Course guides
250MUM001 - UP - Liveable Cities & Urban Mobility

Unit in charge: Barcelona School of Civil Engineering
Teaching unit: 740 - UOT - Department of Urbanism and Regional Planning.
Degree: MASTER'S DEGREE IN URBAN MOBILITY (Syllabus 2020). (Compulsory subject).
Academic year: 2020  ECTS Credits: 5.0  Languages: English

LECTURER
Coordinating lecturer: JOAN MORENO SANZ
Others: Marti Casanovas, Miquel
        Clúa Uceda, Álvaro
        Sabate Bel, Joaquin

PRIOR SKILLS
No prior experience or knowledge in urban planning is required.

TEACHING METHODOLOGY
During the spring semester of the 2019-2020 academic year, and as a result of the health crisis due to Covid19, the teaching methodology will be: Synchronous sessions with Meet video conferencing, teaching videos, course work and training activities available at ATENEA to guarantee student learning.
MD1. Master Class
MD6: Participatory Lecture
MD4. Project-based learning (PBL) & Case study
LEARNING OBJECTIVES OF THE SUBJECT

Learning objectives of the subject
Liveable cities & urban mobility provides the viewpoint of Architects and Urban planners on interaction between spatial form, social cohesion, liveability and urban sense regarding the impact of urban mobility on built environments at diverse scales.
The main aim is to get into the concept of sustainable urban mobility from an urban planning and urban design view, pursuing a clear understanding of:
- Understanding and addressing commuter’s needs.
- Understanding sustainability’s concept and its implementation in transport systems and services.
- Ability to assess both technical and conceptual approaches to sustainability within the framework of the spatial planning and urban design practice.
- Ability to implement forecasting methodologies and strategic planning.
- Ability to analyse and develop potential areas about urban transport systems because of change in human behaviour.
- Ability to develop ethical and reflective solutions for planning transition challenges related to different views on justice and personal responsibility.

MODULE I.
At the end of the first module, the student must be able to:
- Identify the way in which different tools address urban mobility
- Distinguish models, methods and tools in urban treatment of mobility
- Assess the relationship between scale of reflection and management measures of urban mobility

MODULE II.
At the end of the second module, the student must be able to:
- Identify the transport topological networks that organize mobility in an urban system and assess the complementarity between transport modes.
- Recognize the impact of transport infrastructure on territorial spatial development from accessibility of the basic network elements such as node and section.
- Assess the functional and spatial integration of urban and mobility planning in the framework of the Right to mobility, based on public transport plans and active mobility.

MODULE III
At the end of the third module, the student must be able to:
- Learn to recognize different forms of urban fabrics
- Understand the interactions and frictions between mobility and urban form
- Present data analysis methodologies applied to urban planning for studying and planning urban form and mobility integration.

MODULE IV
At the end of the forth module, the student must be able to:
- Understand the relationship between the requirements of transport modes and the shape of public space and how this relationship is shown in multiple types of urban mobility spaces in the Metropolis.
- Get to know paradigmatic references of projects in different public spaces linked to mobility and their ability to create vital, livable and environmentally friendly urban spaces.
- Imagine how technological applications can optimize the use of mobility spaces, energize citizens’ interactions with urban space and encourage the experiences of public space by linking its physical and virtual dimensions

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours small group</td>
<td>9,8</td>
<td>7.83</td>
</tr>
<tr>
<td>Guided activities</td>
<td>6,0</td>
<td>4.80</td>
</tr>
<tr>
<td>Hours large group</td>
<td>19,5</td>
<td>15.59</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>9,8</td>
<td>7.83</td>
</tr>
<tr>
<td>Self study</td>
<td>80,0</td>
<td>63.95</td>
</tr>
</tbody>
</table>

Total learning time: 125.1 h
## CONTENTS

### topics list

**Description:**
- Knowledge of spatial form, social interaction, liveability and urbanity of smart cities: urban form, density, diversity and design.
- Understanding the relationship between urban density, functional mixture and mobility.
- Understanding urban planning oriented to pedestrian mobility: from the environmental point of view to the shared space.
- Understanding transport-oriented urban development.
- Understanding of the ability to apply spatial and network analysis in the context of network urbanism.
- Understanding and ability to apply urban strategies and road space design.
- Understanding of concepts such as green infrastructure and active mobility.
- Ability to evaluate the effects of different transport systems on the quality of life and environment of cities.
- Understanding the relationship between urban form, mobility and the health of citizens.
- Recognizing design tools of public space and the space of mobility and their application in the processes of urban transformation.

**Specific objectives:**

**MODULE I. Urban mobility and Spatial Planning**
The first module of the subject "Liveable Cities & Urban Mobility" aims to show how mobility has been and is faced, from an urban intervention view, from the most specific tool of urban planning, spatial planning at different scales.

**MODULE II. Regional Planning & Transport Networks**
The main objective of this module is to introduce students to the urban theory of networks from their spatial and environmental impact, based on comparative analysis of land use plans based on public transport and active mobility.

**MODULE III. Urban Data & Urban Space**
The third module of the subject "Liveable Cities & Urban Mobility" aims to delve into the impact of transport networks on city shape. How does movement influence the spatial form of a city? To what extent are the activities, the socio-economic distribution and the conditions of urban centrality defined by mobility? This module will delve into these issues from introducing Space Syntax theories in relation to three different movement speeds and their urban impact: private vehicle; bicycle and pedestrian.

**MODULE VI. Urban Design and Mobility**
The fourth and last module of the subject "Liveable Cities & Urban Mobility" delves into the relationship between mobility and urban form at the smallest and closest scale, public space, from a human sensible experience. How do mobility requirements determine form and use of urban spaces in which we move, which can also be places where we live leisure and social activities? In this sense, mobility not only affects the shape of public space, but, in return, its character, its values (civic, landscape, ecological), the experiences that it can create. How technological applications can change and improve this relationship between mobility - urban form - citizen experiences is a question that these sessions outline.

### Full-or-part-time: 28h
- Theory classes: 14h
- Guided activities: 14h

### GRADING SYSTEM

- **EV1. Laboratory exercise. 40%**
- **EV3. Academic discussions, problems, reports, etc. 20%**
- **EV5. Oral presentation 20%**
- **EV6. Teamwork 10%**
- **EV7. Active role and self-criticism 10%**

### BIBLIOGRAPHY

**Basic:**
RESOURCES

Other resources:
Alexander, Christopher. Sistemas que generan sistemas (formas que generan funciones). En la Estructura del medio ambiente; Tusquets, Barcelona 1971.
Waal, Martijn de. The city as intereface. How New Media are Changing the City. Rotterdam: nai010publishers, 2014
www.pps.org