



# Course guide

## 210709 - SUMAA - Urban Sustainability and Environmental Assessment Methods

Last modified: 26/05/2023

**Unit in charge:** Barcelona School of Architecture  
**Teaching unit:** 753 - TA - Department of Architectural Technology.  
**Degree:** MASTER'S DEGREE IN ADVANCED STUDIES IN ARCHITECTURE-BARCELONA (Syllabus 2015). (Optional subject).  
MASTER'S DEGREE IN ARCHITECTURE (Syllabus 2015). (Optional subject).

**Academic year:** 2023    **ECTS Credits:** 5.0    **Languages:** Spanish

### LECTURER

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**Coordinating lecturer:** JOSE NICASIO ROCA CLADERA

**Others:** Segon quadrimestre:  
BLANCA ESMARAGDA ARELLANO RAMOS - GVUA2  
CARLOS RAMIRO MARMOLEJO DUARTE - GVUA2  
JOSE NICASIO ROCA CLADERA - GVUA2

### TEACHING METHODOLOGY

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Go to Spanish or Catalan version.

### LEARNING OBJECTIVES OF THE SUBJECT

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Go to Spanish or Catalan version.

### STUDY LOAD

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Type	Hours	Percentage
Hours small group	30,0	24.00
Hours large group	15,0	12.00
Self study	80,0	64.00

**Total learning time:** 125 h

## CONTENTS

### title english

#### Description:

- Principles and foundations of the Urban Ecology applied to the analysis of the territorial and urban sustainability. The city as an ecosystem. Balance of matter, energy and information of urban and territorial systems.
- Main indicators of territorial and urban sustainability: conservation of the ecological matrix of the territory, land consumption and save natural resources, energy efficiency, conservation and sustainable use of biodiversity, ecological permeability, water cycle, landscape quality, etc., relating them to the various models of city and land use.
- The main areas, instruments and techniques of analysis, evaluation, planning and management of architectural, urban and regional implementation, with particular emphasis on its role in the framework of the strategies towards sustainability and action plans arising from according to the following structure: a) Valuation of non-market goods (environment) of architectural, urban and territorial nature, b) analytical instruments, environmental planning and land management; environmental information systems, diagnosis and environmental audits, instruments of citizen participation, strategic planning instruments for sustainability: agendas 21s and local action plans, environmental planning, networks of protected areas, control of air pollution (substances, light electromagnetic, ...), mobility planning, environmental assessment of plans, programs and projects, monitoring of sustainability indicators, ecological footprint, etc.

#### Specific objectives:

- Deepen in the knowledge and application of ecosystem theories for the interpretation of urban and territorial systems in the context of the discipline of Urban Ecology: flows of matter, energy and information.
- Develop the concept of sustainability applied to the whole city-territory.
- Provide advanced knowledge and a conceptual framework for the setting of more sustainable territorial and urban models with a view to planning and management environmental and urban.
- Study the main instruments and techniques for environmental analysis and assessment of the architecture, the city and the territory and its applications for planning and management in the context of strategies for sustainability.
- It also seeks to initiate the student in the economic and social value of urban environmental public goods nature and provide tools for environmental assessment of town and territory.

#### Full-or-part-time: 125h

Theory classes: 15h

Laboratory classes: 30h

Self study : 80h

## GRADING SYSTEM

Brief reading controls and practices, individual and/or group, will take place during the classes, in which specific aspects of the contents will be evaluated.

End jobs or workshops, individual and/or group, will be developed to be delivered after finish of classes.

Also it is considered at least 80% of class attendance.

#### 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 LOPDGD)

## BIBLIOGRAPHY

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### Basic:

- Bruggmann, J. Managing human ecosystems: principles for ecological municipal management. Toronto: International Council for Local Environmental Initiatives, 1992.
- Azqueta, D. Valoración económica de la calidad ambiental. Madrid: McGraw-Hill, 1994. ISBN 8448118537.
- Una aproximació a la valoració econòmic social del Fòrum de les Cultures Barcelona. Barcelona: Centre de Política de Sòl i Valoracions, UPC, 2004.
- Understanding urban ecosystems: a new frontier for science and education [on line]. New York: Springer, 2003 [Consultation: 06/10/2015]. Available on: <http://link.springer.com/book/10.1007/b97613>. ISBN 0387952373.

### Complementary:

- Ciudades europeas sostenibles: informe. Luxemburgo: Oficina de Publicaciones Oficiales de las Comunidades Europeas, 1998. ISBN 92-828-4195-2.
- Estudi de criteris ambientals per a la redacció del planejament urbanístic. Barcelona: Centre de Política del Sòl i Valoracions : Universitat Politècnica de Catalunya, 2003. ISBN 8481574031.
- Cuidem la Terra: una estratègia per viure de manera sostenible. Barcelona: Generalitat de Catalunya. Departament de Medi Ambient, 1992. ISBN 84-393-2261-5.
- Guia de l'Agenda 21: l'aliança global per al medi ambient i el desenvolupament. 2a ed. Barcelona: Generalitat de Catalunya. Departament de Medi Ambient, 1995. ISBN 843933690X.