Program Management Professional (PgMP^{SM}) Examination Specification

Project Management Institute

Program Management Professional (PgMpM) Examination Specification

Program Management Professional (PgMpsM) Examination Specification

PMI Publications welcomes corrections and comments on its books. Please feel free to send comments on typographical, formatting, or other errors. Simply make a copy of the relevant page of the book, mark the error, and send it to: Book Editor, PMI PUblications, Four Campus Boulevard, Newtown Square, PA 19073-3299 USA.

PMI books are available at special quantity discounts to use as premiums and sales promotions, or for use in corporate training programs, as well as other educational programs. For more information, please write to Bookstore Administrator, PMI Publications, Four Campus Boulevard, Newtown Square, PA 19073-3299 USA or e-mail: booksonline@pmLorg. You can also contact your local bookstore.

The paper used in this book complies with the Permanent Paper Standard issued by the National Information Standards Organization (Z39.48-1984).

Table of Contents

Foreword

This Examination Specification represents the most globally applicable, exhaustively researched, and legally defensible documentation of the tasks, knowledge, and skills demonstrated by program managers. It was developed through a global research study of the program management role within the project management profession, known as a Role Delineation Study. The information contained herein is the culmination of valuable input on the part of dedicated volunteers from all areas of the globe.

The following pages contain the Examination Specification for PMI's new credential, the Program Management Professional (PgMpSM). It includes an examination blueprint, which serves as the basis for creating both the multiple-choice examination and the multi-rater assessment which are integral components of the requirements (along with professional experience) for earning the credential.

By using the most effective and comprehensive methodology to define the roles and responsibilities of PMI-credentialed individuals, PMI will not only ensure that credentialed Program Management Professionals are truly worthy of the title, but that the credential attracts qualified professionals. The results of this global study will serve to ensure the continued maturation of the project management profession on a global scale.

This undertaking would not have been possible without the hard work and dedication of PMI's volunteers and the overwhelming response of thousands in the program management field, worldwide, who took the time to fill out and return the comprehensive questionnaire. Their contribution to this Examination Specification-and thereby to the future of the PgMP credential and the overall project management profession-is monumental and deeply appreciated.

Scott Fass, PMP
Chair, Certification Governance Council
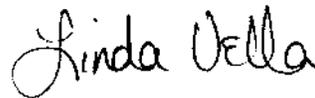
Linda Vella, PMP
2007 Chair-PMI Board of Directors

Preface

The Project Management Institute (PM!) offers a professional credential for individuals managing programs. PMI's professional credentialing examination and multi-rater assessment development processes stand apart from other project management certification development practices because PMI aligns its practices with the recognized international testing standard (ISO 17024) and the North American testing standards of the National Commission for Certifying Agencies (NCCA). One key component of the aforementioned standards is that organizations wishing to offer valid and reliable professional credentialing examinations are directed to use a job analysis, or role delineation study, as the basis for the creation of the examination. These processes provide best-practice guidelines for the credentialing organization to examine practitioners' tasks, and determine the level of importance, criticality, and frequency of each of these tasks. Conducting a study of this nature enables PMI to certify a candidate against the tasks deemed to be of utmost importance.

Through a global research study of the role of program manager, known as a role delineation study, PMI developed this Examination Specification from which PMI creates the credentialing examination. PMI continues to demonstrate and evolve its best-in-class examination development practices. PMI often serves as a model for many other association-professional credentials, since a study of this magnitude is rare, if at all seen, in the association professional credentialing world. Program managers can be confident that their professional credential has been developed according to best practices of test development standards. Please see Appendix A for a detailed description of the process.

Because the examination is a vital part of the activities leading to earning a professional credential, and because of PMI's goal to promote the profession through credentialed professionals, it is imperative that the examination for the Program Management Professional (PgMpSM) be a fair examination. Test content must reflect the knowledge and skills that individuals holding the credential are expected to be able to demonstrate. All the questions and answers on the examination have been written and extensively reviewed by qualified program managers and tracked to at least one program management reference. These questions are then mapped against the Examination Specification to ensure that an appropriate number of questions are included for a valid examination.

PMI retained CASTLE Worldwide, Inc. to conduct the global Program Manager Role Delineation Study. CASTLE Worldwide is a professional testing company based in Research Triangle Park, North Carolina, USA that specializes in the development and administration of licensure and certification examinations.

While the Examination Specification and *The Standard for Program Management* are related, it is important to note that the individuals involved in the study described above were not bound by *The Standard for Program Management.* They were charged with defining the role of individuals managing programs, and used their experience and pertinent resources to

help in this task. Many of the performance domains' tasks, knowledge, and skills outlined by this specification are also covered by *The Standard for Program Management,* however, it is important to note that there is not intended to be a one-to-one relationship.

Candidates studying for the examination will certainly want to include both the Examination Specification and *The Standard for Program Management* among their references, and would be well advised to read other contemporary resources on program management.

Introduction

This Examination Specification provides the basis for the credentialing examination for individuals managing programs. Developed through a certification-industry standard practice, known as a Role Delineation Study, this Examination Specification provides the detail necessary for trainers to develop training materials, and serves as a guide to students as they focus their preparation studies.

The major function of the PMI credentialing program is to ensure competence and professionalism in the field of program management. Certification for individuals managing programs provides assurance that they have met specific criteria designed to ensure competence in the provision of services.

The development of a quality credentialing or licensing program must follow logically sound and legally defensible procedures based on psychometric literature and law. These principles and procedures are outlined in international standards such as ISO 17024 *CConformityAssessment-General Requirements for Bodies Operating Certification of Persons)* and in the u.S. federal regulation *(Uniform Guidelines on Employee Selection Procedures)* and manuals, such as *Standards for Educational and Psychological Testing* (published by the American Educational Research Association, 1999). PMI's credentialing examinations are developed with processes aligned to these standards.

Before a content-valid multiple-choice examination is developed, the knowledge and skills necessary for competent practice in the profession must be determined. The process for identifying these competency areas is a role delineation, or job analysis, which serves as a blueprint for examination development. The role delineation also helps to determine the type of examination, such as written or practical, to be developed in order to assess competence.

The primary reason for conducting a role delineation study is to ensure the content validity of the multiple-choice exam. Content validity is the most commonly applied and accepted validation strategy for establishing certification programs today. In psychometric terms, validation is the way a test developer documents that the competence to be inferred from a test score is measured by the examination. A content-valid examination in program management, then, appropriately evaluates knowledge or skills required to function as a competent individual who manages programs.

Thus, the role delineation study is an integral part of ensuring that the examination has content validity and that the aspects of program management covered on the examination reflect the tasks performed in practice settings. For both broad content areas and tasks, the study identified their importance, criticality, and frequency. These ratings play an important role in determining the content of the examination.

In the third quarter of 2004, four regional panels of program management experts assembled by the Project Management Institute (PM!) met with representatives of CASTLE Worldwide, Inc., to delineate the role of individuals who manage programs. The panels met separately in San Francisco, Hong Kong, Frankfurt, and Buenos Aires to analyze this role in North America, Asia and the Pacific Rim, EMEA (Europe, Middle East, and Africa), and Central and South America, respectively. A fifth panel of experts met in Los Angeles to review the work of the four regional panels and to extract a single role delineation for global use. The fifth panel contained two representatives from each of the four regional panels, as well as individuals from each global region who had not participated in the earlier regional meetings.

Multiple-Choice Examination Specification

The following examination specification identifies the proportion of questions from each domain that will appear on the examination and are derived by combining the overall evaluations of importance, criticality, and frequency, and converting the results into percentages. These percentages are used to determine the number of questions related to each domain that should appear on the multiple-choice examination. The examination blueprint reflects the relative weightings/domain.

Program Management Professional {PgMpSM} Examination Blueprint

Domain	Percentage of Items on Test
I. Defining the Program	14%
II. Initiating the Program	12%
III. Planning the Program	20%
IV. Executing the Program	25%
V. Controlling the Program	21%
VI. Closing the Program	8%
Total	**100%**

Domains, Tasks, and Knowledge and Skill Statements

This section of the report contains the domains, tasks, and knowledge and skill statements as defined by the role delineation panels.

I.   Defining the Program

II.   Initiating the Program

III.   Planning the Program

IV.   Executing the Program

V.   Controlling the Program

VI.   Closing the Program

Domain I:
Defining the Program

Domain I:	Defining the Program—14%

Task 1	Perform a program assessment by defining the program objectives, requirements and establishing a high-level road map in order to ensure program alignment with the enterprise strategic plan or mission.

	Knowledge of:
	1) Enterprise strategic plan:
	   a. Explain the purpose of a strategic plan
	   b. Identify the elements of a strategic plan (e.g., vision, objectives, mission, etc.)
	   c. Interpret strategic plan metrics (e.g., EBIT, ROI, market share)
	   d. Explain how program metrics contribute to strategic plan metrics
	2) Target market and customer needs:
	   a. Assessing the needs of the target markets
	   b. Define customer needs within the target market
	   c. Describe how customer needs are satisfied
	   d. Identify customer types (e.g., end user, gatekeeper, etc.)
	3) Organization/enterprise structure:
	   a. Identify the elements of organizational structures
	   b. Describe the advantages and disadvantages of different types of structures
	   c. Evaluate the effects of different organizational structures on a program
	4) Organizational culture and environment:
	   a. Identify the factors that make up organizational culture
	   b. Evaluate the effects of different organizational cultures on a program
	5) Program assessment methods:
	   a. Identify appropriate assessment methods for the program
	   b. Describe the advantages and disadvantages of these methods
	   c. Apply these methods to ensure alignment of the program to the strategic plan
	6) Requirement determination process:
	   a. Identify the tools and techniques needed to develop program requirements from the strategic plan
	   b. Develop the program requirements from the strategic plan
	   c. Identify the tools and techniques needed to create a high level road map
	7) Business environment:
	   a. Identify the elements of the business environment (e.g., risk profile, market forces, etc.)
	   b. Analyze the effect of the business environment on program development

	8) Communications techniques:
	   a. Identify the relevant communication tools and techniques used in program assessment
	   b. Describe the characteristics of each tool and technique
	   c. Select the appropriate tool and technique for the program assessment task
	
	Skills in:
	1. Having analytical ability
	2. Interviewing prospective stakeholders and business owners
	3. Writing effectively
	4. Vision and mission development
	5. High level decomposition creation and sequencing

Task 2	**Support business analysis functions in identifying marketplace needs for potential program offering in order to ensure program viability through researching, market analysis and high-level cost-benefit analysis.**
	
	Knowledge of:
	1) Business/organization objectives:
	   a. Identify typical business/organization key performance indicators (KPIs)
	   b. Identify the program KPIs
	   c. Align the program KPIs with the business/organization KPIs and objectives
	2) Organization strategy:
	   a. Describe the strategic planning process
	   b. Explain how the program fits into that process
	3) Organization capabilities:
	   a. Assess the workload capabilities against strategic options
	   b. Assess the resource capabilities against strategic options
	   c. Assess the technical capabilities against strategic options in order to realize opportunities
	   d. Evaluate organization knowledge and experience to identify skills needed to perform relevant business analysis
	4) Market trends, research, and strategic analysis techniques:
	   a. Describe how different market conditions influence business strategy
	   b. Interpret impacts of market conditions to the potential program offering
	   c. Identify the applicability of different market research techniques to the proposed program offering
	   d. Rank the application of different strategic analysis techniques
	   e. Complete a cost/benefit analysis (CBA) for program options
	   f. Explain relevant market competitive forces that affect the program to attain a competitive advantage
	
	Skills in:
	1) Writing and developing conceptual plans
	2) Interpreting business cases
	3) Interpreting market analysis reports
	4) Forecasting market needs and requirements
	5) Analyzing competition
	6) Prioritizing and evaluating business opportunities

Task 3	**Develop benefits realization plan by estimating the costs and benefits (ROI) of the program in order to establish the program feasibility and obtain funding.**

	Knowledge of:
	1) Data/Financial analysis techniques (ROI specific):
	   a. Identify suitable data/financial analysis techniques (e.g., internal rate of return (IRR), return on investment (ROI), net present value (NPV),etc.)
	   b. Describe the advantages and disadvantages of those techniques
	   c. Apply appropriate techniques to develop benefits realization plan
	2) Benefits measurement techniques:
	   a. Identify suitable benefits measurement techniques (e.g., value realization, balanced scorecard, etc.)
	   b. Describe the advantages and disadvantages of those techniques
	   c. Apply appropriate techniques to develop benefits realization plan
	3) Organizational environment:
	   a. Identify the elements of the organizational environment that affect the benefits realization plan
	   b. Describe characteristics for the organizational environment that affect the benefits realization plan
	   c. Adapt the benefits realization plan to the organizational environment
	4) Communication techniques:
	   a. Identify suitable techniques for communicating benefits
	   b. Describe the characteristics of those techniques
	5) Internal/external funding processes:
	   a. Identify the funding sources for the program
	   b. Identify the funding process for the program
	6) Feasibility analysis:
	   a. Identify suitable tools to conduct the feasibility analysis
	   b. Describe advantages and disadvantages of those tools
	   c. Apply appropriate tools to develop the benefits realization plan
	7) Cost forecasting and budgeting:
	   a. Identify suitable cost forecasting and budgeting techniques
	   b. Describe advantages and disadvantages of those techniques
	   c. Apply appropriate techniques to develop the benefits realization plan
	8) Capital and operational budgeting:
	   a. Identify suitable capital, operational and budgeting techniques
	   b. Describe advantages and disadvantages of those techniques
	   c. Apply appropriate techniques to develop the benefits realization plan
	9) Risk analysis techniques:
	   a. Identify suitable risk analysis techniques
	   b. Describe advantages and disadvantages of those techniques
	   c. Apply appropriate techniques to develop the benefits realization plan
	
	Skills in:
	1) Estimating resource requirements
	2) Estimating budget requirements
	3) Communicating effectively with wide range of management
	4) Influencing the sponsors within the budget approval process
	5) Identifying tangible and intangible benefits
	6) Selling concepts

(continued from previous page)

Task 4	**Perform a preliminary stakeholder analysis through RFP, contract, experience, and input from other sources in order to assess their position relative to the program.**
	Knowledge of:
	1) Stakeholder management:
	a. Define stakeholder management
	b. Identify the elements of the stakeholder management plan
	2) Stakeholder requirements:
	a. Evaluate previous institutional experience, historical information, and lessons learned
	b. Evaluate RFP terms and conditions
	c. Evaluate credibility of information sources
	d. Evaluate industry-specific requirements and conditions
	3) Stakeholder analysis and characterization techniques:
	a. Identify stakeholder analysis and characterization techniques
	b. Identify the stakeholders for the program using those techniques
	c. Explain how the communications strategy affects stakeholder management
	Skills in:
	1) Identifying stakeholder requirements
	2) Evaluating stakeholder requirements
	3) Consolidating multiple information sources
	4) Communicating with potential stakeholder
Task 5	**Establish alliances with other departments and organizations by recognizing dependencies in order to assess potential partnerships and commitment to the program.**
	Knowledge of:
	1) Enterprise structure and capabilities:
	a. Identify the elements of the organizational structure that affect partnerships
	b. Identify dependencies between departments
	2) Culture and environment:
	a. Identify the elements of the organizational culture and environment that affect alliances
	b. Describe characteristics for the organizational culture and environment that affect alliances
	c. Identify the need for alliances with other departments and organizations
	3) Negotiation strategies:
	a. Identify different negotiation techniques used in establishing alliances
	b. Describe advantages and disadvantages of negotiation techniques
	c. Apply appropriate negotiation techniques
	4) Communication techniques:
	a. Identify suitable communication techniques for establishing alliances
	b. Describe advantages and disadvantages of communication techniques
	c. Apply appropriate communication techniques

5) Existing agreements with partners:
   a. Describe the different types of partnering agreements
   b. Describe advantages and disadvantages of the various agreements
   c. Describe the benefits of partner strategic intent
6) Program goals and objectives:
   a. Identify the goals and objectives
   b. Demonstrate that program goals and objectives are in alignment with alliances
7) Program dependencies:
   a. Identify dependencies between the program and other departments and organizations
   b. Analyze the effect of those dependencies on the program

Skills in:
1. Building relationships
2. Communicating with different levels of management
3. Collaborating and mediating with departments and organizations
4. Evaluating potential partner capabilities
5. Conceptual selling
6. Building high performance teams

Task 6

Evaluate the organization's capability by consulting with the groups involved with delivery in order to validate the program priority and alignment to the strategic objectives.

