

Course guide 310626 - 310626 - Smart Cities

Unit in charge: Teaching unit:	Last r Barcelona School of Building Construction 751 - DECA - Department of Civil and Environmental Engineering.	nodified: 14/02/2025
Degree:	BACHELOR'S DEGREE IN GEOINFORMATION AND GEOMATICS ENGINEERING (Syllabol (Compulsory subject).	us 2016).
Academic year: 2024	ECTS Credits: 4.5 Languages: Catalan, Spanish	

LECTURER	
Coordinating lecturer:	Mercadé Aloy, Josep
Others:	Taberna Torres, Mercè
	Sanyer Matias, Xavier

TEACHING METHODOLOGY

Theoretical sessions held in the classroom will be combined with monitoring of course activities. Additionally, a series of field trips to companies and/or public administration departments relevant to the field of Smart Cities will be conducted.

LEARNING OBJECTIVES OF THE SUBJECT

Informational cities and territories produce continuous data, putting in evidence the movement of people and materials, the decision fluxes and the characterisitcs of its spacial configuration and social form, between other aspects. The goal of the subject is the recognition of the lecture tools in the constructed environments like instruments for the improvement of the efficiency, equity, sustainability and the quality of life in the cities of the future.

STUDY LOAD

Туре	Hours	Percentage
Self study	67,5	60.00
Hours medium group	27,0	24.00
Hours large group	18,0	16.00

Total learning time: 112.5 h



CONTENTS

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Description:

- 01. Introduction to the concept of smart city.
- 02. Resilient cities, sustainable cities.
- 03. Healthy cities. Gender perspective.
- 04. Smart cities and citizen participation.
- 05. Smart cities and mobility.
- 06. Smart cities and air quality.
- 07. Smart cities and urban service infrastructures and service management.
- 08. LIDAR technology applied to road analysis.
- 09. Application examples in mobility solutions.

Full-or-part-time: 45h

Practical classes: 30h Guided activities: 9h Self study : 6h

GRADING SYSTEM

In order to pass through the submission of coursework completed during the course, 80% class attendance will be required. In this case, the course grade will be based on:

100% coursework submitted during the course

If the student does not achieve 80% class attendance, they must take the final exam. Therefore, the course grade will be based on:

50% coursework submitted during the course 50% final exam

Regardless, there will be a reassessment exam.

BIBLIOGRAPHY

Basic:

Batty, Michael. The new science of cities [on line]. Cambridge, Massachusetts: MIT Press, cop. 2013 [Consultation: 03/06/2020].
Available on: <u>https://ebookcentral.proquest.com/lib/upcatalunya-ebooks/detail.action?docID=3339700</u>. ISBN 9780262019521.
Townsend, Anthony M. Smart cities : big data, civic hackers and the quest for a new utopia. New York: Norton & company, 2013.

- Townsend, Anthony M. Smart cities : big data, civic hackers and the quest for a new utopia. New York: Norton & company, 2013. ISBN 0393082873.

- Schmitt, Gerhard. Information cities [on line]. Zurich: ETH Zurich, 2015 [Consultation: 22/05/2017]. Available on: http://dx.doi.org/10.3929/ethz-a-010403946.