

Systems Engineering Foundation Course

Course Syllabus Overview

Duration - 2 days, each containing around 6 hours training

Lesson 1 General Systems Engineering Principles

- What is Systems Engineering?
- The Major Principles
- User Requirements
- Processes
- Validation & Verification
- Configuration Control
- Design Process
- Compliance and Governance
- Case Histories

Lesson 2 Through-Life Process

- Definition and Purpose
- Characteristics
- Decision Gates
- Lifecycle Stages
- Lifecycle Comparisons
 - Exploratory Stage
 - Concept Stage
 - Development Stage
 - Production Stage
 - Utilisation Stage
 - Support Stage
 - Retirement Stage
- Lifecycle Approaches – Lean and Agile Development
- Storyboard Exercise and Examples
- Case Histories

Lesson 3 Requirements Analysis, Capture & Management

- Requirements Concepts
- The Analysis Process
 - Inputs
 - Controls
 - Outputs
- Requirement Process Activities
- How to Carry out Requirements Analysis
- Characteristics of Requirements Statements
- Rules for Writing Requirements



- Requirements Vocabulary
- Use of the Requirements Management System
- Storyboard Exercise and Examples
- Case Histories

Lesson 4 Configuration Management, Change Management, and Configuration Control

- Configuration Management Process
 - Inputs
 - Controls
 - Outputs
- Baselines
- Configuration Management Activities
- Configuration Management Concepts
- Change Requests
- Configuration Identification
- Configuration Control – Change Classification
- Configuration Control Board
- Change Control – Methods and Techniques
- Configuration Status and Accounting
- Storyboard Exercise and Examples
- Case Histories

Lesson 5 Test & Acceptance Procedures

- Test Categories
- Validation & Verification
- Test Cases
- Test Scripts
- Storyboard Exercises and Examples
- Case Histories

Optional Extra Modules:

- Options Analysis
- Design Reviews
- Compliance Verification
- Reliability Engineering

About SyntheSys

SyntheSys provides defence systems, training, systems and software engineering and technical management services over a spectrum of different industry sectors. Along with distinct support and consultancy services, our innovative product range makes us first choice provider for both large and small organisations. Established in 1988, the company focus is on fusing technical expertise with intuitive software applications to solve common industry challenges.