Knowledge of:
1) Institutional lessons learned:
   a. Identify relevant lessons learned
   b. Apply the appropriate lessons learned in the evaluation of program deliverables and benefits
2) Skills, knowledge, experience of departments in the organization:
   a. Quantify the skills, knowledge, and experience of departments
   b. Conduct a gap analysis on the program deliverables and benefits against program requirements
   c. Apply appropriate financial management principles to evaluate program deliverables and benefits
3) Organizational strategic plan:
   a. Conduct a gap analysis on program deliverables and benefits against the appropriate portion of the strategic plan
4) Industry-specific history and trends:
   a. Identify any relevant historical metrics or trends
   b. Describe the application of the historical metrics or trends to the program
   c. Apply appropriate metrics
5) Communication techniques:
   a. Identify suitable communication techniques
   b. Describe advantages and disadvantages for those techniques
   c. Evaluate and select appropriate organizational communication vehicles for the program's needs

Skills in:
1. Developing high-level estimation plans
2. Utilizing lessons learned to investigate program plans versus organizational capabilities

	3. Validating program plans against strategic plans 4. Analyzing ROl 5. Communicating with delivery groups 6. Aligning program capabilities with strategic stakeholder needs 7. Judging and evaluating strengths and weaknesses of the organization
Task 7	**Request authorization to proceed by presenting the program assessment for approval to the governance authorities in order to initiate the program.** Knowledge of: 1) Governance processes and procedures: a. Identify the governance processes and procedures b. Execute the governance processes and procedures 2) High-level program benefits and costs: a. Identify the governance authority evaluation requirements b. Analyze the program metrics against those evaluation requirements c. Prepare program metrics to facilitate evaluation 3) Program requirements: a. Identify the program requirements (resources) that require governance approval b. Prepare a business case to justify the commitment of those resources 4) Communication techniques: a. Identify suitable communication techniques b. Describe advantages and disadvantages of those techniques c. Apply appropriate techniques to communicate with the governance authority 5) Presentation tools and techniques: a. Identify suitable presentation tools and techniques b. Describe advantages and disadvantages of those tools and techniques c. Apply appropriate tools and techniques in the presentation to the governance authority 6) Enterprise strategic plan and vision: a. Identify the enterprise strategic plan and vision elements applicable to the program b. Analyze the program metrics against the enterprise strategic plan and vision c. Present program metrics in a format that supports the enterprise strategic plan and vision Skills in: 1. Internal politicking 2. Presenting to governance boards 3. Communicating (verbal and written) effectively 4. Selling the program vision and benefits 5. Influencing and negotiating

Domain II:
Initiating the Program

Domain II:	Initiating the Program—12%

Task 1	**Define the program mission statement by assembling the stakeholders' concerns and expectations in order to establish program direction and set a baseline for any further action.**
	
	Knowledge of:
	1) Program initiation plan:
	   a. Identify the inputs, outputs, and techniques for program initiation plan development
	   b. Identify the techniques for developing the program's plan within the context of the organization's strategic plan
	2) Market information and trends:
	   a. Analyze the market information and trends as guidance in formulating the program mission statement
	   b. Select program direction based upon market information
	3) Information gathering techniques:
	   a. Identify information gathering techniques (such as, brainstorming, Delphi, interviewing, SWOT, etc.)
	   b. Select the appropriate information gathering technique given certain criteria
	4) Strategic organization business plan:
	   a. Articulate the organization's strategic and tactical plans
	   b. Define the program mission statement
	   c. Align the program mission statement and direction with the organization's strategic and tactical plans
	5) Strategic analysis techniques:
	   a. Identify strategic analysis techniques
	   b. Describe those strategic analysis techniques
	   c. Apply appropriate strategic analysis techniques for setting the program direction
	6) Sponsor's requirements and desires:
	   a. Identify sources of the sponsor's requirements and desires (for example, the product requirement, boundaries of the program, methods of acceptance, contract, SOW, etc.)
	   b. Integrate the sponsor's requirements and desires into the program direction
	
	Skills in:
	1. Developing a strategic program plan
	2. Developing a mission and vision statement
	3. Writing skills
	4. Gathering and integrating information

Task 2	**Translate strategic objectives into high-level project scope statements by negotiating with stakeholders in order to create a program scope description.**

Knowledge of:
1) Program goals and objectives:
   a. Communicate organization's strategic goals and objectives
   b. Create high-level project scope statements that align with strategic goals and objectives
   c. Negotiate agreement among stakeholders on the high-level project scope statements
2) Program mission and vision:
   a. Articulate the program mission, vision, and values
   b. Integrate the program mission, vision, and values into the program scope description
3) Decomposition techniques:
   a. Describe decomposition techniques to produce the high-level scope statements of the program scope description
   b. Apply decomposition techniques to produce the high-level scope statements of the program scope description
4) Program/project chartering:
   a. Define the purposes of the program/project charter
   b. Define the elements of the program/project charter
5) Communication techniques:
   a. Describe the techniques for communicating strategic objectives to the stakeholders
   b. Apply appropriate communication techniques
6) Negotiation techniques:
   a. Identify techniques to negotiate program scope with stakeholders
   b. Apply appropriate negotiation techniques
7) Stakeholder management techniques:
   a. Identify different stakeholder management techniques
   b. Explain the requirements and needs of different stakeholders
   c. Apply appropriate stakeholder management techniques

Skills in:
1. Clarifying requirements
2. AnalyZing requirements
3. Distilling and synthesizing requirements
4. Writing effectively
5. Ability to see big picture
6. Managing stakeholder expectations

Task 3	**Develop a high-level milestone plan using goals and objectives of the program, applicable historical information, and other available resources in order to align program with expectations of sponsors and stakeholders.**

Knowledge of:
1) Tools and techniques for creating a milestone plan:
   a. Identify the tools and techniques for creating the milestone plan
   b. Select the tools and techniques to create the milestone plan

2) Program goals and objectives:
   a. Compare the program goals and objectives to the high-level milestone plan for alignment
   b. Align the high level milestone plan to the program goals and objectives
3) Communication techniques:
   a. Describe the techniques for communicating sponsor and stakeholder expectations in order to develop the high level milestone plan
   b. Apply appropriate communication techniques
4) Sponsors' and stakeholders' expectations:
   a. Compare the milestones with sponsors' and stakeholders' expectations
   b. Revise the high-level milestone plan by negotiating agreement with sponsors and stakeholders
   c. Integrate similar programs' historical data and lessons learned as applicable into the high-level milestone plan
5) Applicable constraints (industry, regulatory, government, etc.):
   a. Identify applicable constraints
   b. Quantify applicable constraints
   c. Integrate constraints into the high-level milestone plan
   d. Assess the implications of any constraints
   e. Investigate potential ways to mitigate those constraints

Skills in:
1. Using tools and techniques for milestone planning
2. Managing sponsors and stakeholders expectations
3. Communicating effectively
4. Aligning program deliverables with strategic objectives

Task 4

Develop an accountability matrix by identifying and assigning program roles and responsibilities in order to build the core team and to differentiate between the program and project resources.

Knowledge of:
1) Program and constituent project charters:
   a. Explain the relevance of the program charter and scope statement as inputs in developing the accountability matrix
   b. Differentiate the program and project charters
   c. Select required information from program and constituent project charters
2) Resource competence assessment:
   a. Identify the tools available for the resource competence assessment
   b. Analyze the appropriateness of each tool in given situations
3) Program resource needs and requirements:
   a. Identify key inputs and tools and techniques required to determine program resource needs and requirements
   b. Determine needs and resources
4) Core team roles and responsibility definitions:
   a. Identify the competence requirements for each role and responsibility
   b. Describe the specific requirements of core team members for a given program

23

5) Program structure and capabilities:
   a. Discuss the program charter and organizational relationship for each project in a given program
   b. Explain different program structures and their application and suitability
6) Matrix management:
   a. Describe the pros and cons of matrix management
   b. Identify the relevance of matrix management to the program
   c. Assess the program structure and environment
7) Negotiation techniques:
   a. Describe negotiation techniques for assembling the core team
   b. Identify appropriate negotiation techniques within the accountability matrix in order to build the core team
   c. Identify the key stakeholders with whom to negotiate resources
8) Establishing roles and responsibilities:
   a. Identify tools and techniques required in establishing roles and responsibilities (such as, employee databases, job descriptions, etc.)
   b. Assign roles and responsibilities for the core team
9) Resource estimation techniques:
   a. Identify tools and techniques (e.g. historical data, analogous estimating, parametric estimating, Delphi technique, etc.)
   b. Apply appropriate tools and techniques

Skills in:
1. Assessing resource knowledge and skills
2. Matching and allocating resources to responsibilities
3. Negotiating effectively
4. Communicating effectively

Task 5	**Establish project management standards within the program (governance, tools, finance and reporting) using industry best practices and enterprise standards in order to drive efficiency and consistency among projects.**
	
