IS552 - Systems Engineering of Space Systems

From the Advanced Master TAS ASTRO (Space Systems Engineering)

Key elements

Dates: **January 23 to 25, 2023**

Duration: **18 hours**

For whom:
recent graduates, jobseekers and experienced employees

Location:
ISAE-SUPAERO, Toulouse

Course fees: **€2,000**

Language: **English**

Highlights

- Juice mission in depth
- Industrial lessons learnt
- Interdisciplinary approach

Illustrate the System Engineering Process for spacecraft design and development through the Gaia scientific mission currently in implementation phase for European Space Agency. This training course provides an overview of the spacecraft definition and V&V processes.

Learning objectives

After completing this course, participants will be able to:

- Understand the criticality of system engineering in space programs
- Differentiate roles and functions of program management team members.

Prerequisites

- System engineering basics

Practical information and registration

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Course content

- Introduction
- Juice spacecraft system design approach
- Mission concept
- Spacecraft design elaboration
- Spacecraft design evolutions from advanced studies to frozen design
- Spacecraft autonomy and failure management
- Juice development approach
- Development model philosophy
- Test facilities and environmental test campaigns
- Functional verification
- Performance verification
- Juice project management
- Implementation of Juice within the ESA standard
- Juice system overview

Teaching methods

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

Assessment

- Written test
- MCQ
- Marked Practicals