Teaching Guide				
Identifying Data				2017/18
Subject (*)	Landscape and Sustainable Habitat		Code	630G02056
Study programme	Grao en Estudos de Arquitectura			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	Fifth	Optativa	6
Language	SpanishGalician			
Teaching method	Face-to-face			
Prerequisites				
Department	Proxectos Arquitectónicos, Urbanismo e Composición			
Coordinador	Rodriguez Alvarez, Jorge	E-mail	jorge.ralvarez@udc.es	
Lecturers	Rodriguez Alvarez, Jorge	E-mail	jorge.ralvarez@udc.es	
Web	http://paisaxeetsac.blogspot.com.es/ https://www.facebook.com/pages/Paisaxe-e-Habitat			
General description	Landscape is not equal to nature. The concept of landscape implies the development of a mentality strongly influenced by the sum of cultural experiences. Nature is an entity in itself, while the landscape must be interpreted or experienced. Only through the knowledge of the relationships established between landscape and experience, as well as those of the causative agents of these relationships, will it be possible to understand the existing landscape and its creative process. The course tries to introduce the student into the knowledge of the elements that compose the landscape and the relationships between them. The objective is to provide students with the necessary tools to integrate landscape and environmental aspects into their architectural and urban designs. The subject's approach defines the landscape as a result of human interaction within its habitat. Habitat is understood as the environment where human activities are developed. It will study the analytic tools and methods that can be applied to inform and evaluate project decisions, trying to minimize the impact on the environment.			

Study programme competences / results	
Code	Study programme competences / results
A2	Ability to conceive and represent the visual attributes of objects and master proportion and drawing techniques, including digital ones (T)
A3	Knowledge of spatial representation systems and projections adapted and applied to architecture
A4	Knowledge of the analysis and the theory of form and the laws of visual perception adapted and applied to architecture and urbanism
A17	Ability to apply technical and construction standards and regulations
A19	Ability to maintain the finished work
A20	Ability to assess the construction works
A34	Ability to design, implement and develop sketches and drafts, concept designs, developed designs and technical designs (T)
A35	Ability to design, implement and develop urban projects (T)
A36	Ability to design, implement and develop construction management (T)
A40	Ability to practise architectural criticism
A41	Ability to solve the passive environmental conditioning, including thermal and acoustic insulation, climate control, energy efficiency and natural lighting (T)
A44	Ability to develop civil work projects (T)
A45	Ability to design and execute urban layouts and urbanization, gardening and landscape design projects (T)
A46	Ability to apply standards and urban regulations
A47	Ability to develop environmental, landscape and environmental impact correction studies (T)
A51	Adequate knowledge of the methods of studying the social requirements, living conditions, habitability and basic housing programmes
A52	"Adequate knowledge of ecology, sustainability and the principles of conservation of energy and environmental resources. "
A53	Adequate knowledge of the architectural, urban and landscape traditions of Western culture, as well as their technical, climatic, economic, social and ideological foundationsxicos.
A55	Adequate knowledge of the relationship between cultural patterns and social responsibilities of the architect
A58	Adequate knowledge of the methodological foundations of territorial, metropolitan and urban planning.

A67	Coñecemento avanzado de aspectos específicos da materia de Proxectos no contemplados expresamente na Orde EDU/2075/2010
A69	Coñecemento avanzado de aspectos específicos da materia de Urbanismo no contemplados expresamente na Orde EDU/2075/2010
B1	Students have demonstrated knowledge and understanding in a field of study that is based on the general secondary education, and is usually at a level which, although it is supported by advanced textbooks, includes some aspects that imply knowledge of the forefront of their field of study
B2	Students can apply their knowledge to their work or vocation in a professional way and have competences that can be displayed by means of elaborating and sustaining arguments and solving problems in their field of study
B3	Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues
B4	Students can communicate information, ideas, problems and solutions to both specialist and non-specialist public
B5	Students have developed those learning skills necessary to undertake further studies with a high level of autonomy
B7	Knowing the role of the fine arts as a factor that influences the quality of architectural design
B8	Knowing the urbanism and techniques applied in the planning process
C1	Expressing themselves correctly, both orally and in writing, in the official languages of the autonomous region
C3	Using basic tools of information technology and communications (ICT) necessary for the exercise of the profession and for lifelong learning
C4	Exercising an open, educated, critical, committed, democratic and caring citizenship, being able to analyse facts, diagnose problems, formulate and implement solutions based on knowledge and solutions for the common good
C5	Understanding the importance of entrepreneurship and knowing the means available to the enterpreneur
C6	Critically evaluate the knowledge, technology and information available to solve the problems they must face
C7	Assuming as professionals and citizens the importance of learning throughout life
C8	Assessing the importance of research, innovation and technological development in the socio-economic advance of society and culture

Learning outcomes			
Learning outcomes	Study programme competences / results		
Environmental analysis	A34 A35 A41 A45 A47 A51 A52 A55 A58 A67 A69	B1 B2 B3 B4 B5	C1 C3 C4 C5 C6 C7 C8
Landscape representation for regional planning	A2 A3 A4	B7 B8	C6
Key aspects of urban ecology	A44 A45 A46 A47		

Environmental impact assessment on urban and architectural projects	A17 A19 A20 A36 A40 A53		
Environmental design criteria integrated in the design process of gardens, public spaces, streets, outdoors and recreation areas	A40	B4 B5	C1 C5 C6

Contents	
Topic	**Sub-topic**
BASIC PRINCIPLES AND INTRODUCTION	Introduction: Environmental values Drawing as a tool Analysis tools
THEORIES AND METHODS IN THE LANDSCAPE AT THE TERRITORIAL SCALE	Environmental analysis and assessment Landscape ecology Sustainable cities
THE LANDSCAPE PROJECT	The landscape of men: from the garden of paradise to the ecological garden The landscape as realm of art The public space as a project
LANDSCAPE OF METROPOLIS	Urban mobility Urban shape and energy

Planning				
Methodologies / tests	**Competencies / Results**	**Teaching hours (in-person & virtual)**	**Student?s personal work hours**	**Total hours**
Guest lecture / keynote speech	A51 A52 A53 A55 A58 A67 A69 B8	13	26	39
Workshop	A17 A19 A20 A34 A35 A36 A41 A44 A45 A46 A47 B3 B4 B5 C1 C4 C6	30	60	90
Document analysis	A40 B1 B2 C7 C8	2	4	6
Mixed objective/subjective test	A40 A45 A46 A47 A51 A52 A53 A55 A58 A67 A69 B2 B3 B7 B8 C1	4	8	12
Introductory activities	A2 A3 A4 B7 C3 C5	2	1	3
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	Each week, a topic will be introduced by the lecturers. The student will have to supplement this presentation with the reading of recommended bibliography extracts. Attendance to lectures is mandatory, with a maximum of 20% of unexcused absences admitted. Sessions will be strictly timely. The use of mobile devices (such as computers, tablets or phones) will not be allowed during the course of the class

Workshop	Two hours a week will be dedicated to the practical work in the classroom. Short practices will be alternated with the course work. The latter will consist of an analysis project in intervention in a field with environmental interest. It will be done in groups, with an individual part.
Document analysis	An important part of coursework consists in selecting the relevant information and data. Therefore, the student should be familiar with the instruments of the discipline.
Mixed objective/subjective test	Questions raised with the contents seen in the classroom and multiple response options where only one is correct and a test, based on a possible real case of intervention on the landscape. It will be done individually in the designated classroom
Introductory activities	The first two weeks of class will consist of the presentation of the contents, the development of the topic and the kick off team coursework

Personalized attention	
Methodologies	**Description**
Workshop Introductory activities Document analysis	The coursework will be carried out according to the tutor's guidelines. The workshops will be developed in the classroom where the tutor will be available to answer the doubts. The follow-up of activities will be carried out in tutorials . Common questions can be resolved through moodle

Assessment			
Methodologies	**Competencies / Results**	**Description**	**Qualification**
Workshop	A17 A19 A20 A34 A35 A36 A41 A44 A45 A46 A47 B3 B4 B5 C1 C4 C6	Valorarase o coñecemento e comprensión dos principios introducidos no curso. Demostración de pensamento innovador e creativo. Coherencia cos enunciados do exercicio. Clara presentación dos resultados. Capacidade gráfica de ilustrar os resultados de xeito visual e capacidade de comunicación verbal e non verbal	40
Mixed objective/subjective test	A40 A45 A46 A47 A51 A52 A53 A55 A58 A67 A69 B2 B3 B7 B8 C1	Uso responsable das ferramentas e coñecementos impartidos no curso.Pensamento innovador creativo. Observación e capacidade crítica.Presentación gráfica.	40
Introductory activities	A2 A3 A4 B7 C3 C5	Habilidade para seleccionar e organizar a información. Capacidad para analizar o lugar segundo as variables ambientáis máis relevantes	5
Guest lecture / keynote speech	A51 A52 A53 A55 A58 A67 A69 B8	Valorarase a asistencia e a participación activa así coma a lectura da bibliografía proposta en cada tema	10
Document analysis	A40 B1 B2 C7 C8	Habilidade para seleccionar e organizar a información. Deseño gráfico e ilustración dos resultados da análise	5

Assessment comments
To pass the subject it is necessary to attend the classes and workshops, as well as to achieve the minimum mark in the coursework according to the assessment criteria listed above. The course work will be developed within the workshop and complemented outside the classroom, the corrections will be made in the workshops. To opt for second opportunity the student will have to deliver 100% of the practices carried out in the course and reach a level of approval in the same one week before the designated examination date. The second opportunity exam will cover the subjects introduced in the course, but in greater depth, considering the bibliography referred to as the source of information necessary to pass the test.

Sources of information	
Basic	Apuntes específicosRodríguez Álvarez, J. (2015) Apuntes de paisaje: el análisis ambiental. Repronor [disponibles en reprografía]Bibliografía específicaRodríguez Álvarez, J. (2014) Planning Cities for the Post-Carbon Age. A Metabolic Analysis of the Urban Form . Tesis Doctoral UDC [descargable enhttp://ruc.udc.es/handle/2183/11927]Rodríguez Álvarez, J. (2013) La Tercera Revolución Ambiental. Capítulo en: Fernández Prado, M. Rodríguez Álvarez, J. (eds.) Miscelánea Urbanística: Experiencias, retos e instrumentos. Departamento de Proyectos Arquitectónicos y Urbanismo. Universidade da CoruñaRodríguez Álvarez, J. (2013) Visualizando el Metabolismo de las Ciudades Proc. 4th European Conference on Energy Effciency and Sustainability in Architecture and Planning. Donostia-San SebastianRodríguez, J. (2010). Rehabilitación energética del tejido urbano residencial. evaluación