250ST2034 - Smart Mobility

Coordinating unit: 240 - ETSEIB - Barcelona School of Industrial Engineering
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering
Academic year: 2017
Degree: MASTER'S DEGREE IN SUPPLY CHAINS, TRANSPORT AND MOBILITY (Syllabus 2014). (Teaching unit Optional)
MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2014). (Teaching unit Optional)
ECTS credits: 5
Teaching languages: English

Teaching staff

Coordinator: Robusté Antón, Francesc
Others: Primer quadrimestre:
ANGEL LOPEZ RODRIGUEZ - 10
FRANCESC ROBUSTÉ ANTÓN - 10

Opening hours

Timetable: Francesc Robusté: Tuesdays from 4 pm to 730 pm Previous appointment by email (is mandatory)
f.robuste@upc.edu
Angel López: please set previous appointment by email alopez@ciccp.es

Teaching methodology

Classes, course report and exam

Learning objectives of the subject

Learn key concepts about Smart Mobility: Smart city, urban transportation, mobility, transportation system management, sustainable urban mobility, intelligent transportation system, city logistics.

Study load

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

<table>
<thead>
<tr>
<th>Topic</th>
<th>Learning time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Presentation - Transportation system</strong></td>
<td>1h</td>
</tr>
<tr>
<td>Description</td>
<td>Theory classes: 1h</td>
</tr>
<tr>
<td><strong>1. Transportation system part 2</strong></td>
<td>2h</td>
</tr>
<tr>
<td>Description</td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td><strong>2. Technology in ITS and Smart Mobility</strong></td>
<td>2h</td>
</tr>
<tr>
<td>Description</td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td><strong>3. Information and data transmission</strong></td>
<td>2h</td>
</tr>
<tr>
<td>Description</td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td><strong>Course report definition</strong></td>
<td>41h</td>
</tr>
<tr>
<td>Description</td>
<td>Theory classes: 1h</td>
</tr>
<tr>
<td></td>
<td>Self study: 40h</td>
</tr>
</tbody>
</table>
4. Smart Mobility in urban/metropolitan areas

**Description:**
4. Smart Mobility in urban/metropolitan areas

**Learning time:** 2h
Theory classes: 2h

4. Smart Mobility in urban/metropolitan areas part 2

**Description:**
4. Smart Mobility in urban/metropolitan areas part 2

**Learning time:** 2h
Theory classes: 2h

5. Smart Mobility in interurban corridors

**Description:**
5. Smart Mobility in interurban corridors

**Learning time:** 2h
Theory classes: 2h

5. Smart Mobility in interurban corridors part 2

**Description:**
5. Smart Mobility in interurban corridors part 2

**Learning time:** 2h
Theory classes: 2h

6. Smart city logistics

**Description:**
6. Smart city logistics

**Learning time:** 2h
Theory classes: 2h

7. Cases: railways and ticketing and toll collection

**Description:**
7. Cases: railways and ticketing and toll collection

**Learning time:** 2h
Theory classes: 2h
### 8. Smart community, smart infrastructures & cooperative systems

**Description:**
8. Smart community, smart infrastructures & cooperative systems

**Field visit (Cellnex Smart City Lab, Barcelona City, etc)**

**Description:**
Field visit (Cellnex Smart City Lab, Barcelona City, etc)

**Learning time:** 2h
- Theory classes: 2h

### 9. Transportation system management and TDM

**Description:**
9. Transportation system management and TDM

**Learning time:** 2h
- Theory classes: 2h

### 10. Smart cities

**Description:**
10. Smart cities

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

### Quizz about concepts

**Description:**
Quizz about concepts

**Specific objectives:**
Quizz about concepts

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

### Qualification system

Individual course report 75% (due on January) and brief quiz 25% (December)
250ST2034 - Smart Mobility

**Bibliography**

**Basic:**


Reading material [on line]. [Consultation: 07/03/2016]. Available on: <https://www.upc.edu/atenea>.