Course guide
310626 - 310626 - Smart Cities

Unit in charge: Barcelona School of Building Construction
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering.
Degree: BACHELOR’S DEGREE IN GEOINFORMATION AND GEOMATICS ENGINEERING (Syllabus 2016). (Compulsory subject).
Academic year: 2022 ECTS Credits: 4.5 Languages: Catalan, Spanish

LECTURER
Coordinating lecturer: Mercadé Aloy, Josep
Others: Mercadé Aloy, Josep Magrinya Torner, Francesc Roca Bosch, Elisabeth

TEACHING METHODOLOGY
It will be combined theoretical sessions given in class with the monitoring of the activities of the course.

LEARNING OBJECTIVES OF THE SUBJECT
Information cities and territories produce continuous data, putting in evidence the movement of persons and materials, the decision fluxes and the characteristics of its spatial 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

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>18,0</td>
<td>16.00</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>27,0</td>
<td>24.00</td>
</tr>
<tr>
<td>Self study</td>
<td>67,5</td>
<td>60.00</td>
</tr>
</tbody>
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Total learning time: 112.5 h
CONTENTS

Description:
01. The smart city concept: top-down smart cities vs bottom-up smart cities
02. Lecture of the city/territory from the morphologic elements: The spatial configuration of the urban environment
03. Lecture of the city/territory from the fluxes: The configuration related with the urban environment
04. Visualization and Simulation
05. Smart cities and citizenship participation
06. Smart cities and mobility
07. Smart cities and economy
08. Smart cities and environment
09. Smart cities and infrastructures of urban services and management of services
10. Smart cities and adaptive design
11. Smart cities and green infrastructure

Full-or-part-time: 45h
Practical classes: 30h
Guided activities: 9h
Self study : 6h

GRADING SYSTEM

4 x Assignments to be done on an individual basis (25% each)

BIBLIOGRAPHY

Basic: