



In partnership with



# "IREB Requirements Engineering Certification Training"

Mastering Requirements Engineering | IREB Certification Training

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## 1. Non Disclosure of the Information

The information and data contained on all pages of this document prepared by Visure Solutions, Inc, constitute trade secrets or confidential and proprietary information of technical and commercial nature.

This document in its entirety and its annexes or others that may be added in the future are confidential. The recipient will not disclose by any means the information contained in it that has not been disclosed publicly by Visure Solutions. This obligation applies to any person in the service of the recipient having access thereto, and staff linked directly to the company or subcontractor personnel or external consultants.

## 2. Introduction

This document provides information on the Official Course for Preparation for the Certified Professional for Requirements Engineering (CPRE) by the International Requirements Engineering Board Certification (IREB), according to version 2.2, valid since 1 March 2015.

## 3. Visure Solutions' Experience

Visure Solutions, a leading provider of requirements management tools, offers robust solutions to help organizations efficiently manage their requirements processes. Our flagship product, Visure Requirements, is an ALM platform that supports all development lifecycle stages, including requirements management, traceability, risk management, test management, certification, bug tracking, impact analysis, baselining, reporting, and compliance management (ISO 26262, IEC 62304, IEC 61508, CENELEC 50128, DO-178C, DO-254, FMEA, SPICE, CMMI, etc.). This ensures the highest quality in designing safe, compliant products.

Visure Solutions has extensive experience working with organizations of various sizes across multiple industries. Visure brings a mix of innovative technology and market expertise to allow customers to leverage deep domain expertise in Project Development and Product delivery. Visure success is best described by the endorsement of hundreds of global leading organizations and over 30,000 users who rely daily on Visure platform which has evolved and matured over 18 years of deployment and usage.

Visure Solutions has an agreement with the International Requirements Engineering Board (IREB) certifying us as official IREB trainers. This certification allows Visure to deliver CPRE (Certified Professional for Requirements Engineering) Foundation Level (Level 1) training, specifically in North American regions. Visure's trainers, certified by IREB, ensure high-quality training that aligns with global best practices. This training prepares participants for the CPRE Foundation Level exam, enhancing their skills in requirements engineering and helping them achieve a recognized certification to advance their careers.

## 4. Contents of the Course

### 4.1. Description of the Course

Requirements Engineering has become the main factor of success of the projects, which must be conducted in a complex business and technical environment.

The goal of Requirements Engineering is not only documenting requirements, but to acquire knowledge in the areas of information gathering, well structured specification, traceability, review and change management, among other aspects covered in the course.

The course content is based on the official syllabus of the "Certified Professional for Requirements Engineering, Foundation Level". The focus is to acquire a practical knowledge of the concepts and methods of Requirements Engineering. Participants will learn best practices that apply equally to any domain. It takes a strong emphasis on applying, through practical exercises, thoroughly tested methods for the development, documentation and validation of requirements.

### 4.2. Course Objectives

The main objective of the course is to prepare candidates for the International Certification IREB. Additionally, after the course, participants will have gained a comprehensive understanding of requirements engineering, and the role of this discipline in the project's lifecycle.

Students learn to develop, analyze, specify, build, document, validate and manage requirements. Attendees will also become familiar with the main methods for each of the activities, and acquire the criterion to select the best approach for a particular project.

### 4.3. Pre-requisites

This course has a very practical approach, with exercises oriented towards the certification exam. The theoretical aspects will be discussed only briefly as an introduction. Therefore, to a good use of the course, attendees must meet the following prerequisites:

- Knowledge of the fundamentals of Requirements Engineering.
- Basic knowledge of Software Engineering:
  - Lifecycle model, what is a lifecycle and the different types of lifecycles.
  - Phases in a cascading lifecycle (requirements, analysis, design, construction and testing), objectives of each one and software products that result from each.
- Knowledge of UML (means to interpret the various UML diagrams, since there is a specific module for interpreting UML models analyzed in the review).

### 4.4. Who is it for?

Systems Engineers, Software Engineers, Analysts, IT Architects, Project Managers, Managers and Test teams. Especially recommended for those who have been certified ISTQB, to complete the requirements for certification QAMP.

