



## Applied Project Management for Space Systems

### Course Description:

A project is a temporary endeavor undertaken to create a unique product or service. Project Management is the application of knowledge, skills, tools, and techniques accomplished through five linked processes for initiating, planning, executing, controlling, and closing work to meet a set of defined requirements. This project-based module exposes students to tools and methodologies useful for the effective management of systems engineering and engineering management projects. This course presents the tools and techniques for project definition, work breakdown, estimating, resource planning, critical path development, scheduling, project monitoring and control, and scope management. Reinforcing these fundamentals in project management, the course will introduce advanced concepts in project management, and establish the building blocks for the management of complex systems.

### Course Objectives:

At the end of this course you will have the knowledge, tools and experience to enter any phase of the space mission life cycle and apply project management approaches to achieve practical results.

### Who Should Attend:

This course is of particular interest to systems engineers, project managers, integrated product team members, business managers, and contract administrators. People who are involved with any aspect of system and business analysis, design and development, mission capability and business process definition and architecting, and test and verification will find this module to be useful.

### Course Materials

Each participant will receive:

- A complete set of course notes with copies of all slides used in the presentations
- A copy of *Applied Project Management for Space Systems*
- TSTI Alumni status allowing on-line access to course materials and other resources

## Course Topics

- **Executive Overview** - Defining Project and Program Management; Roles of Leadership; Definition of Complex Space Systems
- **Bounding Project Scope** - Creating the Project Charter; Project Classification Frameworks
- **Leading and Managing the Project Team** - Management vs. Leadership; Team-Building and Conflict Resolution Techniques; Successful Motivation Practices; Communications
- **Work Breakdown and Organizational Structures** - Work Breakdown Structure; Organizational Structures; Selecting the Organizational Form; Complex Systems: Organizational Issues
- **Task Planning** - Introduction to Estimation; Time Estimates; Equipment Driven Activities; Labor-Driven Activities; Software Estimates
- **Project Network Modeling** - Introduction to Networks; Creating the Network; Determining the Critical Path; Gantt Charts; Fast-Tracking The Project Schedule
- **Project Management Software** - MS Project; Gantt Charts; Generating a Project Budget; Management Reserve/Contingency Funds; Budget Tips
- **Project Control** - Elements of Project Control; Earned Value Analysis; Change Control and Configuration Management
- **Project Quality Management** - Project Metrics; Calculate Performance Metrics; Quality Control; Quality Assurance
- **Contracting and Sub-contracting** - The PM's role for supplier and subcontractor management
- **Risk Management** - Risk Management Process; Identifying Risks; Qualitative and Quantitative Techniques; Risk Mitigation Evaluating, Project Closeout; Lessons Learned
- **Business Ethics** - The importance of ethics in the PM profession
- **Case Studies**
- **Hands-on Exercises**