This module provides knowledge of the physics of the space environment encountered by the spacecraft. Participants will learn about the constraints imposed by the environment. It will be dealt with training techniques for predicting effects on materials, electronics components and embedded systems and the various solutions to mitigate these degradations and their impact on the functioning of the system involved.

**Highlights**
- Physics and components interaction
- Use of professional simulation tools
- Experts from space research center

**Prerequisites**
- Master level

*not compulsory

**Learning objectives**
After completing this course, participants will be able to:
- Identify constraints specifically imposed by space environment (micro-gravity, radiations...);
- Model with simulation tools the space environment.

**Key elements**
- **Dates:** 24 September – 4 October 2019 (exam: 24 October 2019*)
- **Duration:** 12 hours
- **For whom:** recent graduates, jobseekers and experienced employees
- **Location:** ISAE-SUPAERO, Toulouse
- **Course fees:** 1 600 €
- **Language:** English

**Practical information and registration**
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Course content

- Introduction to the space environment
- Description of the physics of space environment
- Radiations - materials interactions
- Charging of materials and systems in space environment
- Effects of the space environment on electronics components