systems/product engineering training & consulting for project success ...

Project Performance International

Training Catalog

M000-007974-9-Le

About PPI

Project Performance International (PPI) is a professional services company using systems engineering and related ways of thinking and acting to assist clients worldwide to successfully envision, design, develop, supply, and support simple to complex systems and products. Our alumni number 20,000+ professionals in 43 countries on six continents.

Feedback from our clients and alumni is strongly positive:

100%
"YES" RESPONSE
Did the PPI training you took improve your personal work performance?

98.3%
"YES" RESPONSE
Did the PPI training you took improve the performance of the company's engineering projects?

93.5%
"YES" RESPONSE
Did the PPI training you took improve the performance of your company/organization?

*PPI-conducted client survey. Independent audit possible.

PPI has two wholly owned subsidiary companies:

Certification Training International Pty Ltd (CTI)
CTI delivers certification training worldwide, focused on preparing delegates to pass the INCOSE Knowledge Exam which is a requirement for Associate Systems Engineering Professional (ASEP) and Certified Systems Engineering Professional (CSEP) certifications; and

Project Performance International USA Inc (PPI-USA)
PPI-USA delivers project performance consulting and training in the United States on behalf of PPI, mainly to the U.S. Government.

PROJECT PERFORMANCE INTERNATIONAL

Project Performance International is a Registered Business Name of Project Performance (Australia) Pty Ltd

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Table of Contents (Continued)

Systems Engineering Course

Course Code: SE5D (P006)

Duration: 5-Days – 8.5 hours each day with multiple breaks

Delivery Format: Public delivery (In-person or online), Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan or Mr John Fitch (subject to change)

Course Description: Systems engineering is an approach to engineering that has been proven to reduce costs, shorten development timeframes and increase stakeholder satisfaction. This course is intended for anybody who performs or manages significant engineering roles, whether or not under the name “systems engineering”, and regardless of years of experience. The course duration is set at the minimum duration of training necessary to bring about the knowledge and understanding among practicing engineers and managers. Our experience is that shorter duration courses delivered to practicing engineers convey knowledge but not understanding, and then nothing changes in the workplace!

This course is strongly focused on problem definition and solution development principles and methods, and other practice areas, the application of which brings about immediate and substantial improvement in engineering performance.

This training is ideal for formal systems engineering training in that it leads the participant through the way of thinking and acting that is systems engineering, regardless of application domain, technology orientation and business context.

The course commences with broad concepts of a systems approach to the engineering of systems (based on systems thinking) and progressively adds detail. Concepts are introduced with a very simple (and amusing) system incorporating a model-based approach (MBSE), and then re-applied to the engineering of a larger, more complex system. A single system is then taken in workshop format through all process areas, with a substantial MBSE orientation.

At the conclusion of the course, participants will have the knowledge and understanding of overall systems engineering principles, concepts, process elements and their relationships, and actionable methods, as relevant to the individual’s role. We repeatedly receive feedback that adoption of these principles and practices has improved the results of the projects of clients, the success of client enterprises and improved the lives of their people.

Click here for more information →

Requirements Engineering Course

Course Code: RE5D (P007)

Duration: 5-Days – 8.5 hours each day with multiple breaks

Delivery Format: Public delivery (Online), Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan, Mr John Fitch or Mr Paul Davies (subject to change)

Course Description: This course addresses the most common cause of project problems and failures – requirements. Developing the wrong thing is a bigger problem in engineering than making errors developing the right thing! Requirements Analysis and Specification Writing are sciences practiced by many, mastered by surprisingly few. And yet, the payoff from achieving excellence in these areas is large. The two aspects, Requirements Analysis and Specification Writing, are treated as separate but related topics.

The Requirements Analysis module addresses high ROI techniques used to capture, validate and gain a complete understanding of requirements communicated at all stages of the system life cycle. The module is rich in integrated, efficient model-based techniques. The Specification Writing module addresses in detail the conversion of individual requirements into effective requirements specifications. The module focuses on the structure and language of requirements specifications for requirements expressed in natural language.