	Knowledge of:
	1) Industry best practices, applicable regulations, and standards:
	   a. Identify industry best practices and enterprise standards
	   b. Identify applicable regulations and standards
	   c. Apply appropriate regulations and standards for the program
	2) Program office processes and procedures:
	   a. Identify program office processes and procedures applicable to the program
	   b. Apply appropriate program office processes and procedures in order to achieve efficiency and consistency among projects
	3) Program goals and objectives:
	   a. Identify relevant processes and procedures to achieve program goals and objectives
	   b. Apply relevant processes and procedures to achieve program goals and objectives
	4) Communication techniques:
	   a. Describe the techniques for communicating the use of project management standards within the program
	   b. Apply appropriate communication techniques

5) Intellectual capital:
   a. Identify standards necessary to protect intellectual capital
   b. Select appropriate standards

Skills in:
1. Developing business processes
2. Implementing business processes
3. Process mapping
4. Selling concepts

Task 6   **Define meaningful measurement criteria for success by analyzing stakeholder expectations and requirements across the constituent projects in order to accurately control program performance.**

Knowledge of:
1) Measurement techniques:
   a. Identify suitable measurement criteria across constituent projects
   b. Select suitable measurement techniques
2) Metrics definition and development techniques:
   a. Identify tools and techniques to measure program performance
   b. Select appropriate tools and techniques
   c. Review defined metrics with key stakeholders and gain agreement
3) Statistical analysis:
   a. Identify statistical analysis tools (such as Pareto, sampling, EMV, parametric, scatter diagrams, etc.)
   b. Select appropriate tools for a given situation
   c. Review statistical analysis framework with key stakeholders and gain agreement
4) Composition and responsibilities of the Program Management Office (PMO):
   a. Describe the purpose of the Program Management Office (PMO)
   b. Describe the advantages and disadvantages of the Program Management Office (PMO) as a resource center (home room) for all project managers and program managers within an organization
   c. Discuss the relationship between metrics of existing systems/ standards and the program (such as financial systems, HR systems)

Skills in:
1. Understanding and assessing customer needs
2. Collecting data
3. Analyzing data
4. Presenting data
5. Negotiation
6. Conflict resolution

Task 7   **Obtain senior management approval for the program by presenting the program charter with its high-level costs and benefits for the organization in order to receive authorization to proceed to the next phases.**

Knowledge of:
1) Governance process and procedures:
   a. Identify the approval authority
   b. Use the recognized approval process to obtain program approval

(continued from previous page)

	2) Presentation tools and techniques:
	  a. Express program benefits and cost in terms relevant to senior management
	  b. Identify appropriate presentation tools and techniques for senior management approval
	  c. Apply appropriate presentation tools and techniques
	
	Skills in:
	1. Influencing
	2. Negotiating
	3. Communicating (verbal and written) effectively
	4. Selling the program vision and benefits

Task 8	**Conduct program kick-offs with stakeholders by holding a series of meetings in order to familiarize the organization with the program.**
	
	Knowledge of:
	1) Tools and techniques for conducting effective meetings:
	  a. Identify tools and techniques for conducting meetings that will familiarize the organization with the program
	  b. Apply appropriate tools and techniques
	2) Organization culture:
	  a. Identify culturally appropriate means for familiarizing the organization with the program to ensure acceptance
	  b. Apply CUlturally appropriate means for familiarizing the organization with the program to ensure acceptance
	3) Develop Program Team:
	  a. Assess team dynamics and its effects, both positive and negative
	  b. Identify team building methods
	  c. Apply appropriate team building methods
	
	Skills in:
	1. Planning and facilitating meetings
	2. Communicating effectively
	3. Selling program vision and benefits
	4. Building effective teams

Domain III:
Planning the Program

Task 1	**Develop a detailed program scope statement by incorporating program vision, objectives, out-of-scope items, schedule, financial milestones and legal/regulatory/safety concerns in order to aid in overall planning.**

Knowledge of:
1) Scope planning theory, techniques, and procedures:
   a. Identify elements of the program scope management plan
   b. Identify techniques and procedures used to define the program's scope
   c. Apply appropriate techniques and procedures
2) Business strategy of the performing organization:
   a. Describe the alignment of the scope within the organizational strategic plan
   b. Identify expected benefits
   c. Create a transition plan for the program
3) Target market and customer needs:
   a. Determine how this program impacts the existing product/service, product/service extension, or a new offering
   b. Describe the business potential or business case
   c. Describe the process by which the organization plans to take the product/service to market
   d. Review scope statement with marketing, sales, and media teams
4) Standards, legal, and other regulations:
   a. Identify the contractual constraints
   b. Identify standards that are necessary for the program
   c. Identify standards required for compliance when creating deliverables
   d. Identify applicable government and statutory regulations
5) Stakeholders' analysis technique and prior historical information:
   a. Create stakeholder analysis and management plan
   b. Identify best practices that can work in similar situations
   c. Review lessons learned in past
   d. Correlate expert opinions
6) Work breakdown structure (WBS) techniques and practices:
   a. Use information related to WBS from appropriate standards at the program level
   b. Divide the program into its constituent projects
   c. Apply a "Gates" go-no-go system at different checkpoints in the program
   d. Create guidelines for common WBS methodology across projects at the program level

(continued from previous page)

7) Requirement analysis techniques and practices:
   a. Perform requirements analysis at the program level
   b. Align requirement gathering process across projects
   c. Apply the use of normalized templates, forms, and guidelines
   d. Align acceptance criteria for the deliverables across phases or projects with program objectives
8) Industry and market knowledge and expertise:
   a. Demonstrate expertise to the sponsor to help refine the scope to meet business objective
   b. Identify market trends for benefits planning
   c. Develop transition plan

Skills in:
1. Communicating effectively at all levels to stakeholders
2. Interpreting regulatory standards and policies
3. Integrating multiple inputs to develop program scope statement
4. Understanding stakeholder requirements and desires

Task 2:   **Develop program scope definition using Work Breakdown Structure in order to determine the program deliverables and tasks.**

Knowledge of:
1) Scope definition theory, techniques and procedures:
   a. Use scope definition information that is applicable to the program
   b. Develop program WBS (PWBS)
   c. Develop preliminary scope statements for all projects that are part of the program
2) Acquire Program Team:
   a. Assign teams and allocate tasks on the basis of complementary, technical, and interpersonal skills
3) Brainstorming techniques:
   a. Describe the applicability of brainstorming techniques to the development of the scope and PWBS
4) Subject matter experts for product/solution:
   a. Identify functional needs of the program and assign the appropriate SMEs
   b. Identify alternatives on scope definition methods through inputs from SMEs
5) Decomposition techniques:
   a. Apply a common approach to the creation of the WBS across projects for consistency in scheduling, resourcing, and cost control
   b. Develop the PWBS to identify and manage inter-project linkages and dependencies, (e.g., align milestones in different projects to support the overall program phases, etc.)
   c. Align acceptance criteria for the deliverables across phases/projects with the program objectives
6) Work breakdown structure techniques and practices:
   a. Create WBS at the project level
   b. Divide the program into its constituent projects
   c. Use a "Gates" go-no-go system at different checkpoints in the program
   d. Create guidelines for common PWBS methodology across projects at program level

	7) Requirement analysis techniques and practices: a. Perform a requirements analysis at the project level b. Align the gathering of requirements across projects c. Apply the use of normalized templates, forms, and guidelines d. Align the acceptance criteria for the deliverables across phases/ projects with program objectives 8) Industry and market knowledge and expertise: a. Use expertise to help refine scope to meet business objective b. Identify market trends for benefits planning c. Develop transition plan Skills in: 1. Facilitating the program team 2. Solving problems 3. Resolving conflicts 4. Thinking analytically 5. Aligning deliverables with strategic program objectives
Task 3	**Establish the program management plan and baseline by integrating the plans for the constituent projects and creating the plans for the supporting program functions including management of scope, schedule, finance, benefits, quality, resource, procurement, risk response, change and communications in order to effectively forecast, monitor, and identify variances during program execution.** Knowledge of: 1) Strategic planning: a. Develop the project management plan using the program including strategic objectives, scope, budget, schedule, etc. b. Align the project management plan with the program charter 2) Planning theory, techniques, and procedures: a. Identify the components of the program management plan b. Develop the program management plan including subsidiary plan c. Identify a process for handling changes to the program management plan, during the life of the program d. Develop a configuration management plan 3) Acquire Program Team: a. Develop a program staffing and training plan b. Define the plan for optimum use of critical resources 4) Brainstorming techniques: a. Use brainstorming techniques as appropriate to develop components of the program management plan 5) Performing organization (capabilities, culture, process, practices, etc.): a. Develop a program organizational structure with roles and responsibilities b. Develop a contacts list c. Develop a benefits management plan 6) Business structure and organization: a. Develop interface plans b. Develop a transition plan c. Define changes to the business structure and organization to reflect the outcome of the program

