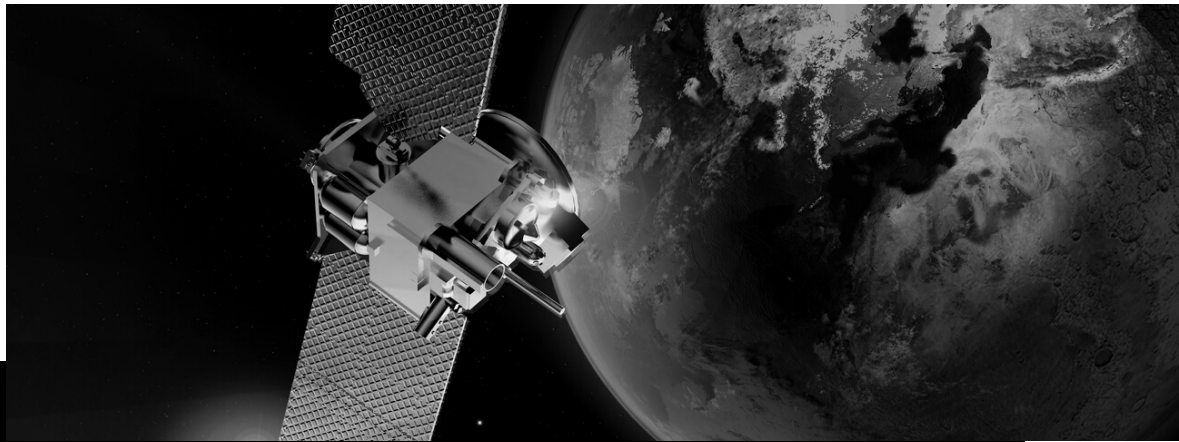


A photograph of Earth from space, showing the curvature of the planet and the sun rising over the horizon, creating a bright glow and lens flare effect. The sky is dark with visible stars.

NMD PROFESSIONAL TRAINING

COURSE CONTENTS

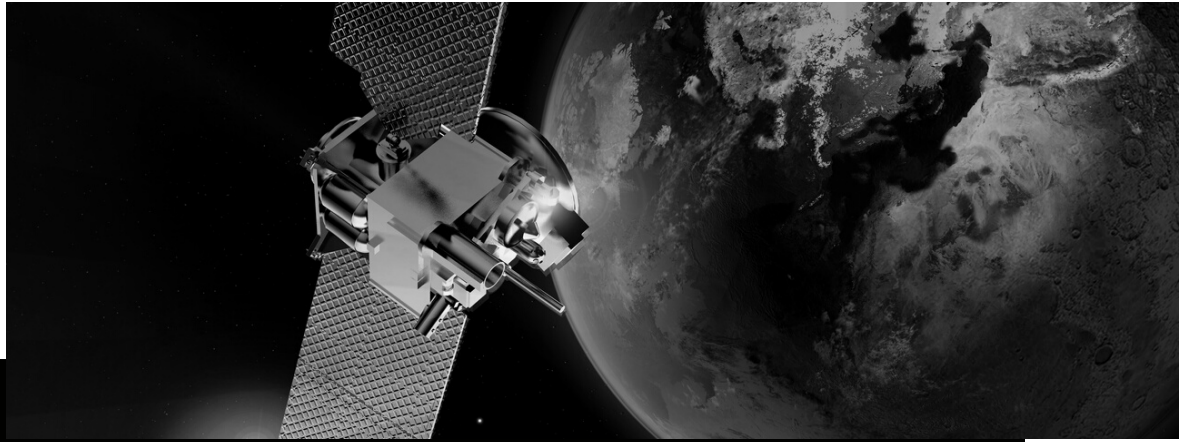
CERTIFICATIONS
DESIGNED TO PREPARE
YOU FOR THE SPACE
INDUSTRY



INTRODUCTION TO SPACE MISSION DESIGN

A fundamental understanding of what space missions and satellites are, their relevance, and how anyone from any background can contribute. This course is delivered as pre-recorded videos and a scheduled evaluation. You will cover the following concepts:

- Basic definitions
- Problems addressed with space missions
- Mission design process

