

# INCOSE Systems Engineering Professional Training Course

Prepare to Pass the SEP Examination

## International Council On Systems Engineering (INCOSE) Systems Engineering Professional (SEP) Training Course

**This 5-day course equips students with the knowledge and structure of the INCOSE Systems Engineering Handbook, and its constituent processes to prepare for the SEP examination.**

The course combines real world scenarios with theory, presented in the INCOSE Systems Engineering Handbook, to provide students with a unique learning experience which will enable them to comfortably sit the INCOSE SEP examination. Presented by a fully accredited, qualified SEP instructor, the course examines the role and benefits of applying systems engineering principles within your organisation. We teach students how to apply this theory and how to use the correct terminology to convey this process and complete a series of exercises which will prepare them for the exam.

The course content is suitable for those working towards INCOSE Systems Engineering Professional Certification. The Associate SEP (ASEP) certification is an entry level certification and does not require leadership experience or any other entry level education. The Certified SEP (CSEP) certification is a foundation level certification and relies on previous experience, education and references to sit. For more information on INCOSE Certification levels, [click here](#).

### What you will learn

On successfully completing the course, students will be able to:



Understand the significance of the SEP certification;



Apply processes from the INCOSE Systems Engineering Handbook;



Define and recognise the part systems engineering plays within your organisation;



Understand the different elements of the systems development process;



Apply the knowledge you gain to your day to day role;



Comfortably sit the SEP examination having gained knowledge and skills over the 5 days of the course.

### At a Glance

A 5-day course at an approved venue

Based on the INCOSE Systems Engineering handbook, and the processes within

Provides students with the knowledge and experience needed to successfully complete the certification examination

Delivered by a qualified SEP instructor

### Who benefits

Mechanical engineers

Project managers

Test engineers

Systems developers

Personnel whose role heavily integrates with the systems engineering process

Personnel who are due to sit the SEP examination

## Syllabus Main Points

### Day 1

After introductions, we will give you an overview of the certification including benefits and limitations of certification. This will be followed by an introduction to the V4 handbook. It's important on day one that we familiarise you with terminology, the generic life cycle stages and approaches. We also examine case studies. Each day of the course concludes with a learning review.

### Day 2

Each day of the course will start with a consolidation of the previous day. Technical processes and how they support systems engineering will be high on the agenda for today, where we will look at items such as business or mission analysis, user requirements, architecture definition, design definition, implementation, verification and transition.

### Day 3

We continue looking at technical processes today in more detail with the emphasis being on validation, operation, maintenance and disposal which will give students an understanding to look at technical management processes and their application which focuses on high level management. As part of this, we will look at a matrix of different management processes including project planning, decision management, measurement and quality assurance. The latter part of Day 3 looks at agreement processes.

### Day 4

Day 4 looks heavily at organisational project-enabling processes where we will examine themes such as life cycle model management, project portfolio management and knowledge management. Today will examine the tailoring process in more detail which will drive our study around applications of systems engineering where you will learn more about product line management, and very small and micro enterprises.

### Day 5

Today we major on cross-cutting systems engineering methods where we will discuss modelling, simulation, prototyping, Lean & Agile systems engineering, amongst other cross cutting methods. We move on to study speciality engineering activities, where we discuss the range of speciality activities available and broadening knowledge regarding these activities.

The final day will put further emphasis on the INCOSE handbook review and how to use the handbook to enhance your studies. We will give you knowledge on examination structure, preparation and application.

For more information contact: [training.technologies@synthesys.co.uk](mailto:training.technologies@synthesys.co.uk)

## 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.