Skills in:
1. Planning and organizing plan information and activities
2. Facilitating the program team
3. Problem solving
4. Analytical thinking
5. Communicating priorities and constraints for planning
6. Resolving conflicting interests
7. Aligning plan with strategic program objectives
8. Prioritization of projects with top management
9. Specifying the project portfolio

Task 4   **Optimize the program plan by reviewing and leveling resource requirements (e.g., materials, equipment, facilities, finance, human capital) in order to gain efficiencies and synergies among projects.**

Knowledge of:
1) Resource leveling techniques:
    a. Identify leveling techniques
    b. Apply appropriate leveling techniques to level resources across the program
2) Brainstorming techniques:
    a. Identify brainstorming techniques
    b. Apply appropriate brainstorming techniques to realize efficiencies and synergies across projects
3) Capabilities, culture, process, practices of the organization:
    a. Identify the strengths and weaknesses in the capabilities of the organization's culture, process, and practices
    b. Define a plan to leverage strengths and minimize weaknesses in the capabilities of the organization's culture, process, and practices
4) Organizational structure:
    a. Identify the program organizational structure
    b. Analyze advantages and disadvantages of the program organizational structure
5) Scheduling theory and techniques:
    a. Define techniques and practices for developing a program schedule
    b. Develop the program schedule

Skills in:
1. Problem solving
2. Analytical thinking
3. Communicating priorities and constraints
4. Negotiating with stakeholders to optimize trade-offs
5. Aligning plan with strategic program objectives
6. Resolving conflicting interests

Task 5	**Define project management information system (PMIS) by selecting tools and processes to share knowledge, intellectual property and documentation across constituent projects in order to maximize synergies and savings.**

Knowledge of:
1) Project management information systems:
   a. Specify tools and techniques to use across projects for tracking, monitoring, and reporting program information to program stakeholders
   b. Identify the metrics to be tracked and reported
   c. Apply a common framework for tracking and reporting metrics across projects
   d. Align the benefit performance parameters to the benefits realization plan
   e. Set up program information distribution system
2) Knowledge management:
   a. Identify Knowledge management tools and techniques
   b. Apply appropriate tools and techniques
3) Intellectual property:
   a. Identify Intellectual property
   b. Apply appropriate tools and techniques to safeguard intellectual property
4) Communication tools and techniques
   a. Identify communication tools and techniques
   b. Apply appropriate tools and techniques:
5) Performing organization (capabilities, culture, process, practices, etc.):
   a. Identify characteristics (capabilities, culture, process, practices, etc.) of the performing organization
   b. Adapt the PMIS to the requirements of the performing organization
6) Measurement theory:
   a. Identify measurement tools and techniques
   b. Apply appropriate tools and techniques
7) Statistics:
   a. Identify statistical analysis tools and techniques
   b. Apply appropriate tools and techniques
8) Project needs and requirements:
   a. Identify project needs and requirements
   b. Adapt the PMIS to the project needs and requirements
9) Reporting needs:
   a. Identify reporting needs
   b. Identify reporting tools and techniques
   c. Apply appropriate tools and techniques
10) Implementation constraints:
   a. Identify constraints in implementing the PMIS (budget, time, etc.)
   b. Develop a constraint management plan

Skills in:
1. Writing technical information
2. Thinking analytically
3. Communicating reporting requirements
4. Ability to see big picture
5. Identifying information needs

Task 6	**Develop the transition plan by defining exit criteria, policies and processes to ensure all administrative, commercial, and contractual obligations are met upon program completion.**
	
	Knowledge of:
	1) Planning theory, techniques and procedures:
	    a. Define program exit criteria, policies and processes
	    b. Identify the components of the program transition plan
	    c. Create a program transition plan
	2) Acquire Program Team:
	    a. Identify critical resource/skills retention needs
	    b. Develop the resource release plan
	    c. Apply appropriate brainstorming techniques to help identify components of the transition plan
	3) Contracts:
	    a. Identify contract closeout requirements
	    b. Review contract deliverables for customer acceptance
	4) Financial closure processes:
	    a. Identify the requirements for financial closure
	    b. Develop a financial closure plan
	5) Communication techniques
	    a. Identify the requirements for communicating program closure
	    b. Develop the program closure communication plan
	6) Business structure and organization:
	    a. Identify elements of the business structure and organization impacted by program closure
	    b. Develop a plan to absorb the impacts of the program closure
	7) Capabilities and culture of operating organization:
	    a. Develop a plan to transition the performing organization from the program to other activities
	    b. Identify capabilities and culture of the operating organization impacted by the program closure
	    c. Develop a plan to absorb the impacts of the program closure
	
	Skills in:
	1. Change acceptance process
	2. Analytical thinking
	3. Communication
	4. Negotiating
	5. Resolving conflicts
	6. Aligning transition plan with strategic priorities

Domain IV:
Executing the Program

Task 1	Consolidate project/program data (documented issues, status reviews, risks, financial reports, resources, etc.), using predefined reporting tools and methods to monitor program performance.
	Knowledge of:

Knowledge of:
1) Project management information systems structure and operations:
   a. Apply process and systems for each project information collection and distribution with a combined program view
   b. Apply automated tools suites to consolidate all relevant program data
   c. Demonstrate the benefits of a program management information system
   d. Articulate the benefits of using quality management systems
   e. Articulate the benefits of a program office set of standards
2) Format and content of program data:
   a. Describe the importance and benefits of standard reports and deliverables
   b. Define template content and format for program data
   c. Identify required external filings with government and regulatory bodies
3) Location of program data:
   a. Define the program data naming conventions
   b. Apply the program data naming conventions
   c. Create a program data repository
4) Performance and quality metrics:
   a. Report inter-project performance and quality metrics
   b. Report inter-project risks, issues, and constraints
   c. Report the program financial status and inter-project financial opportunities
5) Reporting tools and consolidation process:
   a. Identify reports that can be used consistently across projects
   b. Produce timely and valid inter-project information
   c. Consolidate data using a PMIS that incorporates performance/ quality metrics
6) Format and content of program report:
   a. Integrate resource utilization data
   b. Integrate inter-project performance and quality metrics
   c. Integrate inter-project risks, issues, and constraints
   d. Integrate financial data

Skills in:
1. Organizing various data metrics
2. Analyzing and evaluating appropriate project data
3. Using reporting tools to create and assemble the reports
4. Communicating and presenting complex information

Task 2	**Charter constituent projects by assigning project managers and allocating appropriate resources in order to meet program objectives.**

Knowledge of:
1) Governance, control and authorization procedures:
    a. Define project charters
    b. Define the level of authority, control, and influence to be given to each project manager
    c. Identify the resource requirements and capability of each project
    d. Define the priority and road map for related projects
2) Resource leveling:
    a. Apply resource leveling within constraints of time, budget, and quality
    b. Re-apply resource leveling as necessary
3) Timesheet management assessment:
    a. Define a common time reporting process
    b. Apply the time reporting process
4) Competence assessment techniques:
    a. Define skill requirements for the projects
    b. Identify competence assessment techniques
    c. Apply competence assessment techniques
5) Develop Program Team:
    a. Identify required resources
    b. Assemble required resources
    c. Create team ground rules and techniques
    d. Define the roles and responsibilities for all resources within the projects
6) Budget processes:
    a. Define the processes for budget allocation
    b. Establish the techniques and authorization process to be used for budget change
7) Company organization:
    a. Describe the organization's functional structure
    b. Communicate the benefits of the program to each functional area
8) Matrix management:
    a. Use program-perceived benefits as a means of cross-functional negotiation
    b. Use techniques to negotiate for trade-offs with functional managers
9) Training methodologies:
    a. Apply training methodologies within the context of resource/budget allocation
    b. Define the training methodologies, such as in-house, online, on-the-job
    c. Conduct training to resources
10) Line management and career development:
    a. Identify personnel aspirations
    b. Identify career path within available and potential roles
    c. Communicate personnel performance to line managers

Skills in:
1. Delegating and empowering
2. Collaboration with different functions of the organization

	3. Mentoring and coaching program personnel 4. Performance assessment and recognition 5. Ability to work towards strategic goals 6. Conflict resolution (win-win) 7. Understanding organizational metrics and how program metrics contribute to them

Task 3	**Motivate the team using appropriate tools and techniques in order to increase commitment to the program objectives.**
	