previa para una mayor eficiencia. SB10mad?Edificación sostenible. Revitalización y rehabilitación sostenible de barrios.Cabrita, A.L. & Rodríguez Álvarez, J. (2010) Breeam Communities in Spain . Sustainable Cities Conference Proceedings. Wessex Institute of Technology published by WIT PressRodríguez Álvarez, J. (2010) La certificación de la sostenibilidad de la urbanización Proceeding of Congreso Nacional de Medio Ambiente (CONAMA) Madrid 2010Batlle, E. (2011) El jardin de la metrópoli.Gustavo Gili. Barcelona Brown, G.Z. (1985) Sun, Wind, and Light .Architectural Design Strategies. Wiley [B] Claver Farias, I. (1984) Guía Para la Elaboraciónde Estudios del Medio Físico . CEOTMA [B]Corner, J. (1992) Representation and Landscape .Capítulo en Swaffield, S. (2002 ed.) Theory in Landscape Architecture.University of Pennsylvania Press Energy Research Group et al (Eds. 1999) A GreenVitruvius. Principles and Practice of Sustainable Architectural Design. James& James Ltd. London. [B]Galí-Izard, T. (2005) Los mismos paisajes ideas einterpretaciones . Gustavo Gili [B] García-Germán, J. ed. (2010) De lo mecánico a lotermodinámico : por una definición energética de la arquitectura y delterritorio. Gustavo Gili Gehl, J. & Svarre, B. (2013) How to Study Public Life.Island PressGirardet, H. (1992) The Gaia Atlas of Cities :new directions for sustainable urban living. Gaia Books. Herzog, T. (ed. 1996). Solar Energy inArchitecture and Planning . Prestel, Berlin. [B] Jellicoe G. y S. (1995) El Paisaje del HombreBarcelona G.G. [B]Knowles, R.L. (1974) Energy and Form . AnEcological Approach to Urban Growth. MIT Press Littlefair, P. et al (2000). Environmental siteLayout Planning: solar access, Microclimate and passive cooling in urban areas.Building Research Establishment, BR 380. López de Asiaín, J. (1997) Espacios abiertos enla expo 92 . Sevilla ETSA [B] McHarg, I. (1972) Design with Nature New YorkDoubleday & Company 1972 [B] Navés Viñas, F. (1992) El Arbol en la Jardineriay el Paisajismo Barcelona Omega 1992 [B] Oke, T.R. (1987). Boundary Layer Climates .Chapters 7 & 8 only. Methuen & Co., London Roaf, S. et al (2005). Adapting Buildings andCities for Climate Change . Architectural Press. Rogers, R. (1997). Cities for a Small Planet .Faber & Faber, London Salvador Palomo, P.J. (2003) La PlanificaciónVerde en las Ciudades . Gustavo Gili [B] Shannon, K. Smets, M. (2010) The Landscape ofContemporary Infrastructure . Nai Publishers Smith, P.F. (2006). Architecture in a Climate ofChange . Architectural Press. Steenbergen, C. (2008) Composing Landscapes .Analysis, Typology and Experiments for design. BirkhäuserSzokolay, S. (2003). Introduction toArchitectural Science. The basis of sustainable design. Architectural Press. Thomas, R. (Ed. 2003). Sustainable Urban Design.An environmental approach. Spon Press[B] Disponible en la biblioteca de la UDC

