

Course guide 210243 - PMAMJ - Environmental and Architectural Parameters: a Design Method

Last modified: 26/06/2020

Unit in charge:	Barcelona School of Architecture
Teaching unit:	735 - PA - Department of Architectural Design.
Degree:	DEGREE IN ARCHITECTURE (Syllabus 2010). (Optional subject). DEGREE IN ARCHITECTURE STUDIES (Syllabus 2014). (Optional subject).
Academic year: 2020	ECTS Credits: 5.0 Languages: Catalan, Spanish

LECTURER		
Coordinating lecturer:	LUIS BERIAIN SANZOL	
Others:	Segon quadrimestre:	

REQUIREMENTS

PROJECTES V - Prerequisit PROJECTES VI - Prerequisit

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

An architectural design brings together technological, economic, social and environmental aspects—and their corresponding cultural implications—to guide the transformation of the environment.

The optional subject Environmental Parameters and Architecture: A Design Method complements the design subjects taught in the last two years of the degree in Architecture at the ETSAB and incorporates aspects such as energy efficiency, the reduction of non-renewable resources and the impact on the health of users.

Its main aims are:

• To consider environmental aspects as design material that must be incorporated from the preliminary analysis of the site to the construction, maintenance and deconstruction of the building.

• To outline a method for formulating the environmental objectives of the design based on both external and internal constraints and to ensure compliance with these objectives throughout the design stages.

• To evaluate the environmental implications of design decisions (equivalent emissions of materials, generation of waste, design for deconstruction, etc.).

• To become familiar with sustainability certifications and the regulatory framework of professional practice regarding environmental aspects.

• To reflect on the relationship between design decisions and their consequences at the global level while understanding the human environment as a closed ecosystem in which resources are limited.

To avoid repetition of the content taught in the subject Conditioning and Services, the subject, which is taught by the Department of Architectural Design, focuses on incorporating environmental parameters into the design, not on its calculation.

Thus, the content is divided into an introduction and three blocks that follow the stages in an architectural design (determining factors, strategies and solutions) and reflect on its triple nature (analytical, propositional and instrumental).



STUDY LOAD

Туре	Hours	Percentage
Hours large group	55,0	44.00
Self study	70,0	56.00

Total learning time: 125 h

CONTENTS

Índice de contenidos
Description: Introduction -Definitions of sustainability -Agents involved and design stages -Standards, certifications and control systems
Determining factors (the design as analysis) -External environmental parameters -Internal environmental requirements -Environmental objectives
Strategies (the design as a preview) -Environmental criteria -Design process -Documentation
Proposals (the design as instruction) -Environmental measures and viability -Implementation in the design -Evaluation of objectives and improvement
Related activities: Three-day intensive workshop
Full-or-part-time: 16h Theory classes: 16h



GRADING SYSTEM

Continuous telematic evaluation

In online teaching situations, continuous assessment will be carried out synchronously and asynchronously by the means established by the University and the School, with a periodic record of academic activity through submissions, forums, questionnaires or any other means facilitated by the Atenea platform, or the alternatives provided to the teaching staff. In the situations in which this telematic teaching is a product of face-to-face teaching that has already begun, or for questions of extra-academic order, the changes in the weightings or regular control systems of the teaching will be communicated in detail to all students by the Athena of each subject.

Telematic final evaluation

If the continuous telematic evaluation is not positive, a second evaluation can be carried out, which will consist of a final test of a global nature in telematic format that will be established in accordance with the criteria of the professor responsible and the media and ICTs provided by the University or School.

The measures for adaptation to non-classroom teaching will be implemented in accordance with the criteria of ICT security and personal data protection to ensure compliance with the legislation on Personal Data Protection (RGPD and LOPDGDD)

BIBLIOGRAPHY

Basic:

- Olgyay, V. Arquitectura y clima: manual de diseño bioclimático para arquitectos urbanistas. 2a ed. Barcelona: Gustavo Gili, 2002. ISBN 8425214882.

- García-Germán, J. De lo mecánico a lo termodinámico: por una definición energética de la arquitectura y el territorio. Barcelona: Gustavo Gili, 2010. ISBN 9788425223471.

- Wassouf, M. De la casa pasiva al estándar Passivhaus. La arquitectura pasiva en climas cálidos [on line]. Barcelona: Gustavo Gili, 2014 [Consultation: 08/05/2020]. Available on: <u>https://ebookcentral.proquest.com/lib/upcatalunya-ebooks/detail.action?docID=3226032</u> (Accés restringit a usuaris UPC). ISBN 9788425224522.

- Koch-Nielsen, H. Stay cool: a design guide for the built environment in hot climates. London: James & James, 2002. ISBN 1902916298.

- Roulet, Claude-A. Santé et qualité de l'environnement intérieur dans les bâtiments. 2010. Lausanne: Presses polytechniques et universitaries romandes, 2008. ISBN 2880745470.

- Edwards, B. Guía básica de la sostenibilidad. 2a ed. rev. y ampl. Barcelona: Gustavo Gili, 2008. ISBN 9788425222085.