To help you make informed choices regarding broadening and deepening electives, within each Thematic Learning Area (TLA) a number of learning paths are offered. A learning path is a selection of TLA electives across departments, grouped around a specific subtheme. The learning paths within a TLA are based on the assumed amount of pre-requisite knowledge, indicating that familiar programs have better access. This means that some learning paths are specifically accessible for students from one department, whereas other learning paths suit best for students from a specific department. If you have met the expected pre-knowledge, the relevant electives become accessible. You can make well-informed choices by either choosing specific electives across the different learning paths, or by choosing a pre-defined learning path.

Always make sure that you check the required pre-requisite knowledge/courses via the Course Catalogue for the elective courses you would like to follow!

### TLA Energy

**Description of the content**
The TLA Materials, incorporates bachelor electives around composites and matter, their characteristics, working mechanisms, and to invent and construct solutions for and answers to contemporary technological challenges.

**Offered by**
BME, CE&C, ME, APSE, EE

**Language**
English

**Contact person**
Rob van der Heijden, r.v.der.heijden@tue.nl

### Learning path 1 – Chemistry of Materials

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Link to course catalogue</th>
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<tbody>
<tr>
<td>6BER02</td>
<td>Macro Organic Chemistry</td>
<td></td>
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<tr>
<td>8TC20</td>
<td>Basic Tissue Engineering</td>
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<tr>
<td>6BER06</td>
<td>Electrochemical Energy Conversion &amp; Storage</td>
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<tr>
<td>6BER08</td>
<td>Polymer Chemistry &amp; Technology 2</td>
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<tr>
<td>6BER04</td>
<td>Topics in Molecules &amp; Materials</td>
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### Learning path 2 – Mechanics of Materials

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<td>4LC00</td>
<td>Strength &amp; Structure</td>
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<tr>
<td>4CBLC00</td>
<td>CBL Computer Aided Engineering</td>
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<tr>
<td>4MB10</td>
<td>Material Models</td>
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Thematic Learning Area: Materials

Learning path 3 – Nanomaterials

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<th>Course name</th>
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<td>5XPB0</td>
<td>Nanomaterials: Nano Devices &amp; Integration</td>
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<tr>
<td>34NPC</td>
<td>Nanomaterials: Physics &amp; Characterization</td>
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<tr>
<td>6BER01</td>
<td>Nanomaterials: Chemistry &amp; Fabrication</td>
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Thematic Learning Area: Materials

Start

1. Organic Chemistry
   CE&C: 6BR01, 6MR01, 6MR02
   BME: 8BA010, 8BM030

2. Thermodynamics
   CE&C: 6BRA04, 6BAR01
   AP: 32TDD; ME: 4EB00

3. Electrochemistry
   CE&C: 6BAR02

4. Materials Science
   CE&C: 6BM003
   BME: 8BA110
   ME: 4MA00

5. Polymer Chemistry & Technology
   CE&C: 6BMR05

6. Mechanics 1
   BME: 8BA090
   ME: 4RA00

7. Mechanics 2
   BME: 8BB070
   ME: 4MB00

Materials

1. Macro Organic Chemistry
   CE&C: 6RER02
   L3 Q 2 T A

2. Physical Chemistry 2
   CE&C: 6RER05
   L3 Q 4 T B

3. Molecular Simulations in CE&C
   CE&C: 6RER10
   L3 Q 3 T C

4. Electrochemical Energy Conversion & Storage
   CE&C: 6RER06
   L3 Q 1 T C

5. Strength & Structure
   CE&C: 6CL00
   L3 Q 3 T A

6. CBL Computer Aided Engineering
   CE&C: 6CBL00
   L3 Q 2 T A

7. Material Models
   CE&C: 6MB10
   L2 Q 2 T A

8. Nanomaterials: Nano Devices & Integration
   CE&C: 6XPF08
   L3 Q 3 T C

   CE&C: 6SNPC
   L2 Q 3 T B

10. Nanomaterials: Chemistry & Fabrication
    CE&C: 6RER01
    L1 Q 1 T A

Chemistry of Materials

Mechanics of Materials