S. (2000). Probability, reliability, and statistical methods in. John Wiley & Sons - Dowling, N. (2008). Mechanical behavior of materials. Pearson - Courtney, T. (2000). Mechanical behavior of materials. McGraw Hill - Toledano, M. y Monsalve, A. (2008). Ciencia e Ingeniería de materiales. Andavira - Bannantine, J. (1990). Fundamentals of Metal Fatigue Analysis. Prentice Hall - Jurado, J.A., Hernandez S., Nieto F. & Mosquera A. (2011). Bridge Aeroelasticity. WIT Press - Belegundu, A. D., Chandrupatla, T. R. (1999). Optimization Concepts and Applications in Engineering. Prentice Hall
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously



Optimización e Análise de Estruturas/632508001

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.