	Knowledge of:
	1) Resource allocation policies, capabilities, and line management structure:
	   a. Apply program resource allocation policies such as FTE/revenue generated in a way that fits personnel career aspiration
	   b. Match the training requirements to the resource capability
	   c. Utilize motivation techniques across line management structure
	2) Available resource capacities:
	   a. Complete a skill-set inventory
	   b. Align personnel aspirations to available roles
	   c. Track resource assignment and utilization
	3) Performance management techniques:
	   a. Facilitate coaching and mentoring across the teams
	   b. Measure resource retention, personnel achievement, and quality
	   c. Communicate expectation and team achievement
	   d. Facilitate improvement to required areas
	4) Rewards and recognition policies:
	   a. Map result to rewards
	   b. Design a commensurate incentive program
	   c. Demonstrate a sense for integrity and ethics
	5) Diversity awareness:
	   a. Describe the organization's culture
	   b. Describe the team structure and individual cultures
	   c. Establish a safe and secure work environment
	   d. Maintain cohesiveness among all teams
	6) Code of ethical behavior:
	   a. Adopt the organization's ethics code, other appropriate ethics codes, or establish a code of ethical behavior for the program
	   b. Demonstrate adherence to the code of ethical behavior
	
	Skills in:
	1. Building a team
	2. Balancing discipline and recognition
	3. Maintaining work/life balance
	4. Mentoring members from program team
	5. Ensuring a safe and secure working environment
	6. Allocating resource
	7. Conducting resource assessment
	8. Demonstrating leadership
	9. Demonstrating empathy
	10. Demonstrating a sense for integrity and ethics
	11. Demonstrating loyalty to the company and the customer
	12. Facing the issues

(continued from previous page)

	13. Collaborating with stakeholders 14. Resource leveling 15. Coaching and mentoring 16. Empowering
Task 4	**Establish program consistency by deploying uniform standards, resources, infrastructure, tools and processes in order to enable informed program decision making.**

	Knowledge of:
	1) Project information requirements:
	   a. Align project information needs to program standards
	   b. Apply the selected project measurement tools and techniques and communicate the appropriate metrics
	2) Resource management:
	   a. Apply consistent resource-leveling techniques
	   b. Demonstrate consistent resource allocation and utilization
	3) Appropriate program infrastructure:
	   a. Define the program infrastructure requirements
	   b. Evaluate how the existing infrastructure can fit into the program
	   c. Demonstrate that the appropriate infrastructure is available where applicable and justifiable
	4) Communication tools and techniques:
	   a. Identify common project communication needs
	   b. Apply the selected tools
	   c. Communicate to the program community
	5) Conflict resolution techniques:
	   a. Describe the interests of different stakeholders
	   b. Apply escalation and conflict resolution processes, as required
	6) Reporting periods:
	   a. Define the periods according to the program need
	   b. Schedule the report period to be compatible with the company master reporting structure
	7) Different costing techniques:
	   a. Apply cost forecasting techniques such as estimate to complete (ETC) and estimate at completion (EAC) to the program
	   b. Identify primary causes of cost problems
	8) Change acceptance procedure:
	   a. Establish a change control board
	   b. Establish a freeze point
	   c. Review change requests
	
	Skills in:
	1. Standardizing tools and business processes
	2. Communicating effectively (verbal and written)
	3. Mentoring project managers
	4. Evaluating competency levels for project mangers
	5. Resolving conflicts
	6. Negotiating effectively
	7. Implementing tools and procedures
	8. Selling and influencing
	9. Implementing procedure changes

Task 5	**Capture program status and data by ensuring the population of the program management information system in order to maintain accurate and current program information for the use of stakeholders.**

Knowledge of:
1) Program data requirements:
   a. Determine the stakeholders' data needs
   b. Identify data sources
   c. Collect data from sources
   d. Validate accuracy and relevance of the program data
   e. Demonstrate that the appropriate metrics (performance and quality are captured)
2) Steps in the consolidation process:
   a. Demonstrate the benefits of program data consolidation
   b. Develop a program data consolidation process
   c. Apply the data consolidation process
3) Reporting tools and format and content of program report:
   a. Apply appropriate reporting tools
   b. Validate the accuracy and relevance of the data in the program report
4) Online data storage tools:
   a. Set up the program storage database
   b. Utilize the program storage database
   c. Maintain the program storage database
5) Procedures to organize and report information:
   a. Define procedures to organize program information
   b. Use defined procedures
   c. Report appropriate level of information to stakeholders

Skills in:
1. Organizing various data metrics
2. Analyzing appropriate project data
3. Using reporting tools to create and assemble the reports
4. Organizing information
5. Understanding stakeholder needs
6. Stakeholder management
7. Communicating written information

Task 6	**Execute the appropriate program plans (quality, risk, communication, staffing, etc.) by using the tools identified in the planning phase and by auditing the results of the use of these tools in order to ensure the program outcomes meet the stakeholder expectations and standards.**

Knowledge of:
1) Program management plans:
   a. Execute program management plans (such as, quality, risk, communication, resources, etc.)
   b. Analyze the results from executing the program plans to identify inter-project issues
   c. Prioritize time, cost, and quality metrics at different phases of the program
   d. Report results to stakeholders

(continued from previous page)

2) Reporting processes and procedures:
   a. Identify inter-project reporting needs to meet defined processes and procedures
   b. Create inter-project reports
3) Conflict resolution:
   a. Apply appropriate conflict resolution methods
4) Trade-offs:
   a. Identify relevant trade-offs necessary for program success
   b. Analyze the impact of the trade-offs with the functional areas and the project teams
   c. Manage agreements resulting from the trade-offs
5) Problem-solving decision-making, and measurement techniques:
   a. Apply appropriate problem-solving techniques
   b. Apply appropriate decision-making techniques
   c. Apply appropriate measurement techniques
   d. Apply appropriate resource leveling techniques
6) Motivational techniques:
   a. Implement appropriate reward and recognition processes
   b. Apply appropriate motivational techniques to enhance the team's productivity and skills
7) Stakeholder management:
   a. Demonstrate that the stakeholder's expectations have been met
   b. Identify influencing techniques used to facilitate, negotiate, and collaborate among competing needs
   c. Apply appropriate influencing techniques
8) Project and program planning:
   a. Use appropriate PMIS tools
   b. Apply the relevant project/program plans to the defined processes
9) Contract negotiation/administration:
   a. Manage relevant contract types
   b. Identify inter-project contract issues
   c. Solve inter-project contract issues
   d. Manage vendors and suppliers

Skills in:
1. Leadership
2. Communicating technical information, status and progress reports
3. Implementing corrective actions
4. Negotiating
5. Influencing
6. Resolving conflict
7. Decision making
8. Prioritizing conflicting objectives
9. Addressing issues proactively
10. Contracting

Task 7

Approve closure of constituent projects upon completion through appropriate processes and procedures in order to obtain acceptance.

Knowledge of:
1) Contracts:
   a. Define the contractual acceptance criteria of the project
   b. Describe the measurement mechanism of the acceptance criteria

2) Closeout plans, procedures and policies:
   a. Identify the closeout policies
   b. Describe the closeout plans
   c. Implement closeout plans
3) Governance, control, and authorization procedures:
   a. Complete closure of contractual obligations
   b. Complete closure of project management authority levels
4) Budget closure procedures:
   a. Apply the company's budget closure procedure to the project
   b. Assess budget closure impact on the program
5) Matrix management, line managements, and resource development:
   a. Release the assigned resources
   b. Appraise personnel of performance results
   c. Report performance results to line management
   d. Manage the redeployment and cross-training of resources

Skills in:
1. Assessing performance and providing recognition
2. Mentoring and coaching program personnel
3. Resolving and negotiating contract requirements and closure
4. Auditing closeout plans and procedures
5. Communicating and presenting technical information
6. Releasing assigned resources effectively
7. Collaborating with different functions of the organization
8. Resolving conflict
9. Negotiating
10. Capturing lessons learned
11. Archlving project information

Domain V:
Controlling the Program

Domain V:	Controlling the Program—21%

Task 1	**Analyze variances of costs, schedules, quality and risks by comparing actual values to planned values from the program plan, trends, and extrapolation in order to identify corrective actions necessary.**
	
	Knowledge of:
	1) Financial management and tools:
	   a. Explain earned value analysis
	   b. Apply earned value analysis techniques
	   c. Analyze variances
	2) Risk management and tools:
	   a. Use identified risk management tools.
	   b. Analyze variances
	3) Quality management and tools:
	   a. Apply selected quality management tools
	   b. Analyze variances
	4) Schedule management and tools:
	   a. Apply appropriate schedule management tools and techniques
	   b. Analyze variances
	5) Personnel management and tools:
	   a. Apply resource tracking tools
	   b. Analyze variances of the resource tracking
	   c. Evaluate additional training and resourcing needs
	6) Project Management Information Systems (PMIS):
	   a. Extract relevant information
	   b. Analyze variances
	7) Problem solving techniques:
	   a. Apply appropriate problem solving techniques
	   b. Analyze variances
	8) Quality control:
	   a. Perform quality audit
	   b. Analyze variances
	9) Change management and tools:
	   a. Apply change management tools and process
	   b. Analyze variances
	10) Knowledge trend analysis:
	   a. Identify knowledge metrics required by the organization
	   b. Apply the appropriate metrics
	   c. Analyze variances
	
