



Certified Scope Manager (CSM) based on northernSCOPE™

Training Brochure

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1 Certified Scope Manager (CSM) training

1.1 CSM Certificate Training, 4 days total

The 4 day CSM training consists of four, one-day workshops plus a one-day CSM examination. Each of the four days is independent of the other, but taking the workshop days in the order that they are presented is highly recommended, because the contents are tailored to follow the 12 steps of the NorthernSCOPE™ concept starting with day 1. If a scope manager candidate is unable to attend all four days in a single session, they can split the training across 2 or even 3 sessions of local training, (which should typically take place in every three or four months).

1.1.1 Program management (Scope Manager Engagement & Program Scoping), 1 day

What is a Scope Manager? This one day workshop introduces the Job Role of a Certified Scope Manager, as it is defined on the European Certificate Association's skills card. The technical and ethical questions related to a Scope Manager consulting contract are also discussed. The second half of this training day introduces the Program Management Toolkit, which is a useful combination of program management tested theories and best practices presented as both a book and a set of practical Microsoft® Excel-based templates and tools. All participants receive a copy of the *Program Management Toolkit for software and systems development* – book and the related CD. The two most critical components of this knowledge transfer include: 1. How to split a large development program into manageable and measurable projects and sub-projects? and 2. Which methods, standards, and best practices can a scope manager introduce to ensure a successful ICT project execution? This workshop covers steps 1-3 of the 12-step northernSCOPE™ concepts.

1.1.2 Project Scope Definition and Early Estimation Techniques, 1 day

This one day workshop addresses the topics of: how and what is program and project scope, how to baseline project scope, and perform a preliminary functional sizing estimate of the outcome of the project. In addition, the following questions will be answered:



- How to advise the customer or software acquirer that an estimated size is reasonable, and how to convert such sizing estimates into realistic effort estimates that will deliver a product or service that will meet the user(s) expectations?
- What are the characteristics to ensure that a set of functional, non-functional, and technical requirements is adequate for inclusion in an RFP and to initiate sensible discussions with potential supplier started?
- What are the components to develop one or more solid request(s) for proposal (RFP)? What other aspects of software intensive systems development shall be specified in any resultant project contracts?

A Certified Scope Manager (CSM) must possess knowledge and experience about these issues. To facilitate the preliminary size estimation of the customer needs before requirements are developed, the scope manager will learn how and when to use different "Shortcut methods" to functional size measurement. In addition, this workshop day will teach scope managers how to evaluate and quantify the impact of project circumstances and environmental factors through the use of the ND21 Situation Analysis method, and how it differs from alternatives such as the COCOMO II evaluation or the IFPUG Value Adjustment Factor.

These shortcut methods are part of the *ISBSG Practical Project Estimation, 2nd Edition* book, which all participants will receive. This workshop covers steps 4-7 of the 12-step northernSCOPE™ concept.

1.1.3 Effective project execution, collaboration, and progress reporting - 1 day

This workshop covers the following important scope manager concepts:

- Product requirements artifacts for documentation, scope baseline, and negotiating change
- Baseline 0: assessing functional & quality user requirements, technical requirements
- Quantitative change management and control
- Updating the baseline
- Monitoring & control of non-functional changes
- Earned value reporting based on incremental functional size delivery
- Progress reporting the northernSCOPE™ way



This workshop covers steps 9-10 of the 12-step northernSCOPE™ concept.

1.1.4 Scope Managers Tool Kit – 1 day

Includes a full copy of Experience® Pro software with all functionality.

- Automated and manual support for SCOPE Managers
- Experience® PRO software for SCOPE Managers
- SCOPE manager templates, checklists and facilitation aids
- northernSCOPE™ processes – Step by step tool support
- Role of Experience® data quality
- Reports, interfaces, and customer communication
- Closing a project, a program, and data collection
- Updating the Experience® database(s)

This workshop covers steps 11-12 of the 12-step northernSCOPE™ concept

1.2 SCOPE Management Review & Certified Scope Manager Exam, 1 day

This final workshop day follows the protocols and standardized examination procedure as set out by the European Certificates Association:

- 4 hour CSM certification exam

Additionally, scope manager candidates learn about the support structure worldwide to provide ongoing assistance and tools to the professional scope manager:

- northernSCOPE™ worldwide scope management network
- Effective sustainable change on a global basis:
 - Cultural and team dynamics
 - Organizational process maturity, PI Map, critical PI success factors (POWER, Willman)



NOTE: The following pre-requisite modules are only necessary IF a professional lacks basic project management, requirements analysis, functional size measurement or/other knowledge that ensures CSM success.

