## Teaching plan - PhD programme in Materials Science and Nanotechnologies

### 36° Cycle

<table>
<thead>
<tr>
<th>Course</th>
<th>SSD</th>
<th>hrs</th>
<th>credits</th>
<th>Educational form*</th>
<th>Type of activity**</th>
<th>Mandatory/Choosen activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2D materials beyond graphene: from fundamentals to energy applications</td>
<td>FIS/03</td>
<td>16</td>
<td>2</td>
<td>lecture</td>
<td>curricular</td>
<td>Choosen activity</td>
</tr>
<tr>
<td>Principles and applications of nanobiotechnologies</td>
<td>BIO/12</td>
<td>8</td>
<td>1</td>
<td>lecture</td>
<td>curricular</td>
<td>Choosen activity</td>
</tr>
<tr>
<td>Epitaxial semiconductor nanostructures for optoelectronic and electrochemical devices</td>
<td>FIS/03, CHIM/02</td>
<td>16</td>
<td>2</td>
<td>lecture</td>
<td>curricular</td>
<td>Choosen activity</td>
</tr>
<tr>
<td>Atomic Layer Deposition: processes, methods, new developments, and applications for energy</td>
<td>CHIM/04, CHIM/06</td>
<td>16</td>
<td>2</td>
<td>lecture</td>
<td>curricular</td>
<td>Choosen activity</td>
</tr>
<tr>
<td>Structure-property relationships in porous crystalline materials for gas storage</td>
<td>CHIM/04, CHIM/03, CHIM/02, CHIM/06</td>
<td>16</td>
<td>2</td>
<td>lecture</td>
<td>curricular</td>
<td>Choosen activity</td>
</tr>
<tr>
<td>PCAM School (subject to be defined)</td>
<td>FIS/03, CHIM/03</td>
<td>24</td>
<td>2</td>
<td>seminars</td>
<td>curricular</td>
<td>Choosen activity</td>
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<tr>
<td>Seminars on Materials Science</td>
<td>FIS/03, FIS/01, CHIM/03, CHIM/02, CHIM/04, CHIM/06, BIO/12</td>
<td>24</td>
<td>2</td>
<td>seminars</td>
<td>curricular</td>
<td>Choosen activity</td>
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<tr>
<td>Advanced computational methods for materials science</td>
<td>FIS/03</td>
<td>8</td>
<td>1</td>
<td>lecture</td>
<td>curricular</td>
<td>Choosen activity</td>
</tr>
<tr>
<td>Semiconductor trip: from a simple idea to a complex manufacturing</td>
<td>FIS/03, FIS/01</td>
<td>16</td>
<td>2</td>
<td>lecture</td>
<td>cross-curricular</td>
<td>Choosen activity</td>
</tr>
<tr>
<td>New lignin-based sustainable materials: science and technological aspects.</td>
<td>FIS/03, FIS/01, CHIM/03, CHIM/04, CHIM/06</td>
<td>8</td>
<td>1</td>
<td>lecture</td>
<td>cross-curricular</td>
<td>Choosen activity</td>
</tr>
</tbody>
</table>

| Total hrs/credits | 152 | 17 |

### Educational form*

- lecture
- laboratory training
- seminar

### Type of activity**

- curricular
- cross-curricular