ECSS STANDARDS

Project Management,
System Engineering,
Product Assurance

The Next Space Frontier

The ECSS (European Cooperation for Space Standardization) standards play a vital role in the development, operation, and safety of space missions across Europe and beyond. These standards serve the crucial need of ensuring interoperability, reliability, and quality throughout the entire lifecycle of space systems. From design and manufacturing to testing and operation, adherence to ECSS standards fosters consistency and compatibility among different components and subsystems, ultimately reducing risks and costs associated with space endeavours.

Moreover, these standards are not static; they evolve to address emerging challenges and incorporate technological advancements. Recent trends in ECSS standards reflect a growing emphasis on sustainability, cybersecurity, and the integration of new materials and propulsion technologies. As the space industry continues to expand and diversify, the ECSS remains a cornerstone for ensuring the success and safety of space missions.

The ECSS currently has 139 active standards, forming the ECSS system. These standards cover management, engineering, product assurance, and space sustainability disciplines.

Source: ECSS Standards

Since its inception in 1996 the ECSS organisation has codified more than 120 standards, containing around 25.000 requirements for the development and operations of European Space Systems.

Source: European Space Agency

The organization of ECSS Standards is made of seven Agencies C companies actively supporting ECSS. The European industry is represented by Eurospace. The Associated member is the Canadian Space Agency (CSA), while CEN-CENELEC, EUMETSAT, the European Commission (EC) and the European Defense Agency (EDA) are observers.

Source: ECSS Standards

About this Course

ECSS Standards course covers all the key elements for every space project: management, engineering, product assurance, and sustainability. Explore the realities of managing a space activity, from adopting standards, making strategic decisions, managing people and performance effectively.
Focusing on the development of critical thinking, the ECSS Standards course provides you with the knowledge about Space Standardization. Learn the tools and apply international standards to work with or for the European Space ecosystem like space sustainability.

Learning Objectives:
Whether you are managing a small or a complex project, you need to acquire the knowledge related to space standardization. The course provides you with a 360 degrees view from project management to system engineering and product assurance.
Space Missions are ever-changing, with increasingly sophisticated architectures. Now more than ever, companies and agencies, require innovative, qualified employees to prepare and support new projects.
The European Cooperation for Space Standardization develops a coherent, single set of user-friendly standards for use in all European space activities.

6 Modules

24-30 hours

Online

€ 900,00 Eur

Certificate of Completion

Limited number of participants

Participant Profile

This course is designed for:

Engineers who want to learn about ECSS Standards, understand their organization, their branches, requirements management, etc..

Engineers who want to start or accelerate their career using ECSS Standards, and need to understand the correlation between them, interpret and understand how to apply to a specific project.

Managers involved in the development or operations of a Space Mission or component and need to acquire the overall understanding of all the component and the application of the standards for different elements and in different phases of the mission lifecycle.

Entrepreneurs wanting to start up or scale up their business and need to follow ECSS Standards, especially when aiming at exploring what future opportunities exist in the development of new missions and seeking partnership opportunities.

Investors who desire to invest in space related start-ups, products and services, and need to understand the application of standards, needs of stakeholders, as well as the technology, product, service, and business model standpoint.

Participants with an interest in ECSS Standards and wanting to understand the key elements and innovation that are shaping today´s and tomorrow´s space industry.

REGISTER

Instructor

Dr. Lucia Fonseca de la Bella

Dr. Lucia Fonseca de la Bella is the Faculty Strategic Project Manager for the Space Sector at the University of Surrey.

She spearheads the development of the new Surrey Space Economy Institute, aligning with the university's research and innovation strategy in the space field. Dr. Fonseca also crafts the innovation strategy to enhance collaborations with key industry partners.

Previously, she served as the European Space Agency's Business Applications Ambassador in the UK, where she assisted non-space companies in integrating space assets into their operations, fostering growth and innovation across diverse sector.

"In today´s Space Economy, we celebrate the meteoric rise of opportunities, witnessing the flourishing growth of the space market, the birth of innovative start-ups, and the pivotal role of space agencies.
It is really the time to create, to explore and to invest in the Space Sector."

Your Learning Environment

INTERACTIVE PLATFORM

You will receive individual access to an online interactive and intuitive platform to access the classes´ recordings, slides, articles and other material.

INDIVIDUAL STUDY

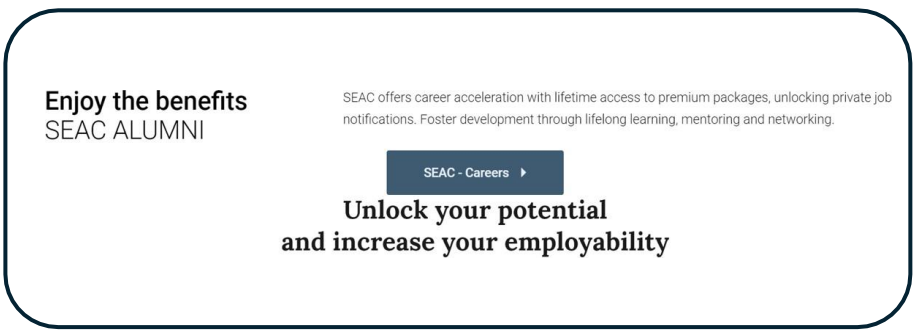
Following each module you will have time for individual study to carry out research and homework as indicated by the instructor.