2 Pre-requisite modules, 4 days total

These workshops constitute additional four-days and provide pre-requisite knowledge transfer that a Scope Manager needs prior to the Certified Scope Manager training. This part of the training is optional in order to leverage the various levels of prior experience and education of candidate Scope Managers. Potential scope managers are typically IT-savvy professionals whose backgrounds may vary widely. They may be experienced business analysts, with no knowledge about project management methods or Functional Size Measurement, while others may be Project Management Professionals (PMP's) or experienced metrics specialists. This pre-requisite training consists of three modules, (2days + 1 day + 1 day).

Note that this 4 day pre-requisite set of workshops may increase in the future, if it appears that Scope Managers are in need of additional base level knowledge of the program management of software intensive systems. For example, there has been discussion about expanding the pre-requisite knowledge to include an introduction to CMMI and other international process improvement maturity models, earned value management, and other emerging concepts for those who have not been previously exposed to those important concepts.

2.1.1 ISO Conformant FSM methods, 2 days

This workshop addresses the concepts and principles of Functional Size Measurement based on ISO/IEC 14143-1 Definition of Concepts framework standard and the five ISO conformant instances of Functional Size Measurement Methods. Since the publication of the framework standard, functional size has emerged as an even more important factor in outsourcing performance measurement, sub-contracting and public tendering of software development or maintenance. More and more often, the customer organization selects the standard sizing method, and a scope manager must be capable and knowledgeable to provide customer organizations with sage advice in these issues. Participants will be exposed to the similarities and differences between the approaches of each of the five methods: COSMIC, FiSMA, IFPUG, Mk 2 and NESMA. After an exposure to the theories and application of the methods, participants will gain practice in all five methods using a common case study applied to all of the methods. At the end of this workshop, students will understand the role of functional size measurement in



software intensive systems development and how its consistent application is critical to success with scope management.

2.1.2 Project Management Standards, 1 day

This is a comprehensive introduction to the most important internationally accepted project management standards including the Project management body of knowledge (PMBOK® Guide) of the Project Management Institute (PMI), the International Project Management Association (IPMA), ISO standards and others. This pre-requisite knowledge is essential for the scope manager to provide guidance to customers and software acquisition managers, as well as to support the project manager(s) through the performance of the critical project management process areas. An objective scope manager must be well versed in the strengths and weaknesses of each alternative PM standard and provide guidance to the various parties to the development program and projects. This comprehensive day outlines and introduces the most important standards bodies, basic terms, structures and concepts of the PMBOK® Guide, ISO 10006, ISO 16326, and Prince2, and their relationship to scope management.

2.1.3 Requirements Elicitation and management, 1 day

Scope management success begins with an examination of preliminary customer requirements, their inclusion in an RFP, and subsequent development and sizing. It is critical for a scope manager to understand the requirements elicitation and management processes, their evolution into design and development of software, and subsequent requirements changes that affect the program and project scope. Understanding the requirements correctly, managing the proposed changes properly, documenting the functional and non-functional requirements well enough, and understanding the real customer needs thoroughly, are among the most important factors of successful collaborative software and systems development. Through this workshop, the scope manager will learn how to develop and evaluate the quality of requirements, and advise the customer organization to explore the various facets of functional and non-functional user requirements for software intensive systems development.

This workshop will present a common framework for requirements management, and the most importantly, best practice techniques for requirements elicitation and problem solving. Effective use of business use cases and scenarios, in addition to the best practices of drawing process and context diagrams for managing and measuring the functional and non-functional requirements. Product quality standards, ISO/IEC 9126 and the new SQUARE, ISO/IEC 25000 family of standards will also be introduced. Learning is supported by useful templates, models and practical exercises.