The Requirements Analysis module provides highly effective tools for both the capture of requirements, and for validation of those requirements, in any scenario involving the receipt of requirements from one or more stakeholders who have a need. A workshop approach is used extensively in this module, to maximize learning and practical application. Effectiveness of the techniques, collectively comprising a complete methodology, is independent of the domain of application, and independent of the specifics of the need. These techniques have been used with great success.

The Specification Writing module provides detailed instructions on the conversion of requirements into highly effective requirements specifications. Issues of structure (organization of information) and the use of (English) language throughout a requirements specification are examined in considerable detail. Public domain specification standards are overviewed and compared. High quality templates/guides, with examples, are provided for the specification of systems, software, interfaces and services, respectively. The course is strongly activity-oriented throughout. The techniques of specification writing that are taught have been used to great effect in scenarios that include acquisition, supply, product definition (both hardware and software), enterprise internal projects, business analysis and diverse engineering projects, large and small. The course is applicable in both procurement and engineering development scenarios, and business models of entrepreneurial product development, development for internal customers and customer-contractor.

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Systems Engineering Management Course

Course Code: SEM5D (P1135)

Duration: 5-Days – 8.5 hours each day with multiple breaks

Delivery Format: Public delivery (Online), Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan, Mr Pat Byrne or Mr Randall Iliff (subject to change)

Course Description: Experience has shown that projects have difficulty in delivering solutions to stakeholders on time, on budget and satisfying stakeholder needs. The greater the problem complexity, solution complexity, novelty and diversity of stakeholders, the greater the challenge has proven to be.

This 5-day course provides in-depth coverage of how to manage engineering projects to maximize project success, within the project's given constraints. The course establishes sound principles and provides effective methods to successfully manage engineering projects and for getting the best out of people, individually and in teams.

This course will most benefit people who seek knowledge and understanding of how to best go about managing technical projects, even more so those larger projects involving complex engineering.

The basics of managing anything are, of course, addressed, and addressed thoroughly – planning, organizing, assessing and exercising control, all placed in an engineering project context. So too are the specifics most commonly associated with managing engineering projects – including alternative development strategies and when to use them (waterfall, incremental, evolutionary including agile, spiral), requirements management, managing design complexity, interface management, configuration management, knowledge management, engineering specialty integration, and risk and opportunity management.

The training reflects the need for engineering management to also inspire and cultivate a team culture of personal responsibility, and accountability of team members to the team, not only to a manager.

This course is delivered using a combination of video, presentations, workshops, games, quizzes, & discussion sessions. The workshops and discussions are focused on putting into practice the management techniques covered in the presentations, and the lessons to be learned from the videos and other activities.

Click here for more information →

Architectural Design Course

Course Code: AD5D (P1768)

Duration: 5-Days – 8.5 hours each day with multiple breaks

Delivery Format: Public delivery (Online), Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan or Mr John Fitch (subject to change)

Course Description: This five-day course addresses the principles and methods of designing, regardless of what is being designed. The course provides an integrated approach to the set of technical design principles and process disciplines. These combine with technology knowledge to contribute to the satisfaction of requirements and maximization of system effectiveness, enhancing project success and reducing risk to the enterprise.

The course is strong in Model-Based Systems Engineering (MBSE) methods supported by substantial workshop activity. The course provides insight into the realities of current modeling languages and tools and the directions in which model-based design is evolving. Participants gain experience in workshop format with both functional and state-based design, and their relationship to physical design. The third major aspect of design, the basis of decision-making between feasible design alternatives (i.e., the conduct of trade-off studies) is thoroughly exercised. Trade-off studies are then integrated into a very effective three-stage approach to design optimization.

The course also provides introductory, yet significant, coverage of the disciplines of reliability engineering, safety engineering, maintainability engineering and producibility engineering. This course is suitable for any professional who makes non-trivial design decisions, irrespective of the application domain and irrespective of the technologies involved, including software-intensive systems but excluding purely software.