#### 4.5. Course Language

The course will be taught in English, with material in English.

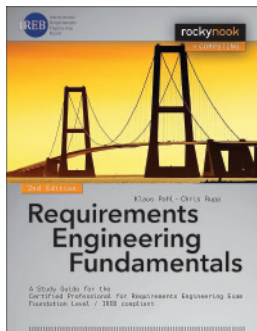
#### 4.6. Duration

The course will be taught in three days, 8 hours each (24 hours total).

#### 4.7. Course Material

Each student will receive a course manual, which has been previously reviewed and approved by the IREB as official preparation material for the IREB certification exam.

Additionally, Visure includes in the price a copy of the official test preparation IREB book, edited by the authors, which will allow students to have additional material and examples to prepare the exam.



#### Requirements Engineering Fundamentals

1st Edition

Klaus Pohl, Chris Rupp

Rocky Nook Inc. (April 2011)

English 192 Pages

Paperback

ISBN - 13: 978-1933952819

Conform to the CPRE Foundation Level Syllabus 2.1

#### 4.8. Certification

Students wishing to take the certification, must complete a registration form to the test, and each must pay individual fees for the exam.

- o students who have received the training course: \$ 450
- o students who have not received the training course: \$ 750

Visure offers as part of the registration fee for the examination, personalized sessions before the exam, in order to answer any questions that students may have.

In the event that the attendees want to perform the test immediately after the course, Visure will send with sufficient time student handbooks so that they can begin to prepare for the exam prior to the course and they can answer any questions during the course of it.

Visure recommends that the exam takes place between 1 and 3 weeks after the course. In this way, students will have the time to prepare for the exam and use personalized sessions.

Visure can organize a certification in the client's office provided there is a minimum of 10 students who want to be certified.

In the event that there are less than 10 students who want to be certified, they may make online certification prior request to Visure Solutions.

## 4.9. Syllabus

- Introduction and Foundations
  - o Term explanation
  - o Knowing symptoms of and reasons for inadequate RE
  - o Knowing the major activities of RE
  - o Knowing the role of communication in RE
  - o Knowing skills of a requirements engineer
- System, System Context, System Boundary and Context Boundary
- Requirement Types and Description
  - o Knowing the different kinds of requirements
  - o Behaviour requirements
  - o Data/information requirements
  - o Non functional requirements
  - o Interface requirements
  - o Quality requirements
- Requirements Elicitation
  - o Requirement sources
  - o Requirements categorization according to the Kano model
  - o Stakeholders
  - o Elicitation techniques
- Requirements Documentation and Specification
  - o Document design
  - o Documentation types
  - o Document structures
  - o Use of requirements documents
  - o Quality criteria for the requirements documents
  - o Glossary
  - o Requirements documentation techniques
  - o Requirements specification using natural language
  - o Use of requirement templates
- Model-based Documentation of Requirements
  - o The term “Model”
  - o Goal models
  - o Use cases
  - o Requirements modeling in the data perspective
  - o Requirements modeling in the functional perspective
  - o Requirements modeling in the behavioural perspective
- Requirements Validation and Negotiation
  - o Requirements negotiation
  - o Fit Criteria
  - o Quality Criteria
  - o Quality aspects for requirements
  - o Requirements validation techniques
- Requirements Management
  - o Managing identifiers for requirements
  - o Assigning attributes to requirements
  - o Views on requirements

- o Requirements traceability
- o Prioritising requirements
- o Versioning of requirements
- o Configuration management of requirements
- o Change management of requirements

#### ■ Best Practices and Tools

- o How can tools support to Requirements Engineering?
- o Which tasks are supported?
- o How to evaluate tools
- o Best practices

## 4.10. Additional Information

### 4.10.1. What is IREB?

The International Requirements Engineering Board (IREB) is an international organization that aims to professionalize Requirements Engineering as a key discipline in Software and Systems Engineering.

For this, the IREB has created a professional certification program at three levels (Foundation, Advanced, Expert) equivalent to the ISTQB certification in the area of testing.

