



# Introduction to Project Management

## Course Prospectus:

- **Course Description**
- **Course Index (topics)**
- **Representative Slides from the Course**

**A course in the management of projects according to the Project Management Institute's methodology.**

Contact [Bill@BlackBoxPartners.com](mailto:Bill@BlackBoxPartners.com) for information on this course.

**Version 2.0**

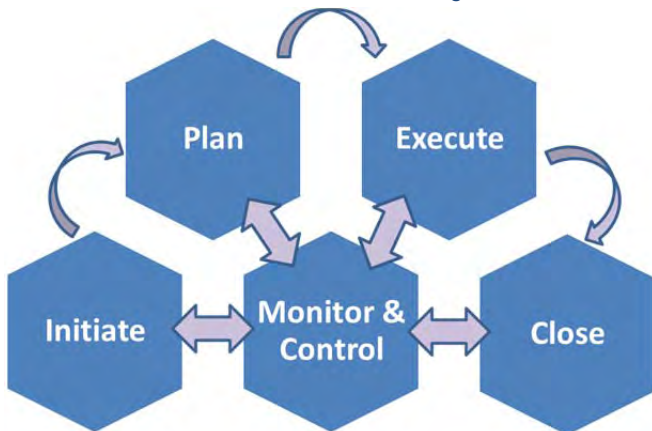


## BlackBox Migrations, LLC

BlackBox Migrations, LLC, doing business as BlackBox Partners, is a small business that delivers a breadth of technical solutions. The firm is a Service-Disabled Veteran-Owned Small Business (SDVOSB) dedicated to providing training and consulting to governmental and commercial clients.

BlackBox offers solutions that fit practical business needs:

- ◆ Training / Course Development
- ◆ Technical Project Management
- ◆ Database Services & Data Warehousing



## BlackBox Project Management Training

Organizations have a need keep skills in alignment with needed work processes. They must also develop their staff to work effectively with the people and processes that are essential to project success.

All training tasks require a strong model for understanding human interactions and development. BlackBox is a Registered Education Provider with the Project Management Institute (PMI®) and offers courses that are aligned with PMI methodology and processes. For people and communications classes BlackBox draws upon the research and paradigms of Myers-Briggs Type Indicator (MBTI®) in framing facilitated sessions and coaching relationships that leverage the natural strengths of the participants.

BlackBox offers a core set of courses in Project Management aligned with PMI® processes, techniques, and standards:

- Introduction to Project Management
- Advanced Risk Management
- Advanced Time & Cost

Training should be aligned with the work, processes, and templates of the host organization. BlackBox spends the time to meet students in their local industry context, using examples from the work of the participants.



## Introduction to Project Management:

Relying on the PMI's *PMBOK Guide*® processes, the Introduction to Project Management course teaches both experienced and prospective project managers the PMI's standard language, tools, and techniques used by hundreds of thousands of project managers worldwide.

### Organization of the Course:

The course is organized in order to follow the path of a normal project throughout its lifecycle, giving students real-world examples mixed with the established theories and practices for building a project plan and executing the work of a project:

- **Initiation**  
The tools and techniques of project initiation. With emphasis on the identification of stakeholders and the creation of a project charter.
- **Planning**  
The tools and techniques of project planning. With emphasis on estimating and creating the essential elements of a project plan building an understanding of Scope, Schedule, and Cost for the project. Additionally covers the other elements of the PMI's nine project management areas: Risk, Quality, Resources, Procurement, Communication, and Integration.
- **Executing**  
The tools and techniques of project execution. With emphasis on earned value management and change management.
- **Closing**  
The tools and techniques of project closing. With emphasis on gathering lessons learned and closing out the project properly.

The course includes lecture, individual exercises that teach the skills being taught, and group case studies that walk the student through the process of planning and executing a project.

