Degree competences to which the subject contributes

Specific:
2. The ability to critically analyse and assess theories and perspectives on habitat and urban development in developing countries and the features of urban service networks and spontaneous habitats, and to propose and implement improvements in water supply and sanitation networks for development cooperation by applying appropriate technologies and social participation methods.

Transversal:
1. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.
Teaching methodology

The following teaching methods will be used in the development of the course:

Lecture or conference (EXP): Sharing knowledge through lectures by professors or by external guest speakers.
Problem solving and case studies (RP): group decision exercises, debates and group dynamics, with the teacher and students in the classroom; class presentation of an activity carried out individually or in small groups.
Tutorials of practical or theoretical works (TD): to perform an activity in the classroom, or a theoretical or practical exercise, individually or in small groups, with the advice of the teacher.
Carry out a project, activity or work of reduced scope (PR): to carry out, individually or in a group, of a homework assignment of reduced complexity or scope, applying knowledge and presenting results.
Extensive project (PA): learning based in the design, planning and realisation in groups of a complex or extensive project or piece of work, applying and extending knowledge and writing a report on this approach and the results and conclusions.

Training activites:

The following training activities will be used in the development of the course:

Face-to-face
Theoretical classes and conferences (CTC): knowledge, understanding and synthesis of contents presented by the lecturer (professor) or by guest speakers.
Practical classes (CP): participation in group exercises, as well as discussions and group dynamics, with the teacher and other students in the classroom.
Presentations (PS): class presentations of an activity carried out individually or in small groups.
Theoretical/practical work tutorials (TD): carry out in the class an activity or exercise, theoretical or practical in nature, individually or in small groups, with the advice of the professor.

Remote
Carry out a project, activity or work of reduced scope (PR): to carry out, individually or in a group, of a homework assignment of reduced complexity or scope, applying knowledge and presenting results.
Carry out an extensive project or piece of work (PA): design, plan and conduct individually or in groups, a complex or extensive project or piece of work, applying and extending knowledge and writing a report on this approach and the results and conclusions.
Autonomous study (EA): study or development of the subject individually or in groups, understanding, assimilating, analysing and synthesising knowledge.

Learning objectives of the subject

At the end of this module, the student will:

Know and understand the theories and approaches to habitat and urban development in developing countries, as well as the characteristics of urban services and networks of habitats and spontaneous appearance and is able to propose improvements in water and sanitation services networks in the context of cooperation through the application of appropriate technologies and methods of social participation.

Introduction to the concept of urban ecology. Sustainable Urbanism. Introduction to urban services and urban models associated with a reading of urban ecology and cycles of water, energy and materials.
### Study load

<table>
<thead>
<tr>
<th>Description</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total learning time:</td>
<td>125h</td>
<td></td>
</tr>
<tr>
<td>Hours large group:</td>
<td>30h</td>
<td>24.00%</td>
</tr>
<tr>
<td>Hours medium group:</td>
<td>0h</td>
<td>0.00%</td>
</tr>
<tr>
<td>Hours small group:</td>
<td>0h</td>
<td>0.00%</td>
</tr>
<tr>
<td>Guided activities:</td>
<td>15h</td>
<td>12.00%</td>
</tr>
<tr>
<td>Self study:</td>
<td>80h</td>
<td>64.00%</td>
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</tbody>
</table>
## Content

### 1. Introduction to urban ecology

**Degree competences to which the content contributes:**

**Description:**
Reading of urban metabolism and energy flows. Territorial reading of urban system through indicators of urban ecology.

### 2. Urban structure and sustainability

**Degree competences to which the content contributes:**

**Description:**
Regional organisation: compact and sprawling cities

### 3. Ecological indicators

**Degree competences to which the content contributes:**

**Description:**
Experience MIES
Route Trans- scalar (Energy and CO2)

### 4. Urban environment and quality of the urban system

**Degree competences to which the content contributes:**

**Description:**
Quality of the natural and urban environment
Planning green spaces: the case of Bogota
Noise: Assessment in the case of the districts of Gràcia and Poble Nou in Barcelona and in the municipality of El Prat de Llobregat
Compactness: evaluation of urban plot of Prat del Llobregat

