This course will help you understand and know how to use advanced numerical methods and advanced techniques.

**Highlights**
- Explicit FEM models
- Particle techniques
- Transient & non-linear models

**Prerequisites**
- Knowledge of finite element technique

**Learning objectives**
After completing this course, participants will be able to:
- Understand the assumptions and fields of application of advanced techniques related to explicit finite elements in dynamics and particle techniques.

**Key elements**
- Dates: 11 - 14 January 2022
- Duration: 11 hours
- For whom: recent graduates, jobseekers and experienced employees
- Location: ISAE-SUPAERO, Toulouse
- Course fees: 1 600 €
- Language: English

**Practical information and registration**
Natalia Perthuis - 05 61 33 80 47 – info.exed@isae-supraero.fr
Course content

Explicit FEM models
- Explicit algorithms
- Matrix variability
- Material modelling
- Rapid dynamics

Particle techniques
- SPH method
- Fragmentation & fluid interaction

Teaching methods

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<thead>
<tr>
<th>Teaching methods</th>
<th>Yes</th>
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<tbody>
<tr>
<td>Lectures / tutorial</td>
<td>X</td>
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<tr>
<td>Collaborative learning</td>
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<td>Flipped classroom</td>
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<td>Blended learning (online and face to face)</td>
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<td>Learning by doing</td>
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<td>Project-based</td>
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<td>Simulation</td>
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<td>Case study</td>
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Assessment
Oral test