Complementary	[B] Disponible en la biblioteca de la UDC· Ábalos, I. (2008) Atlas pintoresco .Vol. 1: el observatorio. Gustavo Gili [B]· Ábalos, I. (2008) Atlas pintoresco .Vol. 2: los viajes. Gustavo Gili [B]· Ábalos, I. (2009) Naturaleza y artificio : el ideal pintoresco en la arquitectura y paisajismo contemporáneos. Gustavo Gili [B]· Álvarez, D. (2007) El Jardín en la arquitectura del siglo XX . Editorial Reverté [B]· As Paisaxes do Home· Bell, P.A. Greene, T.C. Fisher, J.D. Baum, A. (2001) Environmental Psychology. Harcourt [B]· Bell, S. (1999) Landscape : Patttern, Perception and Process. London E.& Spon [B]· Bruse, M. (v.2009) Envi-met 3.1 Manual· Celik, Z. Favro, D. Ingersotl, R. (1994) Streets. Critical perspectives on Public Space . University of California Press [B]· Constant, C. (1994) The woodland cemetery toward a spiritual landscape, Erik Gunnar Asplund and Sigurd Lewerentz, 1915-1961. Byggförlget [B]· Corner, J. ed. (1999) Recovering Landscape . Essays in Contemporary Landscape Architecture. Princeton University Press [B]· Forman, R.T.T. (1999) Land mosaics . The ecology of landscapes and regions. Cambridge University Press [B]· Givoni, B. (1998). Climate Considerations in Building and Urban Design . Van Nostrand Reinhold. [B]· Givoni, B. (1998). Climate Considerations in Building and Urban Design . Van Nostrand Reinhold. [B]· Habitar a paisaxe· Kirschenmann, J.C. (1984) Vivienda y Espacio Público. Rehabilitación Urbana y Crecimiento de la Ciudad. Gustavo Gili [B]· Krier, R. (2003) Town Spaces. Contemporary Interpretations in Traditional Urbanims. Birkhäuser· Laurie, M. (1995) Introducción a la Arquitectura del Paisaje Barcelona G.G. [B]· López de Asiaín, J. (2001) Arquitectura, ciudad, medio ambiente . Sevilla: Universidad de Sevilla [B]· Lynch, K. (1966) La Imagen de la Ciudad Ed. Infinito 1966 [B]· Lynch, K. (1980) La Planificación del Sitio Barcelona G.G. 1980 [B]· Marshall, S. (2005) Street Patterns . 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(2001) Arquitectura y Paisaje . La proyectación de los grandes jardines europeos. Gustavo Gili [B]· Szokolay, S. (1996). Solar Geometry. PLEA Note 1. PLEA International / University of Queensland.· Tillman Lyle, J. (1985) Design for Human Ecosystems . Landscape, Land Use and Natural Resources. Van Nostrand Reinhold Co.· Vaccarino, R. (2000) Roberto Burle Marx. Landscapes Reflected . Princeton Architectural Press [B]· Viljoen, A. ed. (2005) CPLUS Continuous Productive Urban Landscapes . Designing Urban Agriculture for Sustainable Cities. Architectural Press· Waterman, T. (2009) Principios Básicos de la Arquitectura del Paisaje . Capítulo 4. Representaciones. Nerea Académica [B]· Waterman, T. (2009) Principios Básicos de la Arquitectura del Paisaje . Nerea Académica [B]· Weilacher, U. (2008) Syntax of landscape . The landscape architecture of Peter Latz and Partners. Brikhauser [B]Bibliografía complementaria· Álvarez, S. (1991) Architecture and Urban Space Proceedings of the Ninth International PLEA Conference, Seville Spain September 24-27, 1991. Klwer Academic Publishers [B]· Anderson, S. (1978) On Streets . MIT Press· Chatzidimitriou, A. and S. Yannas (2004). Microclimatic Studies of Urban Open Spaces in Northern Greece . Proc. PLEA 2004, Eindhoven, Vol. 1 pp83-88.· Dorothée, I. (1993) The modernist garden in France . Yale University (2008) Cusveller,S. Dijk,O. Schipper, K. ed. (2000) Remaking NL City, Landscape, Infrastructure. Amsterdam : S@M [B]· Jacobs, A.B. (1993) Great Streets . MIT Press [B]· Jenks, M. and N. Dempsey (2005). Future Forms and Design for Sustainable Cities . Architectural Press.· Knaack, U. Klein, T. Bilow, M. (2008) Imagine deflateables . Delft University of Technology [B]· Levy, Leah (1998) Kathryn Gustafson. Sculpting the land . Spacemakers Press [B]· Lim, C.J. Liu, E. (2010) Smartcities+Eco-warriors . Routledge· Magalef, R. (1998) Ecología . Ediciones Omega [B]· Marshall, S. (2005) Street Patterns . Spon Press [B]· Molinari, L. ed. (2000) West 8 . Skira [B]· Reas, C. Fry, B. (2007) Processing : a programming handbook for visual desingers and artists.MIT Press [B]· Spuybroek, L. (2009 ed.) Research&Design: the architecture of variation . Thames & Hudson [B]· Staub, U. Geiser, R. (2008) Explorations in architecture : teaching, design research. Birkhauser [B]· Swaffield, S. (2002 ed.) Theory in Landscape Architecture . University of Pennsylvania Press· Terzidis, K. (2006) Algorithmic Architecture . Elsevier [B]· Yannas, S. (2000) Toward More Sustainable Cities. Solar Energy JournalVol. 70 No. 3 pp281-294,Elsevier Science Limited.· Yannas, S. (2000). Solar Control. En Designing for Summer Comfort . EC Altener Programme. Environment &

Recommendations
Subjects that it is recommended to have taken before
Urbanism 1/630G02018 Urbanism 4/630G02032 Architectural Design 4/630G02016 Architectural Design 2/630G02006 Architectural Design 3/630G02011 Architectural Design 1/630G02001 Urbanism 3/630G02029 Urbanism 2/630G02024
Subjects that are recommended to be taken simultaneously
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.