



## 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.