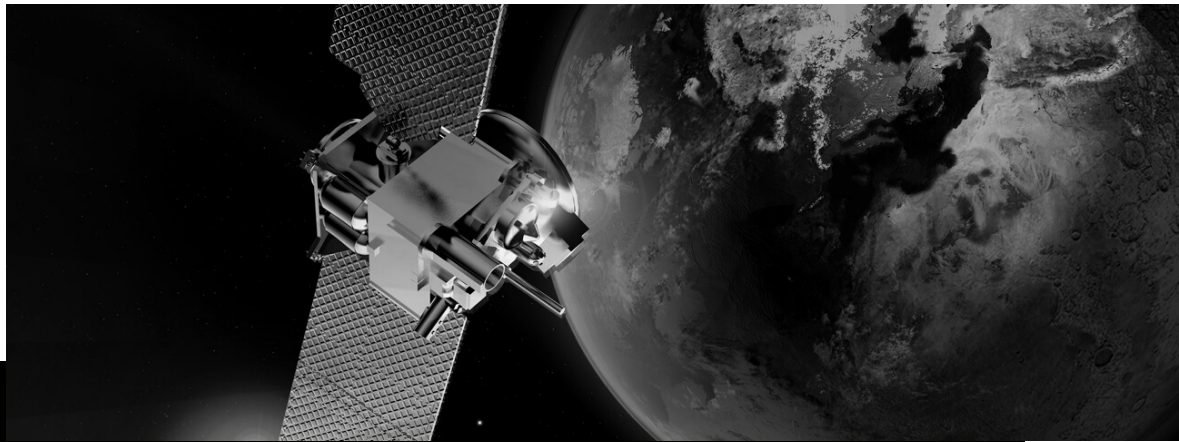


ORBITAL MECHANICS AND SATELLITE TRAJECTORIES

The basic mathematics and physics principles of how objects move in orbit. This course is delivered as pre-recorded videos and a scheduled evaluation.

You will cover the following concepts:

- Newton's laws; Gravitation laws; Conservation laws
- Gravitational wells; Escape and transfer velocities
- Orbital motion; Kepler's laws; Elliptical and Circular orbits
- Reference frames; Orbital parameters and calendars



CONCURRENT SPACE MISSION DESIGN: DESIGN YOUR FIRST SATELLITE AND SPACE MISSION

Practical concurrent engineering in the context of the design of satellites and space missions using tools used by major space agencies. The course is delivered as a combination of pre-recorded tutorials, live online/in-person sessions and a scheduled evaluation. You will cover:

- Definitions and introductory concepts
- Designing a space mission (mindset, approach, tools)
- Designing a satellite (mindset, approach, tools)

YOU WILL NEED AN UNDERSTANDING OF "INTRODUCTION TO SPACE MISSION DESIGN" AND "ORBITAL MECHANICS AND SATELLITE TRAJECTORIES" IN ORDER TO FULLY UNDERSTAND THIS COURSE

