



Project Scope Management

A 2-Day Course

Controlling Scope on Complex Projects Reduces Both Cost and Schedule

Scope issues are everywhere on today's complex projects. Over 50% of development project failures occur due to problems with scope control. (Incomplete requirements, lack of user involvement, unrealistic expectations, etc.) The technical scope of a system development project defines the expected and desired results. At the outset of a project, most participants believe that they understand the scope. Yet as the project proceeds, that understanding becomes confused by outside changes, new ideas, and re-interpretations. In every such confusion lie the seeds of cost and schedule over-runs.



This course provides detailed, useful techniques to define and manage the scope of complex system projects. Included is an entire day on development of detailed project plans in the form of network schedules.

You should attend this course if you are:

- A leader or a key member of a complex project team
- Concerned about controlling the project scope
- Seeking methods to bound technical choices
- Looking for practical methods to use today

The course is aimed at

- Program managers,
- Project managers,
- Systems engineers,
- Technical team leaders,
- Logistic support leaders, and
- Others who participate in defining and developing complex systems.

Practice on a realistic project. Define scope; create a Work Breakdown Structure; develop a project network schedule; handle contract changes.

The *Submarine Explorer* case study lets you practice the skills in the course. This realistic project involves the creation of challenging robotic submarines for exploration of marine environments, along with the complex communications and control facilities to manage them.

Topics Covered in the Course

Introduction – Concepts of integration and scope management. Expectations for what to achieve. Terms and definitions. Roles of a project leader in relation to integration and scope control.

- Definitions of project success
- The many faces of failure

Scope Definition – How to define a workable project scope, from the viewpoints of both acquirer and supplier. Levels of contract definition.

- Scope definition in operational terms: Objective Function

- Project planning to bound scope
- Top-level scope definition
 - Statement of Work
 - Project Specifications



- Milestone Schedules
- Performance-based specification
- *Submarine Explorer Case Study* – Scope Definition

Scope Management – High-level techniques to manage scope. Dealing with management and customer expectations.

- Predicting project success
- Managing the team image of scope
- Project sponsors and stakeholders
- Managing expectations

Project Planning – Detailed project planning as a means to define and control scope. Creation of a workable project plan in the form of network schedules. Challenges in cost estimation.

- Work Breakdown Structures
- *Submarine Explorer Case Study* – Work Breakdown Structure
- Project planning graphics
- Network scheduling techniques
 - Network fundamentals
 - PERT/CPM network methods
 - Dependencies, slack time, lag, calculations
- Workload and resources
- Probabilistic time estimates
- Crash times, costs
- Estimating strategies
- Estimation pitfalls
- Low bidders and high risk projects
- *Submarine Explorer Case Study* – Project planning

Scope Control – Managing to the detailed plan in the face of constant change. Tracking and control to know when problems exist. Change control methods.

- Scope control during execution
- Continuous verification methods
- Technical Performance Measurement
- Earned value management
- Critical chain management
- Change control
- *Submarine Explorer Case Study* – Change management

The Presenter:

Mr. Eric Honour has been in international leadership of the engineering of systems for over a dozen years, part of a 39-year career of complex systems development and operation. His energetic and informative presentation style actively involves class participants. He was the founding Chair of the INCOSE (International Council on Systems Engineering) Technical Board in 1994, was elected to INCOSE President for 1997, and served as Director of the Systems Engineering Center of Excellence (SECOE). He was selected in 2000 for Who's Who in Science and Technology and in 2004 as an INCOSE Founder. He is on the editorial board for *Systems Engineering*. He has been a systems engineer, engineering manager, and program manager at Harris Information Systems, E-Systems Melpar, and Singer Link, preceded by nine years as a US Naval Officer flying P-3 aircraft. He has led or contributed to the development of 17 major systems. Mr. Honour now heads Honourcode, Inc., a consulting firm offering effective methods in the development of system products. Mr. Honour has a BSSE (Systems Engineering) from the US Naval Academy, MSEE from the Naval Postgraduate School, and is a doctoral candidate at the University of South Australia.