For More Information Contact:  
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# Introduction to Project Management

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## Session 1

### Introduction

#### Personal Introduction

- Introducing You
- Why Project Management Education?
- Which Brings us to Me
- Where I have Lived
- States Where I Lived

#### Introduction to Project Management

- This Course
- Scope of the Course
- Objectives of the Course
- What Is Project Management?
- A Project
- Making Room for Project Management
- Other Constructs and How They Differ
- Rolling Stones as an example

#### Case Study 1: Programs and Projects

- The PMBOK® Guide
- Basic PMI® Metrics
- Venn Diagram of PM
- Why Project Management Education?
- PMI's 9 Project Knowledge Areas
- Definitions
- Key Artifacts of PM
- Processes
- Five Project Management Process Groups
- A Normal Project Lifecycle - IPEC
- Example Cycle of a Seismic Project

#### Exercise: Your Project Lifecycles

- Why Project Management in Oil & Gas?
- Major Oil & Gas Challenges

#### Discussion: What Skills Do PMs Need?

- This Unit: Introductions
- Key Learning Points

## Session 2

### Project Initiation

- This Unit
- Unit Objectives
- PMBOK® Guide 3.3  
Initiating Process Group
- Processes for Funding Projects
- The Business Case
- Reasons for Projects
- Net Present Value
- Payback Period
- Benefit/Cost Ratio
- What the Project Manager Presents

#### Exercise: Which Project to Choose?

- Business Case in a "Gate System"
- Stakeholder Analysis
- Example of a Stakeholder Scenario
- Unacknowledged Stakeholders – Sleeping Beauty
- Identify Stakeholders in the Org Chart
- Stakeholder Register

#### Case Study 2: Stakeholders

# Introduction to Project Management

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## Session 3

- Separate Wants & Needs
- Objectives
- Requirements
- The Project Charter
- The Use of Project Charters
- Project Charter Document
- Where We Are Now

*Discussion: Have All Your Projects Been Like this Unit Describes?*

- This Unit: Initiating Outputs
- Key Learning Points

## **Project Planning**

- This Unit
- Unit Objectives
- PMBOK® Guide 3.4  
Planning Process Group
- The Constraints
- The Project Management Plan
- A Word on Baselines

## **Work Breakdown Structure**

- Scope Management
- Deliverable
- Requirements Traceability Matrix
- Scope Processes Put Together
- Create the WBS

*Case Study 3: Create a WBS*

- Create WBS Dictionary
- Project Management Baselines

## Session 4

### **General Estimating Concepts and Techniques**

- Estimation is Iterative
- Definition of Estimates
- Estimating Basics
- PMI Funnel of Estimation
- Estimation on Global Projects
- Analogous Estimating
- Parametric Estimating
- Three-Point Estimates
- Three-Point Estimates – PERT
- PERT Project Example

*Exercise: PERT Estimation*

- Estimation Components

### **Estimating Time**

- Durations & Time
- Estimate Activity Durations - Checklist
- Precedence Diagramming Method
- Network Diagramming
- Network Diagram, ES, EF, LS, LF, Slack & Critical Path
- Critical Path Method

*Exercise: Network Diagram*

## Session 5

- The Four Relationships
- Four Relationships with Examples
- Network Diagram View in MS Project
- Develop Schedule
- Schedule – Gantt Chart
- Schedule Milestone Chart
- Estimate Time - Checklist
- Project Management Baselines

*Case Study 4: Estimate Time*

# Introduction to Project Management

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## Session 6

### Estimating Resources

- What are Resources?
- Documenting Resources
- Resource Leveling
- Resource Graph in MS Project
- Alternatives Analysis
- Estimate Resources - Checklist

### Estimating Costs

- Cost Terms
- Bottom-up Estimating
- Bottom-Up Estimating Process
- The Cumulative Cost Curve
- Determine Budget Outputs
- Estimate Costs - Checklist
- Project Management Baselines
- Project Management Plan Status

*Case Study 5: Estimate Resources and Costs*

## Session 7

### Risk Management

- What the Word Risk Means
- Is He Looking at a Risk?
- Risk Changes Over Time
- PMBOK® Guide Six Risk Processes
- The Risk Register
- Strategies for Negative Risks or Threats
- Strategies for Positive Risks or Opportunities

*Case Study 6: Identify and Qualitatively Analyze Risks*

## Session 8

### Quality Management

- Quality – Overarching Themes
- Cost of Quality
- Control Charts
- Benchmarking

*Case Study 7: Quality Testing Benchmarks*

## Session 9

### Health, Safety, & Environment

- Health, Safety, Environment
- General Safety Rules
- Safety Protective Equipment
- Environmental Enforcement (US)