### 5. Urban environment and quality of the urban system - environment relationship

**Degree competences to which the content contributes:**

**Description:**
Ecological footprint
Measuring methods
6. Organization of Mobility, Quality and Space and Power Consumption

**Degree competences to which the content contributes:**

**Description:**
- Models of supply and demand
- Mobility and public space. Cases of El Prat, Alcoy and Sabadell

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7. Resource consumption and waste generation

**Degree competences to which the content contributes:**

**Description:**
- Housing as a consumer of resources and waste generator
- Urban waste and municipal management policies

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8. Energy cycle

**Degree competences to which the content contributes:**

**Description:**
- Building and energy (urban form)
- Mobility and energy consumption

---

9. Water cycle

**Degree competences to which the content contributes:**

**Description:**
- Water supply system to the metropolitan area of Barcelona
- Scenarios: Park Güell and Oasis
### Planning of activities

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A1. PRESENTATION 1.1 INTRODUCTION TO URBAN ECOLOGY</strong></td>
<td>Reading of urban metabolism and energy flows. Territorial reading of urban system through indicators of urban ecology.</td>
</tr>
<tr>
<td><strong>A2. PRESENTATION OF WORK 1</strong></td>
<td>Presentation of the contents of the cumulative course work.</td>
</tr>
<tr>
<td><strong>A3. PRESENTATION 2. INTRODUCTION TO URBAN ECOLOGY</strong></td>
<td>Reading the city through of urban ecology.</td>
</tr>
</tbody>
</table>
| **A4. PRESENTATION 3: ECOLOGICAL INDICATORS** | Experience MIES  
Route Trans-escalar (energy and CO2) |
| **A5. PRESENTATION 4: URBAN ESTRUCTURE AND SUSTAINABILITY** | Territorial organization: compact and sprawl cities. |
| **A6. PRESENTATION 5: URBAN ENVIRONMENT AND URBAN QUALITY** | The quality of the natural and urban environment  
Planning green spaces: the case of Bogotá  
Noise Assessment in the case of the districts of Gràcia and Poble Nou in Barcelona and in the municipality of the El Prat de Llobregat. |
| **A7. PRESENTATION 6: URBAN AND MEASUREMENT OF SYSTEM-ENVIRONMENT RELATIONSHIP** | Ecological Footprint  
Ways of the measure |
A8. PRESENTATION 7: ORGANISATION OF MOBILITY, QUALITY OF SPACE AND POWER CONSUMPTION

Description:
- Models of supply and demand
- Mobility and public space. Cases of El Prat, Alcoy and Sabadell

A9. WORKING MONITORING 1

Description:
- Presentation of the contents of the cumulative course work.

A10. PRESENTATION 8: WASTE GENERATION AND RESOURCE CONSUMPTION

Description:
- Housing as a consumer of resources and waste generator
- Municipal waste management and policies

A11. PRESENTATION 9: ENERGY CYCLE

Description:
- Construction and energy (urban form)

A12. PRESENTATION 10: ENERGY CYCLE

Description:
- Power consumption and mobility

A13. WORKING MONITORING 1

Description:
- Presentation of the contents of the cumulative course work.

A14. PRESENTACIÓN 11: WATER CYCLE

Description:
- Water supply system in the Metropolitan Barcelona aria.

A15. PRESENTATION 12
Description:
Water cycle
Example: Parque Güell and Oasis

A16. EVALUATION OF WORK (1)
Description:
Presentation of the contents of the cumulative course work

A17. EVALUATION OF WORK (1)
Description:
Presentation of the contents of the cumulative course work.

Qualification system
EV1: Written test (PE). 30%
EV2: Oral test (PO). 50%
EV3: Individual or group coursework (TR). This includes results and reports and their oral presentation. 20%
EV4: Class and laboratory attendance and participation (AP).
EV5: Performance and quality of group work (TG).
EV6: Presentation and defence of the master's thesis.
Bibliography

Basic:


Complementary:

Borja, J.; Muxi, Z. L’espai públic: ciutat i ciutadania. Barcelona: Diputació de Barcelona, Àrea de Cooperació, Oficina Tècnica


**Others resources:**

**Hyperlink**


[http://issuu.com/ciudadidea/docs/laciudadidea100503-mr](http://issuu.com/ciudadidea/docs/laciudadidea100503-mr)