	Skills in:
	1. Re-budgeting and financial modeling
	2. Assessing and managing risks
	3. Statistical quality control
	4. Operating and presenting financial information
	5. Scheduling tools operation

6. Operating change management processes
7. Analyzing schedule trends
8. Developing a cost management plan

Task 2   **Identify potential corrective actions by forecasting program outcomes using simulations, what-if scenarios and causal analysis in order to incorporate corrective actions Into the program management plan.**

Knowledge of:
1) Forecasting techniques:
   a. Identify forecasting techniques
   b. Apply the appropriate forecasting technique
2) Trend analysis techniques:
   a. Identify areas for corrective action using trend analysis tools and techniques
   b. Implement trend analysis results using cause and effect diagrams
   c. Apply project scorecards
   d. Perform variance analysis pertaining to cost, schedule, effort
   e. Ability to detect scope creep
   f. Use the risk register to identify unresolved issues
3) Scenario analysis:
   a. Identify areas for corrective action using scenario analysis tools and techniques
   b. Implement scenario analysis
4) Planning techniques:
   a. Identify the baseline project management plan for compliance
   b. Implement process for revision of the project management plan
   c. Identify the project management plan changes in order to implement corrective actions
   d. Identify non-project activities that affect the program
5) Risk mitigation strategies:
   a. Identify potential triggers for corrective actions:
   b. Identify external factors that could require corrective actions
   c. Assess benefits derived from the program
   d. Identify go-no-go criteria for subsequent phases
6) Root cause analysis:
   a. Identify root cause analysis tools and techniques
   b. Perform root cause analysis
7) Team dynamics:
   a. Assess team dynamics and its effects, both positive and negative
   b. Identify behaviors that require corrective actions
8) Stakeholder needs and effective correction plan implementation techniques:
   a. Identify effective correction plan implementation techniques
   b. Communicate potential program corrective actions to the stakeholders

Skills in:
1. Updating program management plan
2. Analyzing data and reports
3. Identifying risks
4. Developing a risk response management plan
5. Analyzing trends
6. Analyzing and planning techniques

	7. Determining root cause techniques
	8. Facilitating techniques
Task 3	**Manage change in accordance with the change management plan to control scope, quality, schedule, cost, and contracts.**
	Knowledge of:
	1) Change management and contingency management:
	a. Apply the change management process
	b. Apply the change management plan
	c. Apply the contingency management plan
	2) Organization structure and culture:
	a. Adapt to the organization structure
	b. Adapt to the organization culture
	3) Program and project change requests:
	a. Apply the appropriate change management processes
	b. Utilize appropriate tools and techniques for managing/approving changes
	4) Risk management:
	a. Use risk identification techniques
	b. Use risk analysis techniques
	5) Brainstorming techniques:
	a. Use the appropriate brainstorming techniques to manage change
	Skills in:
	1. Communicating effectively
	2. Brainstorming
	3. Negotiation
	4. Analyzing change drivers
	5. Developing proposed change
	6. Utilizing change/configuration management process
	7. Approving change request
Task 4	**Address program level issues by identifying and selecting a course of action by taking into account the program constraints and objectives in order to enable continued program progress.**
	Knowledge of:
	1) Impact assessments:
	a. Select which project scenarios are appropriate to achieving program goals
	b. Select the key issues and risks that prevent continued program progress
	c. Select the preventive and corrective actions required to ensure that the program meets objectives
	2) Project and program planning:
	a. Apply the corrective and preventive actions required to ensure that the program meets its objectives
	b. Adjust impacted program and project management plans
	c. Manage the program and project re-planning and re-baselining
	3) Risk management:
	a. Implement the risk management plan
	b. Implement the risk response plan

(continued from previous page)

4) Benefit cost techniques:
   a. Identify the issues which are challenging the project budget
   b. Analyze the costs for non-project related activities and assess the impact on predicted program benefits
   c. Identify any opportunities to return funding from the program to the enterprise whenever possible
   d. Identify any opportunities for project savings or overruns within the program with the objective of keeping the program budget on track
   e. Manage the transfer of inter-project funding within the program
5) Trend analysis techniques:
   a. Assess trends
   b. Create corrective, preventive, and/or alternative action plans
6) Alternative analysis:
   a. Identify alternative paths which are still in line with the organization strategic plan, organization culture, and program financial objectives
   b. Manage inter-project changes, re-planning, and re-baselining

Skills in:
1. Scenario analysis
2. Decision making
3. Issue resolution
4. Creating alternative plans
5. Developing contingency plans
6. Facilitating change

Domain VI:
Closing the Program

Task 1	**Complete a performance analysis report by gathering final values and comparing to planned values for quality, cost, schedule, and resource data In order to determine program performance.**
	
	Knowledge of:
	1) Performance analysis techniques (e.g. earned value analysis (EVA)):
	   a. Collect the data derived from the performance analysis techniques
	   b. Assemble the data into the performance analysis report
	2) Stakeholder expectation and requirements:
	   a. Collect stakeholder expectation and requirements data
	   b. Assemble the data into the performance analysis report
	3) Tools and techniques:
	   a. Use the appropriate communication tools and techniques to obtain data for the performance analysis report
	   b. Apply closing theory, procedures, and techniques to obtain project closeout data for inclusion in the performance analysis report
	   c. Apply tools and techniques to gather program metrics for inclusion in the performance analysis report
	4) Program reports:
	   a. Summarize the results achieved in comparison to the organizational strategic goals in the performance analysis report
	   b. Summarize the trends identified during the program life cycle in the performance analysis report
	
	Skills in:
	1. Communicating results of program performance effectively (verbal and written)
	2. Organizing quality, cost, schedule, risk and resource data (program file)
	3. Analyzing the data and summarizing the program conclusions
	4. Managing stakeholder expectations

Task 2	**Manage program completion by executing the transition plan (initiate benefits realization measurement, release resources and acknowledge individual performance, perform administrative closure, obtain acceptance, transfer ongoing activities to functional organization) in order to close out the program.**
	
	Knowledge of:
	1) Closing theory, procedures, and techniques:
	   a. Use appropriate theory, procedures, and techniques for closing projects
	   b. Recognize program and resource achievements
	   c. Manage the redeployment of program resources

(continued from previous page)

	2) Contracts (obligation, liability etc.):
	   a. Manage contract close out for all contracts including financial reporting and compliance audit for contractual obligations
	   b. Manage the transfer of the contract to owning line organization
	   c. Manage close out obligations associated with company policies and procedures
	3) Human resource planning (performance review, compensation and benefits, etc.):
	   a. Manage the administration of staff reassignment
	   b. Collect performance reviews
	4) Financial metrics and communication techniques:
	   a. Assemble financial and performance metrics
	   b. Produce a consolidated financial report for program closure
	   c. Use appropriate communication techniques to complete program close out
	
	Skills in:
	1. Leading the program team
	2. Communicating program performance
	3. Negotiating with executives, line managers, contractors and customer
	4. Resolving issues
	5. Managing release of resources from the program back to the appropriate line management organization

Task 3	**Conduct the stakeholder post-review meeting by presenting the program performance report in order to obtain feedback and capture lessons learned.**
	
	Knowledge of:
	1) Tools and techniques for post-review meeting:
	   a. Utilize appropriate communication tools and techniques to use for the post-review meeting
	   b. Identify stakeholder expectations and requirements for the post-review meeting
	2) Tools and techniques for program performance analysis:
	   a. Identify the methods associated with a post program review
	   b. Determine the advantages and disadvantages of these methods
	3) Performance reporting techniques:
	   a. Conduct the stakeholder post-review meeting
	   b. Collect residual lessons learned
	
	Skills in:
	1. Presenting program performance reports
	2. Communicating effectively (verbal and written)

Task 4	**Report lessons learned via appropriate methodologies to support future program or organizational improvement.**
	
	Knowledge of:
	1) Communication tools and techniques:
	   a. Identify the appropriate methods for reporting lesson learned
	   b. Determine the advantages and disadvantages of these methods
	   c. Report lessons learned using identified methods

(continued from previous page)

    2) Archiving tools and techniques:
       a. Use archiving tools and techniques for lessons learned
       b. Report lessons learned to the performing organization
    3) Organizational knowledge management practices:
       a. Identify organizational knowledge management practices as they pertain to future programs
       b. Use accepted organizational knowledge management practices to implement lessons learned
       c. Use PMIS storage procedures to archive lessons learned

Skills in:
1. Communicating effectively (verbal and written)
2. Organizing program artifacts

Appendix A

Process to Develop the *Program Management Professional (PgMpSM) Examination Specification*

Defining the Responsibilities

The first step in developing a certification examination is to define the responsibilities of the recipients of the credential. It must be known *before* a content-valid examination can be developed what the individuals who manage programs actually do on the job. A content-valid multiple-choice examination draws questions from every important area of the profession and specifies that performance areas (domains) considered more important, critical, and relevant be represented by more questions on the examination. Defining the role of individuals managing programs occurs in two major phases: one in which individuals currently in the role define the responsibilities, and another in which the identified responsibilities are validated on a global scale.

