



## Get Back to the A-B-Cs of Software Management with the 2003 STSC Seminar Series

For the third year, the Air Force's Software Technology Support Center (STSC) is offering a series of informative software-related seminars in a workshop environment. This year's series will focus on some of the fundamentals of software management in acquisition and development programs – a Back to Basics.

The 2003 STSC seminar series will include these topics:

January 14-16	Life-Cycle Software Project Management	Hill AFB Vicinity
February 18-20	Life-Cycle Software Project Management	Hanscom AFB Vicinity
March 11-13	The Requirement for Good Requirements	Hill AFB Vicinity
April 22-24	The Requirement for Good Requirements	Hanscom AFB Vicinity
May 13-15	Software Schedule and Cost Estimation	Hill AFB Vicinity
June 17-19	Introduction to CMMI	Hanscom AFB Vicinity
July 15-17	Introduction to CMMI	Hill AFB Vicinity
August 19-21	The Risks of Not Being Risk Conscious: Software Risk Management Basics	Hill AFB Vicinity
September 16-18	Software Quality Assurance	Hill AFB Vicinity
October 14-16	Why Is Buying Software So Difficult?	Hill AFB Vicinity
November 18-19	Bringing It All Together for the Software Manager (Software Best Practices: An Executive's Perspective)	Hill AFB Vicinity

Senior managers, project managers, project leads, and projects team members would all benefit from these seminars that are FREE to U.S. government employees; however, seating is limited. So act quickly.

### Seminar Highlights

#### Life-Cycle Software Project Management

"We will be able to put some type of standardization and consistency in place."

You hear it all the time: another software development effort is over cost and the due date long since past. Unfortunately, this has become the norm rather than the exception. But why? Is it because we don't know how to manage software projects properly? Or is it because we don't properly implement what we know?

Good Project Management is the key to a successful project. Project Management for software projects begins when a system is initially being considered and continues until the last operating system is shut down. During this life cycle, several areas must be addressed.

The purpose of the *Life-Cycle Software Project Management* seminar is to provide project management instruction to those who don't know how to manage software projects, and to provide encouragement to implement proper software project management techniques to those who do know how to manage software projects. This seminar addresses project initiation, the many

aspects of project planning, project monitoring and control through project closeout and lessons learned.

#### The Requirement for Good Requirements

It is a widely accepted premise that requirements are the foundation upon which entire systems are developed. It is also widely accepted that the various requirements activities are often not accomplished in an attempt to get systems completed faster. This often results in hours of rework, correction, and ultimately having to settle for a system that lacks the required functionality.

The seminar, *The Requirement For Good Requirements*, covers the fundamentals of requirements engineering, analysis, elicitation, documentation, and verification and validation. This seminar will focus on getting requirements right the first time. The seminar will include training in theory and applicability of all requirements activities. It will also include planned exercises to help participants solidify the concepts taught. Additional reading materials will be provided to highlight key topics that correspond to seminar materials.

For additional information about these seminars, visit our Web site at [www.stsc.hill.af.mil](http://www.stsc.hill.af.mil).

**SPACE IS LIMITED.** To reserve your place at any of these seminars, contact Debra Ascuena at 801-775-5778 (DSN 775-5778) or [debra.ascuena@hill.af.mil](mailto:debra.ascuena@hill.af.mil).

## Software Schedule and Cost Estimation

One of the most dominant and serious complaints arising from the "software crisis" is the inability to estimate with acceptable accuracy the cost, resources, and schedule required for software development. Traditional intuitive estimation methods have consistently produced optimistic results that contribute to the too familiar cost overrun and schedule slippage.

The rapidly increasing cost of software has led customers for these products to become less willing to tolerate the uncertainty and losses associated with inaccurate cost and schedule estimates unless the developer is willing to accept a significant portion of that risk. This customer pressure emphasizes the need to use an estimation method that can be applied early in the software development where trade-off studies and investment decisions are made. The estimation method must be able to consider the characteristics of the development organization and the environmental effects imposed by the development task, as well as the application size and complexity, in order to support reasonable estimates.

The seminar, *Software Schedule and Cost Estimation*, addresses the fundamental concepts of estimating and controlling software developments, schedule, and costs. Means of early recognition of potential problems will be discussed. Exposure will be given to various estimation methods and approaches. Data collection and validation techniques to improve the estimation process will be presented and experience estimating the size and complexity of a software development task will be provided.

### Introduction to CMMI

This seminar is the *Introduction to CMMI* course that was developed by the Software Engineering Institute (SEI). This course is centered on the Capability Maturity Model (CMM®) Integration<sup>SM</sup> (a service mark of SEI). The model is intended to provide guidance for improving your organization's processes and your ability to manage the development, acquisition, and maintenance of products and services. CMMI places proven practices into a structure that helps your organization assess its organizational maturity and process area capability, establish priorities for improvement, and guide the implementation of these improvements.

This seminar will provide attendees with the following:

- CMMI overview.
- Engineering process maturity: CMMI principles.
- Capability levels and process areas of the CMMI Model Continuous Representation.
- Linking the process areas together.
- Interpreting CMMI.
- Application of CMMI.

## The Risks of Not Being Risk Conscious:

### Software Risk Management Basics

A recent insurance industry television advertisement portrays individuals parachuting, bungee jumping, and participating in other seemingly dangerous activities. The participants are then asked to drive on U.S. highways without insurance coverage. When presented with this situation, the individuals flee in fear. The risk associated with driving without insurance is considered too great.

We consistently see software programs/projects that blindly venture forward with little or no consideration for the risks that may be encountered along the way. Some of these projects face risks similar in magnitude to that portrayed in the insurance example. This lack of proper software risk management places numerous software projects at risk of failure.

The purpose of *The Risks of Not Being Risk Conscious: Software Risk Management Basics* seminar is to provide risk management instruction to those responsible for software projects. This seminar will educate attendees of the value and rationale for performing risk management. Participants will gain both theoretical and practical knowledge to assist them in properly identifying, analyzing, and mitigating program/project risks.

## Software Quality Assurance

We hear a lot today about quality with regard to products and services. Organizations undertake quality initiatives with the intent to improve customer satisfaction and thus increase revenues. It has been said that quality is that illusive characteristic that is hard to define, impossible to measure, yet easy to recognize.

The IEEE Handbook of Software Quality Assurance defines software quality assurance as the set of systematic activities providing evidence of the ability of the software process to produce a software product that is fit for use. A more fitting definition may be simply keeping the customer happy.

The seminar, *Software Quality Assurance*, addresses the fundamental concepts of quality assurance relative to software projects. This seminar defines software quality assurance and explores methods and means of assuring quality in the software development and acquisition processes.

## Why Is Buying Software So Difficult?

We buy things every day: gasoline, newspapers, shoes, and even something as common as canned beans. Acquiring products and services from others is a routine part of our daily lives. So why is buying software so much more difficult?

The seminar, *Why Is Buying Software So Difficult?*, addresses the fundamentals of software acquisition. During this seminar, we will point out the major differences between purchasing common, everyday items, and purchasing made-to-order software. We will discuss common pitfalls of software acquisition and actions that should be taken to avoid them. We will compare and contrast software acquisition with hardware acquisition. Additionally, we will discuss how acquisition reform has benefited (as well as in some cases hindered) the software acquisition process. Particular attention will be paid to recent changes in the Department of Defense 5000 series of regulations as they apply to software acquisition.

## Bringing It All Together for the Software Manager (Software Best Practices: An Executive's Perspective)

Numerous studies have been conducted documenting the value to organizations of embracing best practices. Without exception, these studies highlight the critical nature of executive or management support to the success of any software development effort.

This seminar was developed to educate executive level personnel as to their role in the successful execution of software engineering activities using industry best practices. Executives will be educated in best practices from a systems-thinking perspective, examining each life-cycle activity, critical success factors and measurements, the role of senior management, what to look for, and what to ask for to ensure the success of the organization and the program. Emphasis will be placed in key areas where management leadership, direction, and support are essential to success. An opportunity to collaborate with other executives facing the challenges associated with systems engineering will be provided. Additional reading materials will also be provided to highlight key topics that correspond to industry best practices.

"Excellent class — One of the best government-sponsored classes I have taken."

"Overall outstanding!"

"Very good course — more professional than any I've attended in the past few years."



Computer Resources  
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Software Technology  
Support Center

These seminars are being offered by the Air Force's Software Technology Support Center (STSC) and are being sponsored by the Air Force's Computer Resources Support Improvement Program (CRSIP). For information about these organizations and their services, please visit the STSC Web site at [www.stsc.hill.af.mil](http://www.stsc.hill.af.mil).