Click here for more information →

Requirements, OCD & CONOPS in Capability Development Course

Course Code: ROC5D (P958)

Duration: 5-Days – 8.5 hours each day with multiple breaks

Delivery Format: Public delivery (Online), Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan or Mr John Fitch (subject to change)

Course Description: This course is a five-day immersion in the development of military capability, with a focus on problem definition, Operational Concept Description (OCD - how the capability and each element of its solution will be used) and concept of operations (CONOPS - how the capability outcome is to be achieved), and specification of technology items and related services that will form a part of the capability solution. For reasons explained in the course, a CONOPS may also be referred to as an Operational Solution Description (OSD).

The course content is easily transferable in application to any substantial business system, public infrastructure system, or other large undertaking involving people and technology as a part of the solution.

The training is consistent with a systems approach to problem-solving, as advocated by defense and other administrations worldwide. This is an interdisciplinary, collaborative approach to the engineering of system solutions (of any type). The approach aims to capture stakeholder needs and objectives and to transform these into a description of a holistic, life cycle balanced system solution. This solution will both satisfy the minimum requirements of the stakeholders and optimize overall solution effectiveness according to the values of the stakeholders.

Click here for more information →

Interface Engineering and Management Course

Course Code: IEM2D (P2500)

Duration: 2-Days (8 hours each day) or 4 half-days (4 hours each day) with multiple breaks

Delivery Format: Public delivery (Online), Corporate delivery (Online)

Instructor: Mr Paul Davies (subject to change)

Course Description: Avoid the most commonly occurring class of problems experienced in system integration - interface problems. Every interface is an opportunity to lose information, time, control and/or money through error or contention between stakeholders at each end. Many issues surrounding interface engineering and management are relatively unexplored in the engineering literature - hence the high value of this course.

Eight best practices are fully explained and illustrated to give participants the opportunity to apply the new knowledge. These practices are exploited by leading enterprises, often without formal documentation of the practice, to foster project success and give competitive advantage.

The modules are presented in an order comparable to those processes that are followed in a well-run project. A worked case study is used as a central theme, and as a basis for ten “learning by doing” workshops. The first two half-days are spent covering the basics and ensuring a good grounding in the best practices. The third half-day is then spent applying the practices to optimize system architecting around interfaces, and the final half-day covers modeling, documentation and practice writing interface requirements. A valuable set of templates and guidelines for writing interface specification documents is also included, as “handouts” and as an online resource.

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Engineering Successful Infrastructure Systems Course

Course Code: ESIS5D (P2005)

Duration: 5-Days – 8.5 hours each day with multiple breaks

Delivery Format: Corporate delivery (In-person or online)

Instructor: Dr. George Sousa (subject to change)

Course Description: Poorly managed infrastructure projects have wasted almost $30B of taxpayer funds. Berlin's new airport is a contender for the world's most useless. More lawsuits filed over the Miami bridge collapse. Trains too wide to fit tunnels. The outrageous highway schemes left as roads to nowhere. A project that turned a proud stadium into a national joke. Critical Infrastructure under attack. These are REAL public-domain headlines!

These, of course, are mainly dramatic, one-off cases. But worldwide average performance of infrastructure projects is nothing to be proud of. For example, a 2012 Dutch study showed that for rail projects, average project cost performance in northwest European countries was 27% overrun and in other geographical areas, 44% overrun. Corresponding figures for bridge projects were 45% and 27% respectively. The picture in the United States is similar to that in Europe.

This course is a five-day immersion in the successful engineering of infrastructure that delivers maximum value to stakeholders. The course is based on systems thinking, here applied to projects and engineering. And so, the course has a strong systems engineering foundation. Systems engineering as a discipline has been proven to substantially reduce costs, reduce project durations and increase client satisfaction.

