



Teaching Guide

Teaching Guide				
Identifying Data				2022/23
Subject (*)	Auxiliary and Security Equipment [In extinction]		Code	670G01026
Study programme	Grao en Arquitectura Técnica			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	Third	Obligatory	6
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Construcións e Estruturas Arquitectónicas, Cívís e Aeronáuticas			
Coordinador	Fernandez Prado, Ruben	E-mail	ruben.fprado@udc.es	
Lecturers	Fernandez Prado, Ruben	E-mail	ruben.fprado@udc.es	
Web				
General description	The objective of this subject is the knowledge of all those elements necessary to carry out the constructive process and, however, are not part of it. It highlights the work equipment, machinery, auxiliary and security. Their types and characteristics, use, mode of application or use and performance are studied, complementing the knowledge acquired in other subjects to make possible the executions in an optimal way. The official teaching guide is Spanish.			

Study programme competences

Code	Study programme competences
A3	Coñecer os materiais, tecnoloxías, equipos, sistemas e procesos construtivos propios da edificación en xeral e en particular aqueles específicos de Galicia.
A4	Coñecer as técnicas e procesos de restauración, rehabilitación, acondicionamento, patoloxía, mantemento e conservación dos edificios en xeral e en particular aqueles específicos do patrimonio cultural constituído pola arquitectura popular e histórica galega.
A5	Coñecer a evolución histórica dos materiais, tecnoloxías, procedementos, métodos, sistemas e elementos construtivos.
A16	Coñecer e aplicar as técnicas de avaliación e prevención de riscos, deseño de estudos e planes, así como dos procesos de coordinación da seguridade e saúde laboral na edificación.
A23	Implementar os planes de seguridade e o seu control en obra.
A25	Deseñar e redactar estudos e planes de evacuación e seguridade dos edificios.
B2	Capacidade de organización e planificación.
B6	Capacidade para a toma de decisións.
B7	Capacidade de traballo en equipo.
B13	Compromiso ético.
B16	Capacidade de aplicar os coñecementos na práctica.
B22	Sensibilidade cara a temas de seguridade laboral, accesibilidade, sustentabilidade e medioambiente.
B26	Capacidade de razoamento, discusión e exposición de ideas propias.
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.

Learning outcomes

Learning outcomes	Study programme competences
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Know the materials, technologies, equipment, systems and construction processes typical of the building in general and in particular those specific to Galicia.	A3 A4 A5		C4
Ability to apply knowledge in practice	A3 A16	B2 B6 B7 B16 B26	C1 C4 C7
Sensitivity to issues of work safety, accessibility, sustainability and the environment.	A16 A23 A25	B22	
Organization and planning capacity		B2 B6	C4 C6
Critically assess the knowledge, technology and information available to solve the problems they must face.		B22	C5 C8
capacity to solve problems		B2 B6 B13 B16	C3 C4 C7

Contents	
Topic	Sub-topic
BLOCK 1. SCAFFOLDING, SHORING AND DEMOLITIONS	SUBJECT 1.1. SCAFFOLDINGS SUBJECT 1.2. SHORINGS SUBJECT 1.3. MACHINERY AND HALF AUXILIARIES IN DEMOLISH And DEMOLITIONS SUBJECT 1.4. OCCUPATION OF PUBLIC ROAD SUBJECT 1.5. ROAD SIGNALING
BLOCK 2. ELEVATION	SUBJECT 2.1. PRINCIPLES OF ELEVATION. DEVICES. SUBJECT 2.2. MACHINERY OF ELEVATION SUBJECT 2.3. CRANE TOWER
BLOCK 3. EARTHWORKS	SUBJECT 3.1. THE TRACTOR SUBJECT 3.2. THE BULLDOZER SUBJECT 3.3. SCRAPER SUBJECT 3.4. GRADER SUBJECT 3.5. STANDARD STOCKPILES SUBJECT 3.6. EXCAVATORS, BACKHOES SUBJECT 3.7. Backhoe/Excavator Loaders SUBJECT 3.8. BIVALVE EXCAVATORS SUBJECT 3.9. COMPACTION AND CONSOLIDATION SUBJECT 3.10. PERFORMANCE EQUIPMENT EARTHWORKS . THE LAND. SUBJECT 3.11. POWER MACHINERY EARTHWORKS.
BLOCK 4. GENERAL INSTALLATIONS	SUBJECT 4.1. GENERAL INSTALLATIONS OF WORK. IMPLANTATION. SUBJECT 4.2. SECURITY IN THE MACHINES AND MAINTENANCE ITEM 4.3. THE BIM MODEL. PLANNING AND DEVELOPMENT OF ASSEMBLY OF EQUIPMENT.
BLOCK 5. MACHINERY AND HALF AUXILIARIES FOR STRUCTURES OF CONCRETE	SUBJECT 5.1. MACHINERY AND AUXILIARY MEDIA IN SPECIAL FOUNDATIONS SUBJECT 5.2. AUXILIARY MACHINERY AND MEANS FOR FOUNDATIONS AND CONCRETE STRUCTURES FEAR 5.3. SMALL MACHINERY AND AUXILIARIES



Planning

Methodologies / tests	Competencies	Ordinary class hours	Student's personal work hours	Total hours
Objective test	A3 A4 A5 A16 A23 A25 B2 B6 B7 B13 B16 B22 B26 C1 C3 C4 C5 C6 C7 C8	4	144	148
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
Objective test	Individual written test that integrates open questions of both theory and problem solving. In addition, with regard to objective questions, you can combine multiple-choice, ordering, short answer, discrimination, completion and / or association questions. The resolution of practical exercises may also be proposed.

