SEN2 - Preparation to INCOSE ASEP & CSEP certification

From the Advanced Master SEN (Systems Engineering)

Key elements

Period: **May**

Estimated duration: **70 hours**

For whom: **recent graduates, jobseekers and experienced employees**

Location: **ISAE-SUPAERO, Toulouse**

Language: **English**

Highlights

- Become INCOSE ASEP or CSEP certified
- >90% success rate at ISAE-SUPAERO
- About 3,900 SEP (ASEP/CSEP/ESEP) worldwide and 13,000 INCOSE members
- Leadership position of ISAE-SUPAERO for ASEP preparation

This course provides you with a global knowledge and understanding of the INCOSE Systems Engineering Handbook (SEH) V5 in order to prepare with best success conditions the INCOSE ASEP/CSEP exam. The exam is scheduled at the end of the training or could alternatively be planned on learners' initiative within a period of 6 months maximum after the training.

Learning objectives

After completing this course, participants will be able to:

- Understand the definition and concepts of a system;
- Know the concepts of System thinking and Life cycle overview;
- Analyze technical processes ranging from requirements, to implementation, integration, verification and validation;
- Understand how systems engineering contributes to business aspects.

Prerequisites

- Master level
- INCOSE membership (included)
- Having a copy of the SE Handbook V5 (paper copy is preferred)

Information and registration

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Please note that the training cost includes AFIS/INCOSE membership and exam registration

Programme overview

Day 1

INCOSE general presentation & Certification process overview

SE Handbook V4 scope (Chap 1)

Systems Engineering Overview (Chap 2)

Day 2

Generic Life Cycle Stages (Chap 3)

Day 3

Technical Processes – Part 1 (Chap 4.1- 4.6)

Business or Mission Analysis, Stakeholder Needs and Requirement Definition, Systems Requirement Definition, Architecture Definition, Design Definition, System Analysis

Day 4

Technical Processes – Part 2 (Chap 4.7- 4.12)

Implementation, Integration, Verification, Transition, Validation, Operations, Maintenance, Disposal

Day 5

Technical Management Processes (Chap 5)

Project Planning, Project Assessment & Control, Decision Analysis, Risk Management, Configuration Management, Information Management, Measurements, Quality Assurance

Day 6

Agreement Process (Chap 6)

Acquisition Process, Supply Process

Organizational Project Enabling Process (Chap 7)

Life Cycle Model Management, Infrastructure Management, Portfolio Management, Human Resource Management, Quality Management, Knowledge Management.

Day 7

Tailoring Process & Application of Systems Engineering (Chap 8)

Tailoring for Specific Product Sector or Domain Application, Application of SE for Services, Enterprises, VSME

Day 8

Cross-cutting Systems Engineering Methods (Chap 9)

Modeling & Simulation, MBSE, Functions-based SE, Object-oriented SE, Prototyping, Interface Management, Integrated Product and Process Development, Lean SE, Agile SE.

Day 9

Specialty Engineering Activities (Chap 10)

Affordability/Cost Effectiveness/LCC Analysis, Electromagnetic Compatibility, Environmental Impact Analysis, Interoperability Analysis, Logistics Engineering, Manufacturing and Producibility, Mass Property Engineering, Reliability, Availability and Maintainability, Resilience Engineering, Safety, Security, Training Needs, Value Engineering.

Day 10

Synthesis and preparation of the ASE/CSEP Exam
Fictive ASEP/CSEP exam

Teaching methods

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

Assessment

30 min MCQ at the end of each day

2h30 MCQ with 120 questions (fictive exam)