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Systems Engineering Overview Course

Course Code: SEO3D (P884)

Duration: 3-Days – 8.5 hours each day with multiple breaks

Delivery Format: Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan or Mr John Fitch (subject to change)

Course Description: Systems engineering can be thought of as the problem-independent and technology-independent principles of, and methods for, the engineering of systems, based on systems thinking. This 3-day Systems Engineering short course provides an overview of the principles and methods of systems engineering: an interdisciplinary, collaborative approach to the engineering of system solutions, adopted by leading enterprises worldwide, that aims to capture stakeholder needs, objectives and values, and to transform this problem definition into a holistic, life-cycle balanced system solution. This solution must satisfy the imperatives and should maximize overall project and solution effectiveness according to the values of the stakeholders who are being served.

The course is suited to those who need familiarity with systems engineering principles and methods, without actually practicing them to any significant degree. Those in roles that interface with systems engineering activities will find the course especially relevant. We have found that is not possible to teach systems engineering in a three-day course to those who have to practice it to any substantial degree. Decades of experience in delivering systems engineering training support this view. However, an objective of achieving a common understanding of the nature and principles of systems engineering, viz. the systems approach to the engineering of systems, is certainly achievable.

At the conclusion of the course, participants are expected to have a common understanding of SE principles, process elements with which to implement those principles, and their relationships. The process elements are requirements capture and validation (requirements analysis), physical and logical design, effectiveness evaluation and decision (the conduct of trade-off analysis), requirements specification, system integration, verification, validation, and systems engineering management. All of the above is within the context of typical life-cycle phases, such as problem definition, solution development, production, utilization, support and disposal. The different development strategies of waterfall, incremental, evolutionary and spiral are emphasized, as is the practice of concurrent (simultaneous) engineering.

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Project Risk and Opportunity Management Course

Course Code: PROM3D (P038)

Duration: 3-Days – 8 .5 hours each day with multiple breaks

Delivery Format: Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan or Mr Pat Byrne (subject to change)

Course Description: Project risk and opportunity management is a set of management techniques aimed at ensuring that actual and planned project outcomes at least coincide or are exceeded. As such, project risk and opportunity management are practiced by the great majority of project planners, project managers, project engineers and their staff. Risk and opportunity management influence nearly every facet of planning and conducting a project, or at least, they should do.

Risk and opportunity are different but intimately related concepts. A decision that minimizes risk in isolation may on the surface appear to be a good decision, but may in fact be a very bad decision when opportunity is factored in.

This course deals with that extra, formalized set of techniques that can be applied cost-effectively to manage risk and opportunity within projects that are unlikely to proceed to plan or better without specific focus on risk and opportunity. The majority of information technology, defense, aerospace and infrastructure projects above a few million dollars of value are in this category, as are many projects conducted for internal customers, and most product development projects.

Click here for more information →

Model-Based Systems Engineering (MBSE) Foundations Course

Course Code: MBSEF2D (P2320)

Duration: 2 Days – 8.5 hours each day with multiple breaks

Delivery Format: Public delivery (Online), Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan or Mr John Fitch (subject to change)

Course Description: This two-day course places Model-Based Systems Engineering (MBSE) in the context of lifecycle-based system development, explains the benefits of MBSE, and provides learning in the foundation principles, concepts and methods of MBSE support to requirements capture and validation, and to design. In terms of outcomes, this training addresses a critical contributor to project performance, viz. the use of logical modeling:

a. as an aid to correct problem definition; and

b. to assist designers to work successfully with greater degrees of design complexity, thereby reducing errors and their serious consequences for cost, schedule, and even life and death.

The course provides insight into the realities of current modeling languages and tools, and the directions in which model-based design is evolving.

Participants complete the course equipped individually, and equipped as a team, with actionable methods that can be immediately applied in the workplace, to improve their own performance and that of the company. The evidence is overwhelming that the application of the MBSE foundations taught by PPI correlates strongly with improved project performance where development is involved.

Click here for more information →

Managing Technical Projects Course

Course Code: MTP2D (P1079)

Duration: 2-Days – 8.5 hours each day with multiple breaks

Delivery Format: Public delivery (Online), Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan or Mr Pat Byrne (subject to change)

Course Description: Experience is that projects have difficulty in delivering solutions to stakeholders on time, on budget and satisfying needs. The greater the problem complexity, solution complexity, novelty, and diversity of stakeholders, the more this experience applies.

