ETH-531 **Nuclear computations lab**
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<table>
<thead>
<tr>
<th>Cursus</th>
<th>Sem.</th>
<th>Type</th>
<th>Language</th>
<th>Credits</th>
<th>Session</th>
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<th>Lecture</th>
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<td>Génie nucléaire</td>
<td>MA3</td>
<td>Obl.</td>
<td>English</td>
<td>3</td>
<td>Winter</td>
<td>Fall</td>
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<td>During the semester</td>
<td>14</td>
<td>90h</td>
<td>1 weekly</td>
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**Remarque**
Cours donné par EPFL à PSI-Villigen

**Summary**
To acquire hands-on experience with the running of large computer codes in relation to the static analysis of nuclear reactor cores and the multi-physics simulation of nuclear power plant (NPP) dynamic behaviour

**Content**
- Lattice (assembly) calculations
- Thermal-hydraulic analysis
- Reactor core analysis
- Multi-physics core dynamics calculations
- Best-estimate NPP transient analysis

**Learning Prerequisites**
- **Recommended courses**
  - Special topics in reactor physics, nuclear safety

**Learning Outcomes**
By the end of the course, the student must be able to:
- Interpret the output of nuclear simulation software
- Compose simple input data for nuclear simulation software

**Transversal skills**
- Access and evaluate appropriate sources of information.
- Use both general and domain specific IT resources and tools