



Teaching Guide

Teaching Guide				
Identifying Data				2022/23
Subject (*)	Building Structures I		Code	670G01107
Study programme	Grao en Arquitectura Técnica			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	First	Obligatory	6
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Construcións e Estruturas Arquitectónicas, Cívís e Aeronáuticas			
Coordinador	López César, Isaac	E-mail	isaac.lopez@udc.es	
Lecturers	Dominguez Diez, Eloy Rafael López César, Isaac	E-mail	eloy.dominguez@udc.es isaac.lopez@udc.es	
Web				
General description	A asignatura aborda contidos de elasticidade e resistencia de materiais xunto a accións na edificación.			

Study programme competences

Code	Study programme competences
A37	A0.2 Applied knowledge of the principles of general mechanics, structural systems statistics, mass point geometry, and elastic behaviour of solids (principles and analysis methods).
A56	A3.1 Ability to apply building rules and standards, and draw up technical specifications in relation to building methods and procedures.
A58	A3.3 Ability to carry out initial sizing, design, calculation and testing of structures, and oversee their implementation.
B31	B1 Students will demonstrate knowledge and understanding of subjects that build upon the foundation of a general secondary education using advanced textbooks and ideas and analyses from the cutting edge of their field.
B32	B2 Students will be able to use their knowledge professionally and will possess the skills required to formulate and defend arguments and solve problems within their area of study.
B33	B3 Students will have the ability to gather and interpret relevant data (especially within their field of study) in order to make decisions and reflect on social, scientific and ethical matters.
B34	B4 Students will be able to communicate information, ideas, problems and solutions to specialist and non-specialist audiences alike.
B35	B5 Students will develop the learning skills and autonomy they need to continue their studies at postgraduate level.
C1	Adequate oral and written expression in the official languages.
C3	Using ICT in working contexts and lifelong learning.
C4	Acting as a respectful citizen according to democratic cultures and human rights and with a gender perspective.
C5	Understanding the importance of entrepreneurial culture and the useful means for enterprising people.
C6	Acquiring skills for healthy lifestyles, and healthy habits and routines.
C7	Developing the ability to work in interdisciplinary or transdisciplinary teams in order to offer proposals that can contribute to a sustainable environmental, economic, political and social development.
C8	Valuing the importance of research, innovation and technological development for the socioeconomic and cultural progress of society.
C9	Ability to manage times and resources: developing plans, prioritizing activities, identifying critical points, establishing goals and accomplishing them.

Learning outcomes

Learning outcomes	Study programme competences



Coñecementos aplicados a Arquitectura técnica de elasticidade e resistencia de materiais e das accións na edificación.	A56	B31	C1
	A58	B32	C3
		B33	C4
		B34	C5
		B35	C6
			C7
			C8
			C9
Visión xeral do análise tensional e deformacional, do predimensionado e comprobación de elementos estruturais sinxelos no ámbito da edificación.	A37	B31	C1
	A56	B32	C3
	A58	B33	C4
		B34	C5
		B35	C6
			C7
			C8
			C9

Contents	
Topic	Sub-topic
1.-Tensions e deformacions. Relacións: ley de Hooke xeneralizada.	
2.-Principios da resistencia de materiais	
3.-Esforzos simples: axil (tracción e compresión). Cortadura simple. Flexión pura.	
4.-Esforzos combinados: flexión simple, flexión esviada. Flexión composta . Nucleo central.	
5.-Accións na edificación. Aspectos normativos. Bases do cálculo.	

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Guest lecture / keynote speech	A37 A56 A58 B31 B32 B33 B34 B35 C1 C3 C4 C5 C6 C7 C8 C9	30	30	60
Objective test	A37 B31 B32 B33 B34 B35 C3 C6 C7 C8 C9	4	8	12
Problem solving	A37 B31 B32 B33 B34 B35 C3 C6 C7 C8 C9	26	52	78
Personalized attention		0		0

(*)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	Expoñeranse os diversos conceptos teóricos da materia e orientarase ao alumnado no desenvolvemento do seu traballo autónomo.
Objective test	Plantexaranse cuestións e/ou problemas teórico-prácticos a resolver polo alumno.



Problem solving	Propoñeranse e/ou resolverán polo profesor e alumnado diversos exercicios prácticos relacionados co temario.
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Personalized attention	
Methodologies	Description
Problem solving Guest lecture / keynote speech Objective test	A atención personalizada realizarase na propia aula e no horario e lugar de tutorías do profesor, que figura na web da escola.

Assessment			
Methodologies	Competencies	Description	Qualification
Objective test	A37 B31 B32 B33 B34 B35 C3 C6 C7 C8 C9	Consistira en exercicios y/o cuestiones teorico practicas	100

Assessment comments
O alumno pode alcanzar os 10 puntos coa resolución de exercicios e/ou teoría que plantexe o profesor na primeira e segunda oportunidade nos exames oficiais que fixe a escola. Recoméndase, lóxicamente, a asistencia as clases pero se permite a presentación aos exames oficiais de primeira e segunda oportunidade sen ese requisito. Pódese levar ás probas calculadora non programable, material de debuxo, formulario A4 manuscrito redactado polo alumno exclusivamente con formulación. Non se admiten teléfonos móbiles no examen. Acudirase co DNI ás probas. Poden solicitar o non presentado durante a primeira media hora. Recórdase que a realización fraudulenta de probas ou actividades de avaliación implicará directamente a calificación de suspenso 0, na convocatoria correspondente e a aplicación da normativa Académica de Evaluacións, Calificacións e Reclamacións vixente na UDC. Recordase que os alumnos pertencentes a asignatura do dobre grao en extinción so teñen dereito a examen e serán avaliados sobre 10 puntos igualmente.

Sources of information	
Basic	- ortiz Berrocal,Luis (1985). Elasticidad. Litoprint Pricam, SA. - ortiz Berrocal,Luis (1992). Resistencia de materiales. McGraw - M. Vazquez (1986). Resistencia de Materiales. Coimpres, SA. - Timoshenko (1980). Resistencia de Materiales. Espasa Calpe, SA - Feodosiev (1980). Resistencia de Materiales. Mir - Timoshenko y Young (1981). Teoría de las Estructuras. Urmo,SA - Documento (). DB-SE-AE. Ministerio de Fomento - Documento (). DB-SE. Ministerio de FOmento
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Mechanical Basics of Building Structures/670G01104
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Building Structures II/670G01111
Other comments



Para un axeitado seguimento da materia é imprescindible o dominio previo dos seguintes temas: - Razoamento Lóxico. - Cálculo vectorial. - Sistemas de unidades. - Matrices. - Xeometría e Trigonometría. - Derivación e Integración. - Resolución de sistemas de ecuacións. Recórdase que a bibliografía proposta é simplemente orientativa.

Existen numerosos textos de mecánica e estruturas polos cales se pode realizar o traballo autónomo do alumno.

(*)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.