Personalized attention

Methodologies	Description
Objective test	In-office tutorials during the academic period of the course, at the request of the student or teacher. The personalized attention will not substitute in any case to the expository sessions or the interactive sessions exposed during the course, but it will serve as complement and support to the student in those matters in which, in spite of having made reasonable attempts to solve it, it does not reach assimilate the concept. The student must request a prior appointment for tutorials by mail.

Assessment

Methodologies	Competencies	Description	Qualification
Objective test	A3 A4 A5 A16 A23 A25 B2 B6 B7 B13 B16 B22 B26 C1 C3 C4 C5 C6 C7 C8	Individual written test that integrates open questions of both theory and problem solving. In addition, with regard to objective questions, you can combine multiple-choice, ordering, short answer, discrimination, completion and / or association questions. The resolution of practical exercises may also be proposed.	100
Others			

Assessment comments

Para aprobar la asignatura es obligatorio obtener una nota de 5 sobre 10 en la prueba objetiva, que computará el 100% de la nota final.

Sources of information



Basic	Eduardo Lagarde Abrisqueta (1988). EQUIPOS DE OBRAS Y MEDIOS AUXILIARES. Getafe (Madrid). Fundación Escuela de la Edificación Manuel Díaz del Río y Jáudenes (2007). MANUAL DE MAQUINARIA DE CONSTRUCCIÓN. Madrid. McGraw Hill Frank Harris (1992). MAQUINARIA Y MÉTODOS MODERNOS DE CONSTRUCCIÓN. Madrid. Bellisco e Hijos F. Ballester y J. Capote (1992). MÁQUINAS DE MOVIMIENTO DE TIERRAS. Madrid. PEDECA Andrés Abasolo (2005). CONSTRUCCIÓN Y MÁQUINAS EN EDIFICACIÓN. Madrid. Munilla-Leira, S.L. Félix Hernández Castellá y Luis Fernández Montes (1986). INTRODUCCIÓN A LA COMPACTACIÓN VIBRATORIA. Zaragoza. LEBRERO (varias firmas comerciales) (2004). OPERADOR DE GRÚA TORRE. Segovia. ATRIUM Luis Jiménez López (2002). OPERADOR DE GRÚAS TORRE. Barcelona. Grupo CEAC Miguel Ángel Menéndez González (2004). MANUAL PARA LA FORMACIÓN DE OPERADOR DE GRÚA TORRE. Valladolid. Fundación Laboral de la Construcción del Principado de Asturias y Lex Nova, S.A. SOCIEDAD FRANCO-ESPAÑOLA DE ALAMBRES, CABLES Y TRANSPORTES AÉREOS, S.A. (1965). CATÁLOGO DE LA SOCIEDAD FRANCO-ESPAÑOLA DE ALAMBRES, CABLES Y TRANSPORTES AÉREOS, S.A.. Bilbao E. Carnicer Royo (1981). EQUIPOS Y HERRAMIENTAS NEUMÁTICAS. Barcelona. Gustavo Gili Pierre Cormon (1979). FABRICACIÓN DEL HORMIGÓN. Barcelona. E.T.A. Juan Tikin (1995). MOVIMIENTO DE TIERRAS. Madrid. Colegio de Ingenieros de Caminos, Canales y Puertos Campo Yagüe, José María del (2017). BULLDOZER: MAQUINARIA DE CONSTRUCCIÓN. Madrid: Ibergarceta Campo Yagüe, José María del (2017). CARGADORAS: MAQUINARIA DE CONSTRUCCIÓN. Madrid: garceta Campo Yagüe, José María del (2017). MAQUINARIA DE CONSTRUCCIÓN: MOTONIVELADORAS. Madrid: Garceta
Complementary	(revista especializada) ((edición mensual)). POTENCIA. (revista especializada) ((edición mensual)). CONSTRUCTION &&& EQUIPMENT.

Recommendations	
Subjects that it is recommended to have taken before	
Mathematics I [Extinct]/670G01001	
Applied Physics I [Extinct]/670G01002	
Materials I [Extinct]/670G01003	
Mathematics II [Extinct]/670G01006	
Applied Physics II [Extinct]/670G01007	
Construction I [Extinct]/670G01009	
Construction II [In extinction]/670G01011	
Materials II [In extinction]/670G01012	
Facilities I [In extinction]/670G01014	
Construction III [In extinction]/670G01017	
Geometry of Illustrations [In extinction]/670G01018	
Structures I [In extinction]/670G01019	
Topography [In extinction]/670G01020	
Facilities II [In extinction] /670G01024	
Structures II [In extinction] /670G01025	
Structures III/670G01034	
Subjects that are recommended to be taken simultaneously	
Organisation, Programming and Control [In extinction] /670G01021	
Construction IV [In extinction] /670G01022	
Materials III [In extinction]/670G01016	
Administration, Leadership and Management of Construction [In extinction] /670G01028	
Structures III/670G01034	
Facilities III/670G01035	
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.