



## Teaching Guide

Identifying Data					2024/25
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	Optional	6	
Language	SpanishGalicianEnglish				
Teaching method	Face-to-face				
Prerequisites					
Department	Enxeñaría CivilEnxeñaría Naval e Industrial				
Coordinador			E-mail		
Lecturers			E-mail		
Web	campusvirtual.udc.es/moodle/				
General description					

## Study programme competences / results

Code	Study programme competences / results

## Learning outcomes

Learning outcomes	Study programme competences / results		

## Contents

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

## Planning

Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	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 / Results	Description	Qualification
Problem solving			25
Guest lecture / keynote speech			25
ICT practicals			25
Laboratory practice			25

Assessment comments

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Sources of information

<b>Basic</b>	<ul style="list-style-type: none"> <li>- Reddy, J. N. (2004). Mechanics of laminated composite plates and shells. CRC Press</li> <li>- Gürdal, Z., Haftka, R. T. and Hajela, P. (1999). Design and optimization of laminated composite materials. John Wiley &amp; Sons</li> <li>- Barbero, E. J. (2011). Introduction to composite materials design. CRC Press</li> <li>- Kassapoglou, K. (2010). Design and analysis of composite structures. Wiley</li> <li>- Mallick, P. K. (2008). Fiber-reinforced composites. CRC Press</li> <li>- Choi, S-K, Grandhi, R.V. and Canfield, R.A (2007). Reliability-based Structural Design,. Springer Verlag</li> <li>- Haldar, A. and Mahadevan, S. (2000). Probability, reliability, and statistical methods in. John Wiley &amp; Sons</li> <li>- Dowling, N. (2008). Mechanical behavior of materials. Pearson</li> <li>- Courtney, T. (2000). Mechanical behavior of materials. McGraw Hill</li> <li>- Toledano, M. y Monsalve, A. (2008). Ciencia e Ingeniería de materiales. Andavira</li> <li>- Bannantine, J. (1990). Fundamentals of Metal Fatigue Analysis. Prentice Hall</li> <li>- Jurado, J.A., Hernandez S., Nieto F. &amp; Mosquera A. (2011). Bridge Aeroelasticity. WIT Press</li> <li>- Belegundu, A. D., Chandrupatla, T. R. (1999). Optimization Concepts and Applications in Engineering. Prentice Hall</li> </ul>
<b>Complementary</b>	

Recommendations

Subjects that it is recommended to have taken before

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Subjects that are recommended to be taken simultaneously

Optimización e Análise de Estruturas/632508001
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Subjects that continue the syllabus

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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.