This two-day course provides an introductory level of understanding of how to manage technical projects to maximize project success, within a set of constraints. The course establishes principles and exposes methods for managing to get the best out of people, individually and in teams.

This Managing Technical Projects course is designed for people who seek a working knowledge of how to best go about managing engineering projects, especially projects involving non-trivial engineering.

Click here for more information →

Medical Device Risk Management Course

Course Code: MDRM3D (P2330)

Duration: 3 full-days (8 hours each day) or 5 half-days (4 hours each day) with multiple breaks

Delivery Format: Corporate delivery (In-person or online)

Instructor: Mr Bijan Elahi (subject to change)

Course Description: Medical Devices Risk Management (MDRM) is a progressively more prominent topic in the medical device industry. Expectations by Regulatory bodies of medical device companies in producing quality, logical and defensible risk management files is rising. Manufacturers must convincingly demonstrate that the benefits of their medical devices outweigh the risks.

This course provides a disciplined, systematic approach to analyzing, estimating, evaluating, and controlling safety risks related to medical devices. The methodology is explainable, logical, and integrated, utilizing formal risk management techniques to predict and prevent serious harm to patients and financial losses to businesses.

Participants will receive a comprehensive introduction to the essential topics for successfully managing safety risks of medical devices in conformance with the international standard ISO 14971.

Click here for more information →

Requirements Engineering Fundamentals Course

Course Code: REF3D (P1518)

Duration: 3-Days – 8.5 hours search with multiple breaks

Delivery Format: Public delivery (In-person or online), Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan, Mr John Fitch or Mr Paul Davies (subject to change)

Course Description: Endless studies have shown that developing the wrong thing is the single most common cause of project problems and failures. Requirements analysis and specification writing, performed well, addresses this reality head-on. Sadly, requirements analysis and specification writing are sciences practiced by many, mastered by surprisingly few. And yet, the payoff from achieving excellence in these areas is huge. The two aspects, requirements analysis (requirements capture and validation using analysis) and requirements specification, are separable but related topics covered by this valuable overview training.

The requirements analysis content of the training addresses the techniques used to capture, validate and gain a sufficient understanding of requirements communicated at all stages of the system life cycle. The specification writing content addresses in detail the conversion of individual requirements into great requirements specifications.

The requirements analysis content provides highly effective tools for both the capture of requirements, and for validation of those requirements, in any scenario involving the receipt of requirements from one or more stakeholders who have a need. A workshop approach is used extensively, to maximize learning and practical application. Effectiveness of the techniques, integrated to comprise an efficient methodology, is independent of the domain of application, and independent of the specifics of the need. These techniques have been used with great success.

The specification writing content provides detailed instructions on the conversion of requirements into highly effective requirements specifications. Issues of structure (organization of information) and the use of (English) language throughout a requirements specification are examined. High quality templates/ guides, with examples, are provided for the specification of systems, software, interfaces and services, respectively. The techniques of specification writing that are taught have been used to great effect in scenarios that include acquisition, supply, product definition (both hardware and software), enterprise internal projects, business analysis and diverse engineering projects, large and small.

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Software Engineering Course

Course Code: SWE5D (P137)

Duration: 5-Days – 8.5 hours each day with multiple breaks

Delivery Format: Public delivery (In-person), Corporate delivery (In-person or online)

Instructor: Mr Francois Retief (subject to change)

Course Description: As the science of software engineering matures and our tools for building software systems improve, software has pervaded every facet of modern life. Ranging from simple web pages or small smartphone applications, to highly technology-intensive, complex business, defense, aerospace or transportation projects, some challenges of software development has proven stubbornly difficult to overcome. With up to a third of software projects cancelled before completion and many more challenged, some suggest that even though software projects are ever increasing in scope and complexity, the industry's ability to improve on project delivery has stagnated. Evidence from annual studies such as those of the Standish Group support this contention. Taking an in-depth look at the contributors to project success, attention needs to be given not just to areas of software requirements, architecture and design, but across all aspects of the software life cycle.

