310626 - Smart Cities

Coordinating unit: 310 - EPSEB - Barcelona School of Building Construction
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering
Academic year: 2019
Degree: BACHELOR'S DEGREE IN GEOPHYSICS AND GEOMETRICS ENGINEERING (Syllabus 2016).
ECTS credits: 4,5 Teaching languages: Catalan, Spanish

Teaching staff
Coordinator: Mercadé Aloy, Josep
Others: Mercadé Aloy, Josep
Mayorga Cárdenas, Miguel Yury
Magrinya Torner, Francesc
Verges Fernandez, Robert
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
The cities and territories of the information 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>Total learning time: 112h 30m</th>
<th>Hours large group:</th>
<th>18h</th>
<th>16.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group:</td>
<td>27h</td>
<td>24.00%</td>
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<tr>
<td></td>
<td>Self study:</td>
<td>67h 30m</td>
<td>60.00%</td>
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</tbody>
</table>
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Content

<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>Learning time: 45h</th>
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<tbody>
<tr>
<td></td>
<td>Practical classes: 30h</td>
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<tr>
<td></td>
<td>Guided activities: 9h</td>
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<tr>
<td></td>
<td>Self study: 6h</td>
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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 spacial 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

Bibliography

Basic:

