CIVIL-527  

**Selected topics in mechanics of solids and structures**

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<thead>
<tr>
<th>Cursus</th>
<th>Sem.</th>
<th>Type</th>
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<tbody>
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<td>Génie civil</td>
<td>MA1, MA3</td>
<td>Opt.</td>
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<td>Mécanique</td>
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**Summary**
The class covers the fundamentals of wave dynamics and fracture mechanics. The aim is to deepen their knowledge in advanced topics in mechanics of solids and structures and discuss current research topics. Case studies on catastrophic failure will be presented and discussed in class.

**Content**
- Wave dynamics
- Introduction to mechanics of rupture

**Learning Prerequisites**

**Recommended courses**
Statics (for GC), Continuum Solid Mechanics (for GC), Structural Mechanics I

**Learning Outcomes**
By the end of the course, the student must be able to:
- To reinforce the general culture in mechanics of solids and structures of the future engineer by highlighting fundamentals.
- To study some advanced topics in recent or fundamental fields of structural and continuum mechanics.
- To understand and model the behaviour of materials under extreme loading conditions.

**Teaching methods**
Ex cathedra, in depth exercises, case studies

**Assessment methods**
Oral exam