This 5-day course in Software Engineering provides an overview of the elements for the effective realization of software and software-intensive systems that are cost-effective, on schedule and meet stakeholder needs over the full life cycle.

The course approaches software development from, simultaneously, a software technology and a systems perspective in the engineering of small and large, simple and complex software, and software-intensive systems. The course provides proven principles and effective methods for creating solutions to satisfying stakeholders with excellent, cost-effective software, reflecting agile and incremental approaches.

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Integrated Product Teams Course

Course Code: IPT2D (P401)

Duration: 2-Days – 8.5 hours each day with multiple breaks

Delivery Format: Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan, Mr Paul Davies or Pat Byrne (subject to change)

Course Description: This course incorporates in-depth corporate training tailored to and using the team's actual project as a focus, which reinforces an understanding of Integrated Product Teams.

The course reviews the related concepts and methods of Integrated Product and Process Development, as applied to projects of significant size and complexity. The training establishes principles for getting the most out of Integrated Product Teams at all stages of a project, with much focus on the human characteristics that affect team performance.

For newly formed Integrated Product Teams, the training is intended to play a major role in start-up, reducing the severity and duration of the typical "Forming" and "Storming" stages of team development.

Click here for more information →

A Business Introduction to Systems Engineering Seminar

Course Code: BISE1D (P2525)

Duration: 1 full-day with multiple breaks

Delivery Format: Public delivery (In-person or online), Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan, Mr John Fitch or Mr Richard Beasley (subject to change)

Course Description: This one-day seminar introduces systems engineering and makes a strong business case for its use. It demonstrates how systems engineering contributes to improved engineering, project, and business performance, providing abundant evidence of its value.

The seminar is designed with two complementary goals:

- To help executives and managers understand the business value of systems engineering and its positive impact on enterprise outcomes.
- To give engineers and technical staff exposure to the major practices of systems engineering and how they strengthen project success.

The seminar is presented in two parts:

- **Part A: Overview of Business Value (2.5 hours)** – for executives, senior managers, program managers, functional managers, project managers, and engineering managers, as well as engineers in any role.
- **Part B: Systems Engineering in Practice (5.5 hours)** – for engineers in any role, as well as engineering managers and project managers.

Part A may be taken alone, or Parts A and B may be taken together.

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Software Requirements Engineering Course

Course Code: SRE3D (P1997)

Duration: 3-Days – 8.5 hours each day with multiple breaks

Delivery Format: Corporate delivery (In-person or online)

Instructor: Mr Robert Halligan, Mr John Fitch, Mr Kartal Cagatay, or Mr Paul Davies (subject to change)

Course Description: Software requirements analysis and specification writing are sciences practiced by many, mastered by surprisingly few. And yet, the payoff from achieving excellence in these areas is large. The two aspects, software requirements analysis (capture and validation) and software requirements writing, producing a Software Requirements Specification in some form, are treated as separate but related topics in this workshop-oriented course.

The requirements analysis content addresses the techniques used to capture, validate and gain a complete understanding of software requirements communicated at all stages of the software life cycle, regardless of development strategy, for example, Agile, Team Software Process (TSP), Rational Unified Process (RUP), Incremental or Waterfall. The specification writing content addresses in detail the conversion of individual requirements information into effective requirements specifications. This content focuses on the language and structure of requirements specification.

The requirements analysis content provides highly effective tools for both the capture of software requirements, and for validation of those requirements, in any scenario involving the receipt of software requirements from one or more stakeholders who have a need. A workshop approach is used extensively in this module, to maximize learning and practical application. Effectiveness of the techniques, collectively comprising a complete methodology, is independent of the domain of application, and independent of the specifics of the need. These techniques have been widely used with great success.

