SA411 - Advanced numerical methods

From the Advanced Master AES
(Aeronautical & Space Structures)

Key elements

Period: **Mid-January**

Estimated duration: **10 hours**

For whom:
recent graduates, jobseekers and experienced employees

Location:
ISAE-SUPAERO, Toulouse

Language: **English**

Highlights

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

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

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.

Prerequisites

- Knowledge of finite element technique

Information and registration

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Course content

Explicit FEM models

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

Particle techniques

- SPH method
- Fragmentation & fluid interaction

Teaching methods

Teaching methods	Yes
Lectures / tutorial	X
Collaborative learning	
Flipped classroom	
Blended learning (online and face to face)	
Learning by doing	X
Project-based	
Simulation	
Case study	

Assessment

Oral test