



Teaching Guide				
Identifying Data				2021/22
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	SpanishGalician			
Teaching method	Face-to-face			
Prerequisites				
Department	Construcións e Estruturas Arquitectónicas, Cívís e Aeronáuticas			
Coordinador	Lamas Lopez, Valentin	E-mail	valentin.lamas@udc.es	
Lecturers	Lamas Lopez, Valentin Mosquera Rey, Emilio	E-mail	valentin.lamas@udc.es emilio.mosquera@udc.es	
Web				
General description	La asignatura aborda contenidos de elasticidad y resistencia de materiales junto a acciones en la edificación.			
Contingency plan	<p>1. Modifications to the contents</p> <p>2. Methodologies</p> <p>*Teaching methodologies that are maintained</p> <p>*Teaching methodologies that are modified</p> <p>3. Mechanisms for personalized attention to students</p> <p>4. Modifications in the evaluation</p> <p>*Evaluation observations:</p> <p>5. Modifications to the bibliography or webgraphy</p>			

Study programme competences / results	
Code	Study programme competences / results
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 / results		
Conocimientos aplicados a la Arquitectura Técnica de elasticidad y resistencia de materiales y de las acciones de edificación.	A56	B31	C1
	A58	B32	C3
		B33	C4
		B34	C5
		B35	C6
			C7
	C8		
	C9		
	Visión general del análisis tensional y deformacional, del predimensionado y comprobación de elementos estructurales sencillos en el ámbito de la edificación.	A37	B31
A56		B32	C3
A58		B33	C4
		B34	C5
		B35	C6
			C7
C8			
C9			

Contents	
Topic	Sub-topic
1.-Tensiones y deformaciones. Relaciones: ley de Hooke generalizada y ecuaciones de Lamé	
2.-Principios de la resistencia de materiales.	
3.-Esfuerzos simples: axil (tracción y compresión). Cortadura simple. Flexión pura.	
4.-Esfuerzos combinados: flexión simple, flexión esviada. Flexión compuesta . Nucleo central.	
5.-Acciones en la edificación. Aspectos normativos. Bases de cálculo.	

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	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	Se expondrán los diversos conceptos teóricos de la materia y se orienta al alumnado en el desarrollo de su trabajo autónomo.
Objective test	Se plantearán cuestiones y/o problemas teórico-prácticos a resolver por el alumno.
Problem solving	Se propondrán y/o resolverán por profesor y alumnado diversos ejercicios prácticos relacionados con el temario.

Personalized attention	
Methodologies	Description
Problem solving Guest lecture / keynote speech Objective test	A atención personalizada será en el propio aula y en el horario y lugar de tutorías del profesor que figura en la web de la escuela.

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Objective test	A37 B31 B32 B33 B34 B35 C3 C6 C7 C8 C9	Consistirá en ejercicios y/o cuestiones teórico-prácticas	100

Assessment comments
<p>El alumno puede alcanzar los 10 puntos con la resolución de ejercicios y/o teoría que plantee el profesor en la primera y segunda oportunidad de los exámenes oficiales que fije la escuela.</p> <p>Se recomienda, lógicamente, la asistencia a las clases pero se permite presentarse a los exámenes oficiales de primera y segunda oportunidad sin ese requisito.</p> <p>Se puede llevar a las pruebas calculadora no programable, material de dibujo, formulario A4 manuscrito redactado por el alumno exclusivamente con formulación.</p> <p>No se admiten teléfonos móviles en el examen. Se acudirá con el DNI a las pruebas.</p> <p>Pueden solicitar el no presentado durante la primera media hora.</p>

Sources of information



Basic	<ul style="list-style-type: none">- 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.

Se recuerda que la bibliografía propuesta e simplemente orientativa.

Existen numerosos textos de mecánica y estructuras por los cuales se puede realizar el trabajo autónomo del 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.