The content of the certification program (syllabus) has been designed by the top experts in the field of Requirements Engineering.

### 4.10.2. Why is it important for your career and your organization this certification?

More than 3800 professionals worldwide are certified in IREB Foundation. The possession of this certification is currently the only official way to demonstrate the experience and knowledge in Requirements Engineering. Since its inception, many companies have begun to require their suppliers this certificate, which is a key differentiator in an increasingly competitive market. The certificate has international value.

Additionally, many organizations have certified the knowledge of their professionals, to get better results in a discipline that has proven key to reducing rework, increase customer satisfaction by delivering higher quality products, better manage their suppliers and ensure success of their projects meeting the cost and time estimates.

Finally, note that IREB certification, as ISQTB certification is one of the four steps required for certification QAMP (Quality Assurance Management Professional - <http://www.qamp.org/>) so that it especially recommended for those who have already been certified by ISQTB.

### 4.10.3. What are the objectives of each level of the IREB certification?

#### Foundation Level

The objective of this level is to convey the importance of requirements engineering and learn the terminology, techniques, methods, practices and activities related to this discipline, regardless of the industry to which the candidate belongs.

By obtaining this level of certification, it is possible to determine whether a given situation is relevant in Requirements Engineering or not, and it is possible to identify which approach and methodology is the most

appropriate to solve it. For example, individuals certified at this level are able to decide whether to use a textual or graphical description of a requirement, select technical documentation and / or capture, define validation procedures, apply mature requirements management techniques, etc ...

Below is a list of the priorities of this level of certification:

- Acquire practical knowledge necessary for success in the discipline of Requirement Engineering, through exercises specially designed to show the most common problems of this discipline.
- Transmit the fundamental concepts of requirements engineering that are equally valid for any domain or industry, and independently of the development methodology and processes used.
- Show methods, techniques and practices in mature and proven Requirements Engineering.

### Advanced Level

The advanced level (recently released) enables to design a Requirements Engineering process, selecting the methods, processes and most suitable types of documentation, depending on the context of the organizations or projects.

This level offers specialization modules, each focused on a problem, activity, or process control. The modules defined for this level are:

- Requirements Capture
- Requirements Management
- Definition of Requirements Engineering Processes
- Delta Requirements Specification
- Verbalize Textual Requirements

Foundation level is required to choose this level.

### Expert Level

The expert level (under definition) certifies expertise in certain domains or methods. To access this level of certification, you must be certified in 3 or more Advanced level modules.

#### 4.10.4. Do I need to get the course to take the exam?

There is no need for any course to perform the IREB certification exam. However, Visure recommends to take part in the preparation for the certification course, since the course covers all aspects of the scope of certification (syllabus), and aims to prepare the student for the exam.

Additionally, Visure provides through its certified teachers sessions during the week prior to certification, to answer any questions that the candidate may have before taking the exam.



#### 4.10.5. What does the exam consist of?

The certification exam at the Foundation level lasts 75 minutes and consists of a test with 45 multiple choice questions. There are questions of different difficulty and therefore weighting in the final result. To pass the exam, the candidate must obtain more than 60% of the maximum score. The certifying authority notifies the candidate the result of the written examination and, if successful, it sends the certificate to the corresponding provided address.

To perform the test it is necessary to present an ID or passport.

#### 4.10.6. What is the validity period of the certificate?

The Foundation level certification does not expire.

#### 4.10.7. What is the certification body chosen by Visure Solutions?

The certifying entity with which Visure Solutions has reached an agreement is the International Software Quality Institute (iSQI - <http://www.isqi.org>).

#### 4.10.8. More information

For more information, please visit <http://www.ireb.org/>

### 4.11. Special Considerations

- The course will be held at the customer offices. The logistics and infrastructure (room, projector, etc.) shall be provided by the customer.
- Students do not require any specific computer or electronic support.
- Courses will be taught by a teacher certified by the IREB.
- For the teacher, a projector and whiteboard will be required.
- We recommend having a classroom in "U" organization.
- The maximum number of course participants, according the requirements of the IREB, will be 10 people.

All course participants will receive an official certificate of assistance issued by Visure Solutions' Professional Services Department.



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