### Completing the Binder

- Communication Methods
- Management Reports
- Information Distribution Methods
- The Communication Plan

*Case Study 8: Communications Plan*

## Session 10

- Change Control Management
- Change Control Plan
- Configuration Management Plan

### Contract Documentation

- Procurement
- Make-or-Buy Analysis
- Contract Types
- Proposal Evaluation Techniques
- What Goes in the Project Plan
- Project Management Plan Status
- Where We Are Now

*Discussion: Planning and Time*

- This Unit: Planning Outputs
- Key Learning Points

# Introduction to Project Management

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## Session 11

### **Project Execution**

- This Unit
- Unit Objectives
- PMBOK® Guide 3.5 Executing Process Group
- PMBOK® Guide 3.6 Monitoring & Controlling Process Group
- Definitions
- The Project Office
- The Project Manager's People Role
- Communication Preferences
- People Tricks
- Managing Project Execution
- Monitor & Controlling Project Work
- Variance Analysis
- Earned Value Management
- Forecasting the Future with EVM

*Discussion: Incorporating EVM*

*Exercise: Timmy's Doughnuts*

## Session 12

- Project Management Software
- What to Do When Variance Appears
- Schedule Compression
- Perform Change Control
- Risk Reassessment
- Risk Audits
- Watch for Risks
- Choose Simple Workarounds
- Fallback Positions
- Document and Report
- Project Communication
- Status Meetings
- Performance Reviews
- Reporting Systems
- Presentation Skills
- The Story – Pick a Theme
- The Story - Description
- Where We Are Now
- This Unit: Executing Outputs
- Key Learning Points

# Introduction to Project Management

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## Session 13

### **Project Closing**

- This Unit
- Unit Objectives
- PMBOK® Guide 3.7 Closing Process Group
- Closing a Project or Phase
- Signing Off on Deliverables
- Putting Resources Back in the System
- Closing Out with People
- Lessons Learned Meetings
- Closing Out Procurements
- Project Archives
- Where We Are Now
- This Unit: Closing Outputs
- Key Learning Points

## Session 15

### **Exam**

## Session 14

### **Course Closing/Review**

- This Unit
- Unit Objectives
- PMI's 9 Project Management Knowledge Areas
- Five Project Management Process Groups
- Why Project Management in Oil & Gas?
- Stakeholder Register
- Requirements Traceability Matrix
- Scope Processes Put Together
- PMI Funnel of Estimation
- Three-Point Estimates – PERT
- Network Diagramming
- Project Management Baselines
- PMBOK® Guide Six Risk Processes
- The Communication Plan
- Change Control Management
- The Project Manager's People Role
- Earned Value Management
- Presentation Skills
- Closing a Project or Phase
- Where We Are Now