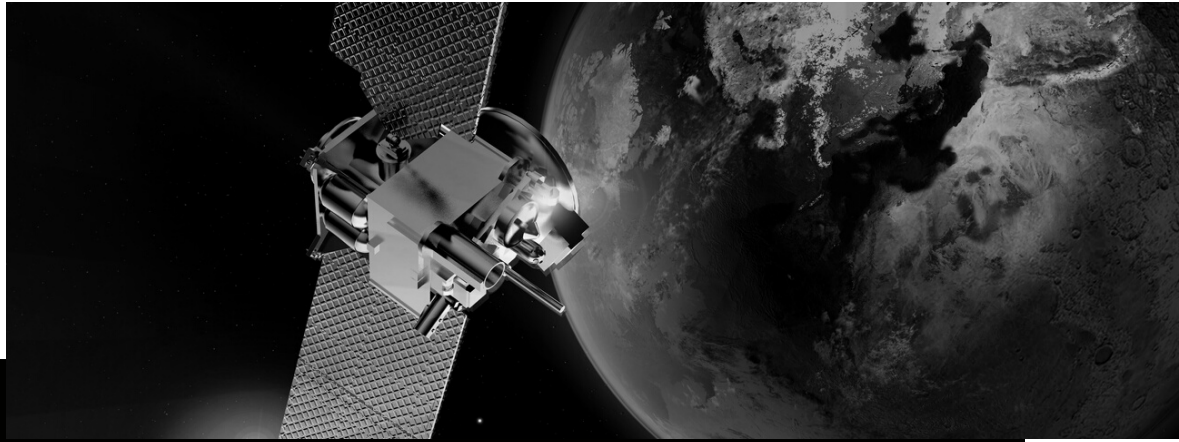


ENGINEERING FOR THE SPACE RADIATION ENVIRONMENT

Hands on understanding of the space radiation environment and how to take this into account when designing for the space environment. This course is delivered as a combination of pre-recorded videos, live online/in-person sessions and a scheduled evaluation. You will cover the following concepts

- The space environment in general
- What the space radiation environment is made of
- Simulating the radiation environment for a mission
- Radiation test requirements for a space mission

YOU WILL NEED AN UNDERSTANDING OF "INTRODUCTION TO SPACE MISSION DESIGN" AND "ORBITAL MECHANICS AND SATELLITE TRAJECTORIES" IN ORDER TO FULLY UNDERSTAND THIS COURSE

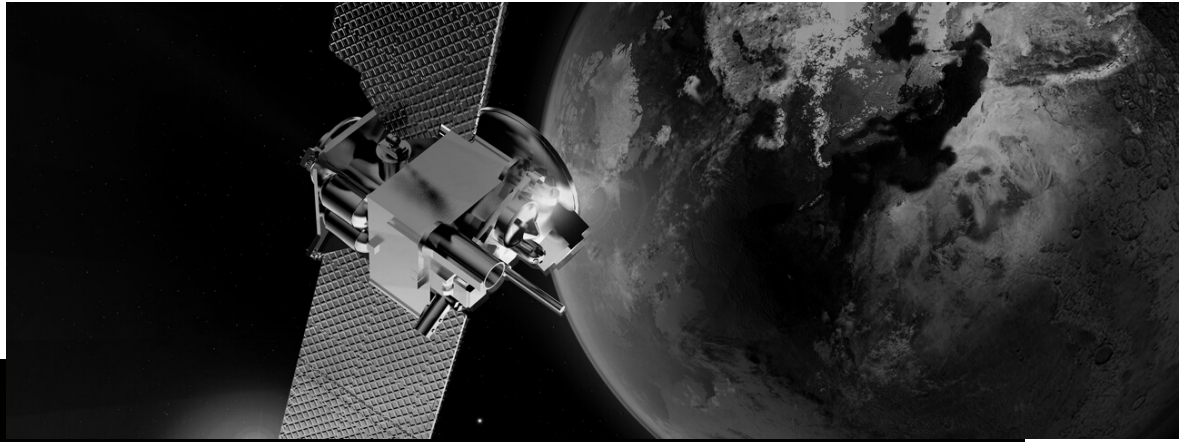


INTRODUCTION TO SPACE MISSION OPERATIONS

Hands on understanding of how a space mission is operated from the ground, and how satellite data is utilized, with modern tools and platforms. This course is delivered as a combination of pre-recorded videos, live online/in-person sessions and a scheduled evaluation. You will be required to purchase (inexpensive) hardware for a hands-on experience of receiving data from a satellite. You will cover:

- Typical ground support set up
- Modern concepts (GS networks; Web based mission control)
- Copernicus project and data access

YOU WILL NEED AN UNDERSTANDING OF "INTRODUCTION TO SPACE MISSION DESIGN" AND "ORBITAL MECHANICS AND SATELLITE TRAJECTORIES" IN ORDER TO FULLY UNDERSTAND THIS COURSE



SPACE MISSION MANAGEMENT MINDSET MODEL

Real-life scenario based understanding of what it takes to achieve a successful space mission, and how to use this approach to succeed in any other project. The course is delivered as pre-recorded videos and a scheduled evaluation. You will cover the following concepts:

- Space mission management models
- Standards; Conflict and emergency management
- Power distance index



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