The requirements writing content provides detailed instructions on the conversion of requirements into highly effective Software Requirements Specifications, in database or document form. Issues of structure (organization of information) and the use of language (English) throughout a requirements specification are examined in considerable detail. Public domain software specification standards are overviewed and compared. High quality templates/guides, with examples, are provided for the specification of systems, software, interfaces and services, respectively. The course is strongly activity-oriented throughout. The techniques of requirements writing that are taught have been used to great effect in scenarios that include software acquisition, supply, software product definition, business analysis, software development and embedded software in diverse engineering projects, large and small.

Click here for more information →

AI for Systems Engineering Workshop

Course Code: AI4SE (P2540)

Duration: 1 day (8-hour workshop) or 2 half-days

Delivery Format: Public delivery (Online), Corporate delivery (In-person or online)

Instructor: Mr John Fitch or Mr Francois Retief (subject to change)

Course Description: Artificial Intelligence (AI) — and in particular Large Language Models (LLMs) — are transforming knowledge work across industries, and systems engineering (SE) is no exception: requirements capture and validation, requirements authoring, architecting, subsystem requirements derivation, traceability, verification, and risk analysis can all be enhanced using AI, as can other key SE process areas. Yet for many practitioners, the challenge is not knowing where to start, how to separate hype from reality, and how to benefit from AI within systems engineering practice, whilst avoiding the pitfalls.

This one-day workshop addresses that challenge, introducing participants to the practical use of AI for systems engineering tasks. The workshop is anchored in the principles and the process framework of PPI's flagship five-day systems engineering course (SE5D), together with decades of experience in performing SE and training engineering professionals worldwide. The emphasis is on application: participants will explore where AI can add value, where it cannot, and how to utilize AI safely, responsibly, and effectively.

Prior participation in PPI's SE training is not needed, and learning from the workshop will also be easily transferable to SE implementations based on ISO/IEC/IEEE 15288, the INCOSE Systems Engineering Handbook, or the Systems Engineering Body of Knowledge (SEBoK).

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INCOSE SEP Exam Preparation Course (CTI)

Course Code: ISEP5D (C002)

Duration: 5-Days – 8 hours each day with multiple breaks

Delivery Format: Public delivery (Online), Corporate delivery (In-person or online)

Instructor: Mr Deva Henry, Mr Paul Davies or Mr Francois Retief (subject to change)

Course Description: This virtually delivered INCOSE SEP Exam Preparation Course combines a mixture of presentations, discussions, a variety of exercises, group work sessions, workshops and practice examinations to achieve a high degree of learning to pass the INCOSE SEP Knowledge Exam. The course is facilitated by a world-class, qualified, expert leader who is highly experienced and knowledgeable in all aspects of the SEP certification process.

The course utilizes a variety of adult learning techniques optimized for the type of content that needs to be mastered. 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 ISEP 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 communicated and understood 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 learning but also for future systems engineering developments.

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Other Courses

Systems Engineering Executive Overview

This briefing presents “The Business Case for Systems Engineering” and offers compelling evidence of the high return on investment available through adoption of a systems engineering approach.

Learn More

Introduction to Requirements Analysis

This short Requirements Analysis course addresses highly effective tools for both the capture of requirements, and for validation of those requirements, in any scenario involving the receipt of requirements from one or more stakeholders who have a need.

Learn More

Preparing Great Requirements Specifications

This one-day specification writing course addresses the conversion of individual requirements into effective requirements specifications.

Learn More

Requirements Engineering (English Second Language)

This course covers requirements management, requirements analysis (capture and validation) and specification writing. A workshop approach is used extensively in the course, to maximize learning and practical application.

Learn More

Architectural Design (3-Day)

This three-day course addresses principles and methods of designing, providing an integrated approach to technical design disciplines that improves requirements satisfaction, system effectiveness, project success, and reduces enterprise risk.

Learn More

A Systems Approach to Design (2-Day)

This two-day course addresses principles and methods of designing, integrating key design disciplines, methodologies, and technology knowledge to improve system effectiveness, support decision making, maximize opportunities, and reduce project risk.

Learn More