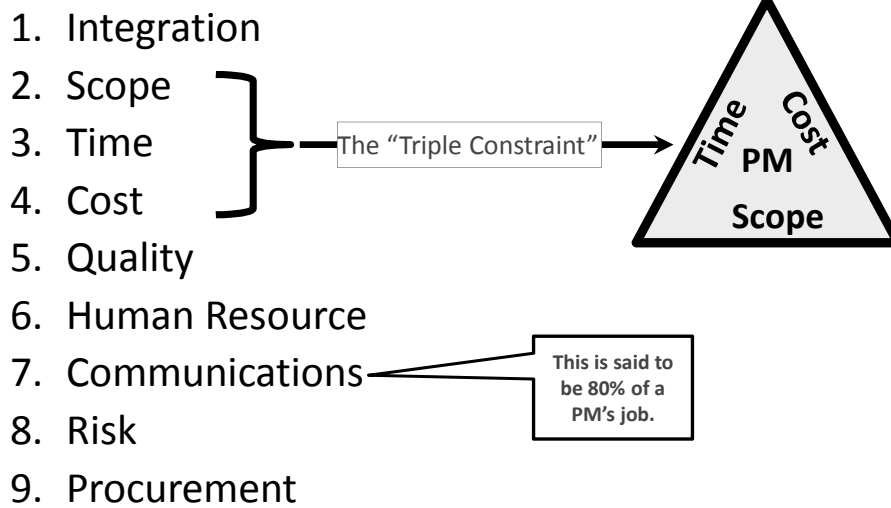


## Why Project Management Education?

- Individual Goals
  - Career Path & Salaries
  - To make projects predictable enough for project managers to take vacations or be promoted to other positions and projects
- Corporate Goals
  - Project management is a key competency of managers
    - Increasingly finding its way into MBA programs
  - Companies are requiring project management education
- Competition
  - Customers requesting certified project managers
  - The oil industry is increasingly requiring a structured, repeatable, process-oriented approach to its projects

21

## PMI's 9 Project Knowledge Areas



22



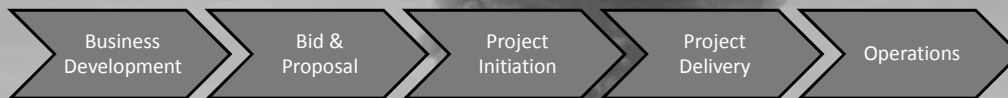
## Exercise: Your Project Lifecycles

- What lifecycle has your company used in the projects in which you have worked?
- Prepare a PowerPoint slide showing the lifecycle



29

## Why Project Management in Oil & Gas?



*Our Processes & Prices are nailed down here*

*So these Processes had better be repeatable and predictable*

**The ... project [was] over budget and behind schedule by April 20, the day the well erupted, destroying the Deepwater Horizon rig and killing 11 men.**

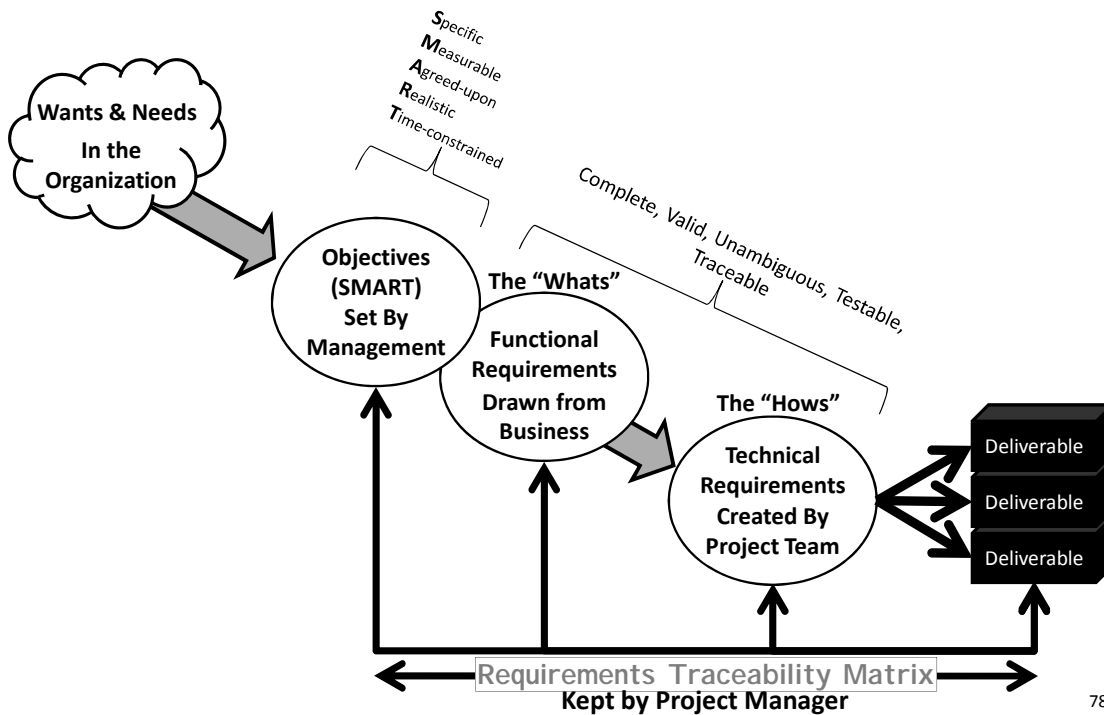
30

# Requirements Traceability Matrix

- A document, spreadsheet, or electronic tool that is created to track each requirement from its source to its acceptance by the customer to the project.
- Ensures that no requirement is forgotten

