Provida a overall knowledge of Public Transport Systems.

Learning objectives of the subject

Study load

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

| Introduction | Learning time: 1h  
|             | Theory classes: 1h |

**Description:**

| Characterization of Public Transport Systems | Learning time: 1h  
|                                            | Theory classes: 1h |

**Description:**

| Operations in Public Transportation (I) | Learning time: 1h  
|                                       | Theory classes: 1h |

**Description:**

| Operation in public transportation systems (II) | Learning time: 1h  
|                                               | Theory classes: 1h |

**Description:**
Public transport network design (I)  
**Learning time:** 1h  
Theory classes: 1h

**Description:**
Public transport network design (I). Strategic, tactics and operational process. Review of methodologies based on mathematical programming, graph theory (network cohesion) and algorithms metaheuristic used for lines and public transport services. Bilevel programming. Continuous approximations method. One corridor.

Public transport network design (II)  
**Learning time:** 1h  
Theory classes: 1h

**Description:**

Public transport network design (III)  
**Learning time:** 1h  
Theory classes: 1h

**Description:**
Public transport network design (III). Dimensioning lines and schedules.

Buses (I)  
**Learning time:** 1h  
Theory classes: 1h

**Description:**

Busos (II)  
**Learning time:** 1h  
Theory classes: 1h

**Description:**
### Guided public transport

**Description:**

**Learning time:** 1h  
Theory classes: 1h

### Transportation on demand

**Description:**
Transportation on demand. bus management for disabled people, renting vehicles management (bicing, carsharing).

**Learning time:** 1h  
Theory classes: 1h

### Taxi - Cabs

**Description:**

**Learning time:** 1h  
Theory classes: 1h

### Pricing and financing policies

**Description:**

**Learning time:** 1h  
Theory classes: 1h

### Presentation of student practices

**Description:**
Presentation of student practices

**Learning time:** 1h  
Theory classes: 1h
Qualification system

Exam which includes all themes (50%) and exercises (50%)

Regulations for carrying out activities

Without class notes or books

Bibliography

Basic:


Complementary:
