SA411 - Advanced numerical methods

From the Advanced Master AES

(Aeronautical & Space Structures)

ISAE
SUPAERO
Institut Supérieur de l'Aéronautique et de l'Espace

Key elements

Period: **Late 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

info.exed@isae-supaero.fr

SA411 - Advanced numerical methods

From the Advanced Master AES
(Aeronautical & Space Structures)

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