Learning & Development Functional Requirements Traceability Matrix									
Output ID	Source	Output Name	Output Description	Notes	LD #	Functional Description	Owner	Assign	Verify
JA_EE14	JA ReqChart Act Req	Checklist of materials for the simulator to update. Update global simulation scenarios definition. Communicate constraints to relevant program across all refinements.	This is the approval of changes for the Localization program. Continuous improvement program will be developed by L&D team. It needs to be communicated across all refinements and supported by management.		LD-0011	Checklist of Material to update when updating simulation scenarios. Simulation Standards.			
JA_AT_F09	JA Req	Simulator model documentation	Provide an ability to document within the simulator code itself on the development tool changes made to the simulator model (e.g. adjusting a pump curve) for traceability. Audience here is the simulation engineer developer, not the ground training group.		LD-0092	Simulation Software Selection Criteria - Simulation Model Change logging capability	IT		

# Scope Processes Put Together



## Bottom-Up Estimating Process

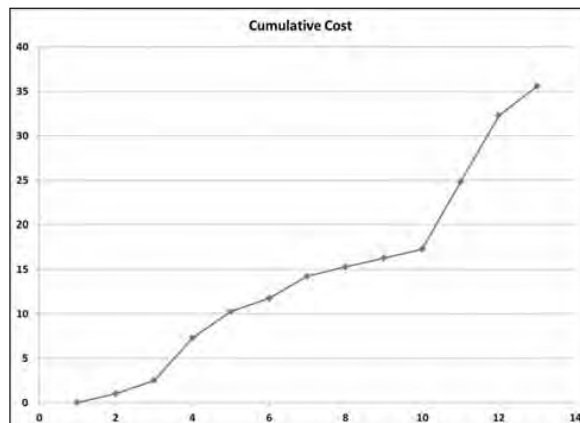
- Define the work packages
  - Estimate the cost of each work package
  - Estimate the duration of each work package
- Schedule each work package
  - Gantt charts
  - Network methods program evaluation and review technique (PERT), critical path method (CPM), and so on
- Spread the costs of the work package between start and finish dates
  - Use earned value method that most closely approximates the spend pattern

Description	Drilling	Completion
Rig	1,484,722	142,188
Well Service Unit	-	186,550
Mob/Demob	635,863	56,875
Wellsite Supervision	301,665	-
Contract Services	338,202	-
Wellsite Accomodations	131,609	711
Transportation	102,375	13,650
Fuel/Water/Power	310,287	8,617
Communications	20,782	1,621
Location	152,994	2,275
Environmental	176,540	569
Equipment Rental	1,127,242	910
Bits	278,699	-
Drilling/Compl. Fluids	284,375	11,375
Cementing	160,689	-
Directional	450,450	-
Tubular/Wellhead Services	124,272	48,003
Logging/Formation Eval/Testing	134,339	17,063
Stimulation/Sand Control	-	1,292,780
Administrative	247,406	16,494
Contingencies	646,251	179,968
Total Intangibles	7,108,760	1,979,646

127

## The Cumulative Cost Curve

- After the project costs have been associated with the timing of the tasks a chart of the accumulated costs can be created showing the pattern of spending.
- The Cumulative Cost Curve is a time-phased budget for the project



128



# Project Management Case Studies

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## Case Study 1: Programs and Projects

Bolivar Corporation (BC) maintains and operates a set of jack-up rigs in the Gulf of Mexico. Based on employee suggestions and complaints, upper management has decided that it wants to improve the overall functioning of cranes on their rigs. You are a project manager working for BC and have been asked to improve the status of the corporation's cranes (BC has several types of cranes on their rigs). This will involve checking on the maintenance records, maintenance contracts, status of the cranes in operation, and repair of the cranes. Management believes this will take about 24 months or so. The rigs are located throughout the Gulf.

Questions:

In this scenario:

- What are the operations of BC?
- What would you consider in this case to be a:
  - Program
  - Project
  - Subproject



Jack-up Rig in the Gulf