In the second half of 2004, a series of international meetings sponsored by PMI was held in the four major regions of the world (as currently defined by PM!): EMEA (Europe, Middle East, and Africa), Asia-Pacific, Latin America, and North America. The meetings involved panels of global program management practitioners who met to develop a comprehensive description of the tasks that individuals managing programs perform. These regional meetings were followed by a final meeting at Global Congress 2004-North America, where the final list of tasks was agreed upon by a group of panelists from around the world.

Panel participants, working under the direction of CASTLE Worldwide, Inc., reached consensus on the performance domains, a broad category of duties and responsibilities that define the role. The panelists identified six domains that are important for competent performance by an individual who manages programs:

- Defining the Program
- Initiating the Program

- Planning the Program

- Executing the Program

- Controlling the Program

- Closing the Program

Next, panelists defined the tasks that are important for each domain, along with statements about the knowledge and skills that are associated with performing each task competently.

Validating the Responsibilities Identified by the Panelists

In order to ensure the validity of the study and content outline developed by the panels, a survey requesting feedback on the panel's work was sent to program management practitioners throughout the world. Surveys were distributed globally to thousands of people from 78 countries, with a robust response rate, indicating an extremely high return rate for a survey of this type and providing PMI the statistical significance from which to draw conclusions about the importance, criticality, and frequency of the tasks.

Survey respondents evaluated the domains and tasks identified by the panelists by evaluating their importance, criticality and frequency on a five-point Likert-type scale:

- Importance-degree to which it is essential to be competent in the domain or task, in order to provide competent service;

- Criticality-degree to which incompetence in the domain or task could bring about harm;

- Frequency-percent of programs on which duties were performed, associated with each domain.

Developing a Plan for the Test

Based on respondent ratings, an examination blueprint, clarifying the percent of questions from each domain and task that should be on the examination, was developed. Those domains and tasks that were rated as most important, critical and relevant by survey respondents would have the most questions devoted to them on the assessments.

Another aspect of PMI's leading-edge examination development practices is introducing an enhanced examination development activity. *Pretest* questions will be randomly placed throughout the multiple-choice examination to gather statistical information on the performance of these questions, in order to determine whether they may be used on future examinations. These pretest items are included in the examination, but will not be included in the pass/fail determination. This will allow PMI to monitor the question performance better, prior to including the questions in the final databank of test questions.

Results of the study indicated that the questions on the test should be distributed among the domains as shown in the following table. Pretest items will be disbursed throughout the domains and will not count toward the candidates' scores.

Domains	% of Items per Domain
I. Defining the Program	14%
II. Initiating the Program	12%
III. Planning the Program	20%
IV. Executing the Program	25%
V. Controlling the Program	21%
VI. Closing the Program	8%
Total	**100%**

Project Management **Institute**
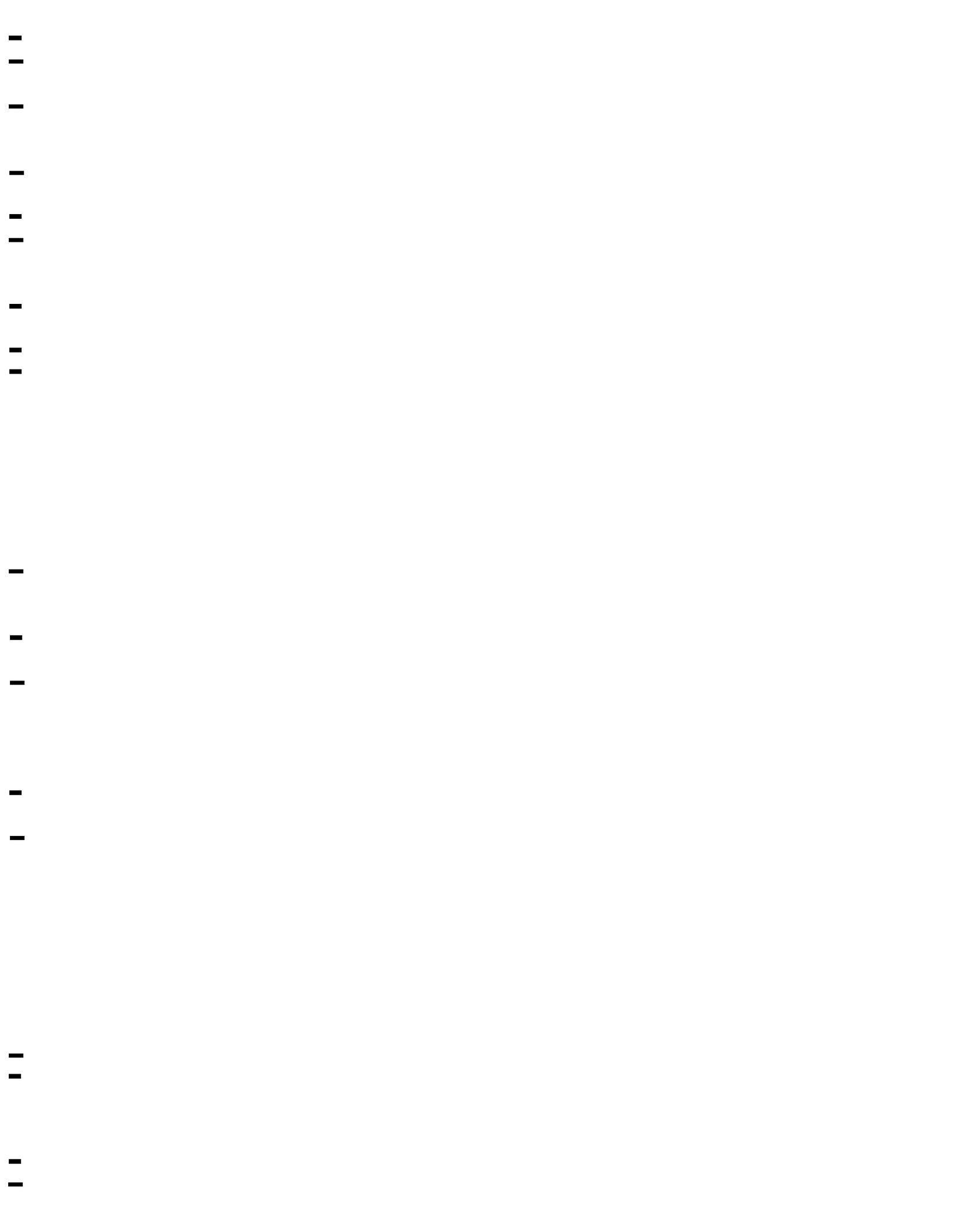
What is recognized as good practice to successfully manage a program?

What processes are required for managing multiple projects and non-project activities within a program environment?

In 2004 the Project Management Institute (PMJ·) conducted a new global role delineation study to initiate the Program Management Professional (*PgMP*℠) credentialing examination. The study results are used to establish the *Program Management Professional (PgMP*℠) *Examination Specification*, describing the tasks (competencies) that Program Managers perform and the program management knowledge and skills used to complete each task.

What is a role delineation study? It **is** a detailed description of a role within a profession that is defined by performance domains (areas of work or responsibility); tasks that help define the domain; and knowledge and skill statements that help elaborate each task.

What is an examination specification? It is a product of the role delineation study that contains the blueprint against which the examination questions are developed. Its purpose is to align the Program Management Professional examination with the study's defined tasks in order to ensure relevant and appropriate measurement of the program manager's capability.

The *Program Management Professional (PgMP*℠) *Examination Specification* is an excellent resource for educators, trainers, administrators, practitioners, and individuals interested in pursuing the Program Management Professional credential.

PMI.
Project Management Institute
Making Project Management Indispensable for Business Results

www.pmibookstore.org