LIVE SESSIONS WITH THE INSTRUCTOR AND NETWORKING

Two live sessions per year with the instructor and possibility to meet other students and enhance your networking opportunity

SEAC- CAREERS

Enjoy the benefits of the SEAC Alumni: career acceleration with lifetime access to premium packages, unlicking private job notifications. Foster development through lifelong learning, mentoring and networking.



Course Outline

Week 1:
ECSS STANDARDS

1. Standards
2. ECSS Standards
3. ECSS Documentation
4. Tailoring and pre-tailoring
5. DOORS
6. Access and Navigate ECSS Standards
7. Potential limitations of ECSS Standards
8. Assignment 1 with research study

Week 2:
ECSS - PROJECT MANAGEMENT

1. Elements of a Project and Project Management (reference to Prince 2)
2. Standards applied to the Space Sector (reference to ECSS standards)
3. Roles and Responsibilities
4. Project Lifecycle
5. Reviews and Key milestones, from Phase A to Phase F of a mission development
6. Mission Documentation and Risk Management
7. Project Management Office (PMO)Assignment 2 with research study
8. Assignment 2 with research study

Week 3:
ECSS – SYSTEM ENGINEERING

1. What is a System
2. System Thinking and System Engineering
3. Technical SE processes and the V-Model
4. System Lifecycle – Requirements, Architecture, Verification, Validation and Testing
5. ECSS Standards – Engineering Branch
6. MBSE – Model Based System Engineering
7. Future Standards
8. Assignment 3 with research study

Week 4 :
SPACE ENGINEERING, GROUND SYSTEMS AND OPERATIONS

1. Ground Segment and Operations
2. Roles and Responsibilities
3. Operations Engineering Process
4. Operations Teams
5. Operations Engineering
6. Ground Segment Engineering
7. Critical Areas
8. Assignment 4 with research Study

Week 5:
PRODUCT ASSURANCE

1. Product Assurance, Q-Branch
2. Organization and Responsibilities
3. Objectives, Scope and Failure Costs.
4. PAP – Product Assurance Plan
5. Audits
6. Critical Items Control
7. Nonconformance Control System
8. PA during the mission lifecycle
9. Assignment 5 with research study

Week 6:
PROJECT WORK

You will be assigned an individual Project Work by the Instructor that you will develop within two weeks.

Certificate of Completion

All participants who successfully complete ECSS Standards will receive a SEAC Professional Education Certificate of Completion.

seac SPACE ECONOMY ACADEMY

Certificate ID
023820810

SPACE ECONOMY ACADEMY

hereby recognizes that

Matt Perry

has attended and completed

ECSS STANDARDS

Project Management, System Engineering, Product Assurance

seac

Adrian Saez
Chair of Academic Committee
Space Economy Academy

Date Awarded
16.10.2024

Our Professional Alumni Experience

"It took me a step further in terms of space entrepreneurship and it was an excellent opportunity to networking"

Júlio Alexandre Ponte dos Santos

EUROPEAN SPACE AGENCY

"The impact of the Academy in terms of space tech education stands out enormously from the competition"

Prof Dr Heiko Seif

MUNICH BUSINESS SCHOOL

"The course helped me better understand and appreciate the difficulties Entrepreneurs experience in this sector"

Tanner Bleedorn

U.S. ARMY

"I got to grow personally and professionally. I can now see the big picture, lead a project, the team and myself"

Ayushee Chaudhary

SPACE JOURNALIST, INDIA

Benefits of joining the Alumni Community

SEAC Professional Education offers a number of benefits for participants who successfully complete our courses:

1 Lifelong Learning

Lifetime access to the virtual campus after completion of the course.

2 Loyalty Discount

15% discount for all Alumni who wish to pursue further studies with SEAC Professional Education Online courses.

3 - Career Acceleration

Lifetime access to our Premium package at SEAC Careers, and unlock the private job offers notification from the Academy.

4- Networking opportunities

Networking opportunities with other SEAC Professional Education Alumni.

REGISTER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SPACE
ECONOMY
ACADEMY
ARE YOU
READY TO
START YOUR
JOURNEY?
FOR MORE INFORMATION
https://seac-space.com/
FOR A PERSONALIZED CONSULTATION
Program Advising Team
Professional Education Programs
SEAC – Space Economy Academy
Saalbaustrasse 22, 64285 Darmstadt, Germany
Email: info@seac-space.com
Phone: +491726813694