



**CERTIFICATION
TRAINING INTERNATIONAL**
A PPI Company

INCOSE SEP PREPARATION COURSE

Over the course of 4 days (plus 1 bonus day), led by an experienced and qualified facilitator, you will be taken on a virtually delivered and immersive journey into the INCOSE Systems Engineering Handbook V4.

This virtually delivered INCOSE SEP Exam Preparation Course combines a mixture of presentations, workshops and practice examinations. In particular the Q&A sessions ensure that any unclear topics are answered in a format that provides adequate time for the content to be mastered. This course is facilitated by world-class, reputable, qualified, expert leaders, who are highly experienced and knowledgeable in dealing with all aspects of the certification process.

Throughout the course there is a strong focus on interaction, the social aspects of learning and integration with the learner's existing knowledge framework. The result is a highly engaging course with a great degree of subject mastery.

CTI's course will equip participants with the knowledge and information to comfortably sit the knowledge examination. Utilizing leading edge adult learning principles and techniques enables the participants to absorb and recall the necessary information in the fastest possible way.

The role and benefits of systems engineering within the participant's organization will be clearly understood and communicated by the use of the internationally recognized terminology contained within the INCOSE Systems Engineering Handbook.

On completion of this course, participants will have the ability to use the handbook as a reference and guide not only for current but also future systems engineering developments.



www.sep-training.com

COURSE OBJECTIVES

- ▶ use the handbook and training materials provided in such a way as to prepare for the accreditation;
- ▶ use the terminology in the INCOSE Systems Engineering Handbook correctly and with confidence;
- ▶ link the material, approach and methodology to their existing systems engineering knowledge to enhance their systems engineering skills;
- ▶ explain the role of systems engineering on the basis of a project or intervention within their organization;
- ▶ explain the elements of the system life cycle and how they play out across a project;
- ▶ explain the different technical processes that underpin a system;
- ▶ describe the different technical management processes and the role they play in planning, assessing and controlling a system development;
- ▶ describe the agreement and organizational processes and how they influence the system environment;
- ▶ understand and define the tailoring processes at organizational and project levels;
- ▶ appreciate the application of systems engineering in different domains
- ▶ see how cross-cutting systems engineering methods are applied;
- ▶ appreciate the specialty engineering activities and how they support the development of a system;
- ▶ explain how they will be assessed for the SEP accreditation;
- ▶ integrate the knowledge gained during the course into examples from their industry or organization;
- ▶ use the INCOSE Systems Engineering Handbook V4 as a reference and guide for current and future systems engineering developments;
- ▶ evaluate current and future systems engineering projects in their organization.

COURSE OUTLINE

DAY 1

› Module 1

INTRODUCTION

- Recap and discussion of highlights from pre-reading
- Summarise collated objectives
- Workshop: Sharing of personal project experience

CHAPTERS 1 & 2

- Workshop: What is a system?
- Quiz Questions and summary of Chapters 1 and 2

› Module 2

CHAPTER 3

- Workshop: Generic life cycle stages
- Life cycle approaches
- Workshop: Case studies
- Quiz Questions and summary of Chapter 3

› Module 3

CHAPTER 4

- Business or Mission Analysis
- Workshop: Concept of Operations vs. Operational Concept
- Stakeholder Needs and Requirements Definition
- Workshop: Generic IPO diagram familiarization
- Recap: learning points and discussion of progress against objectives

DAY 2

› Module 4

CHAPTER 4 Continued

- System Requirements Definition
- Architecture Definition
- Design Definition
- System Analysis
- Implementation

› Module 5

CHAPTER 4 Continued

- Workshop: Linking Input Output (IPO) diagrams
- Integration
- Verification and Validation
- Workshop: Verification vs. validation
- Transition
- Operation

- Maintenance
- Disposal
- Quiz Questions and summary of Chapter 4

› Module 6

CHAPTER 5

- Project Planning
- Workshop: Technical management processes
- Project Assessment and Control
- Decision Management
- Recap: learning points and discussion of progress against objectives.

DAY 3

› Module 7

CHAPTER 5 Continued

- Risk Management
- Configuration Management
- Information Management
- Measurement

› Module 8

CHAPTER 5 Continued

- Workshop: Measurement process
- Quality Assurance
- Quiz Questions and summary of Chapter 5

CHAPTER 6

- Workshop: Agreement processes
- Summary of Chapter 6

› Module 9

CHAPTER 7

- A model for the learning organisation
- Life Cycle Model Management
- Infrastructure Management
- Portfolio Management
- Human Resource Management
- Quality Management
- Knowledge Management
- Recap: learning points and discussion of progress against objectives.

TOPICS - DAY 4

› Module 10

CHAPTER 7 Close out

- Workshop: Organizational project-enabling processes
- Workshop: Comparison of

processes

- Quiz Questions and summary of Chapter 7

› Module 11

CHAPTER 8

- Workshop: Tailoring process
- Tailoring
- Quiz Questions and summary of Chapter 8

CHAPTER 9

- Brief overview of cross-cutting systems engineering methods
- Modelling and simulation
- Workshop: Cross-cutting SE methods
- Quiz Questions and summary of Chapter 9

› Module 12

CHAPTER 10

- Brief overview of specialty engineering
- Workshop: Speciality engineering activities
- Quiz Questions and summary of Chapter 10

20 QUESTION MOCK EXAM

IN CONCLUSION

- To what extent did we meet your objectives?
- Feedback forms, certificates, and summary

DAY 5

› Module 13

- Bonus session if requested

The primary purpose of the bonus session is for the delegates' benefit to:

- re-visit any topics that may need further clarity
- have additional practice with mock exam questions
- expand the discussion of systems engineering approaches beyond the material in the handbook
- discuss how the learning might be applied in the workplace

The session also provides an insurance policy in the event we run behind time due to any unforeseen IT issues faced during the course.