

ABOUT REQUIREMENTS EXPERTS

Requirements Experts (“RE”) has been providing facilitation, consultation, and training services to government agencies, private companies, and service organizations since 1990. RE’s core competency, honed over decades of experience, is in the development and management of requirements across all phases of the product development life cycle. We advocate techniques that provide pragmatic approaches to all requirement activities and also help those involved to understand the reasons behind each activity. Our approach makes it easy to add and adjust existing processes for improvements and to help people embrace the changes that organizations want to make.

Our practical, real-world requirement definition and management training solutions are enhanced by the strength of our trainers, all of whom bring to the classroom 28+ years of real experience in project management, requirements and other areas of system engineering and business analysis. We also learn from our students, over 25,000 of them, so that the concepts and approaches we teach remain relevant to today’s ever-changing project and product development challenges. The testament to RE’s ability to evolve and expand is reflected in our extensive and disparate customer base ranging from government to insurance companies, banking services, automotive, aerospace, oil and gas, medical devices, grocery chains, and consumer products.

Businesses and government organizations recognize Requirements Experts, Inc. as a leading provider of requirement definition and management training and consulting services for three reasons – our people, our experience and our creativity. For more than 28 years, RE has built that reputation by bringing to bear highly experienced resources and process management strength in developing and delivering practical requirement definition and management training solutions. RE success is predicated on the belief that trained personnel and a well-defined requirement management process are the two principal factors to realizing quality products.

1-DAY WRITING GOOD REQUIREMENTS – 7 PMI PDUs

This in-depth, 1-day course provides a firm foundation for writing your system’s requirements. The course presents the student with requirement best practices that will help your project team develop a winning product—one that delivers what is needed, when it is needed, within the projected costs, and with the expected quality.

Note: This course has been updated to reflect current best practices and approaches to requirement development, for today’s increasingly complex systems. Definitions, characteristics, rules for writing well-formed requirements and sets of requirements as well as attributes for requirements have been updated to reflect the latest version of the International Council of Systems Engineering (INCOSE) Guide for Writing Requirements of which our instructor, Lou Wheatcraft is a principle author.

As a result of completing this seminar, you will gain an understanding of the importance of requirements to a project’s success and how requirements fit within the system engineering lifecycle processes. You will appreciate that writing requirements is more than an exercise in writing; it’s an exercise in engineering.

You will learn how to write well-formed requirement statements and sets of requirements that are clear, correct, complete, consistent, needed, feasible, verifiable, and written at the correct level ensuring the right system is being built. Writing well-formed requirements with these characteristics help avoid problems that can lead to rework and potential cost and schedule overruns.

The course begins with a brief discussion on systems engineering specifically what a system is, levels of architecture and levels of requirements, and why requirements are critical to the success of your program or project. Participants are provided with definitions of what a requirement is and the characteristics of well-formed requirements and sets of requirements. Specific rules and examples are discussed that result the requirements and

sets of requirements having these characteristics. Next is a discussion on how to use requirement attributes (e.g., rationale, verification, priorities, risk, allocation, and traceability) to develop and better manage requirements. A The participants will learn a method of organizing their requirements based on categories of requirements in order to help ensure the requirement set is complete. This is followed by a discussion on interface requirements. The participants will participate in group exercises that will aid in their understanding and application of the concepts covered.

DELIVERY METHODS AND MATERIALS

Lectures, discussion, and individual and small-group learning exercises help the student learn how to develop and manage requirements. Writing exercises and peer reviews reinforce and expand learning. Class materials provided include:

- a) An electronic version of the student workbook containing a copy of all slides presented in the course.
- b) Supplemental information to the topics that were presented in the class in electronic format.

SEMINAR OBJECTIVES

Students develop skills that enable them to:

- **Systems Engineering**
 - Explain what a system is
 - Be able to define what is meant by system of interest and enabling systems.
 - Understand levels in terms of organization, system architecture, and detail
 - Understand the iterative nature of requirement development
 - Explain the difference between requirement verification and validation, design verification and validation, and system verification and validation.
 - Understand the role requirements play throughout the system life cycle activities
 - Explain why requirements are critical the success of a program/project
 - Explain the consequences of poor requirements
 - List the benefits of well-written requirements
 - Understand the reasons why there are poorly-formed requirements
- **Writing Good Requirements**
 - Define what a requirement is
 - List the characteristics of well-formed requirements and sets of requirements
 - Learn the rules for writing well-formed requirements and sets of requirements
 - Demonstrate their ability to write well-formed requirement statements
 - Explain the benefits of documenting and managing requirement attributes (rationale, verification, priorities, risk, allocation, traceability) Describe how requirements are organized and documented
 - Identify the benefits of developing templates to document sets of requirements
 - Identify categories of requirements (functional/performance, operational, -ilities, design and construction standards, regulations, and physical characteristics
 - Understand how to identify and define interfaces and write interface requirements.

SEMINAR OUTLINE

Day 1

– Systems Engineering

- What is a system? System of Interest? Enabling Systems?
- Levels
- Why Requirements?
 - How requirements fit in the product development lifecycle
 - Risk & requirements

- Consequences of poor requirements
- Benefits of good requirements
- Why poor requirements?

– **Writing Requirements**

- What is a Requirement?
- Characteristics of well-formed requirement statements
- Document Requirement Attributes
- Organizing Requirements
- Categories of Requirements
- Interface Requirements
- Wrap up

Prerequisites:

There are no specific prerequisites for this course.