The MITRE Institute
Stay ahead of the curve

MITRE Systems Engineering (SE)

Competency Model

September 1, 2007

Version 1.13E

SEworks Program

MITRE Human Resources

Preface

MITRE is pleased to offer the community this Systems Engineering Competency Model that we have developed and used internally. We hope that others who are concerned with understanding and improving workforce systems engineering competencies will find it thought provoking and useful. To put this material in the proper context so that it may be applied appropriately, some explanation is in order.

Competency models can serve a variety of purposes, including recruitment and on-boarding, assessment, promotion, recognition and reward, development, and performance management. At MITRE, we have used this particular model primarily for competency assessments (self and manager) and development activities. Specifically, it underlies a multi-level systems engineering curriculum than we are rolling out in phases for internal training.

It should be noted that this competency model can be applied to an individual or to a team environment, in which the team needs to bring a union of talents to bear. However, it must be understood that, as for any good competency model, its details are unique to its developer's needs (i.e., MITRE's), which are shaped by our role as an offerer of Federally Funded Research and Development Center (FFRDC) services to our government sponsors. While we believe that much in the model is applicable to others doing systems engineering, which is why we are making it available, it should be used as a reference from which to springboard toward products that are tailored to other specific circumstances and needs, and not applied blindly.

Finally, no organization is static. MITRE's understanding of its competency needs have evolved since this model was created. We know that certain sections can be improved, and are in the process of doing so, again tailored to our specific needs. When a new version is ready, we will update the material herein, but evolution will continue and it will never be completely finished.

I hope that you find the material of interest. If you have comments or feedback, we would be happy to hear from you at secmfeedback@mitre.org.

Sincerely,

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Introduction

The MITRE Institute Systems Engineering (SE) Capability Enhancement Project (SECEP) committee, along with more than 150 MITRE systems engineers and technical experts, built this competency model to help MITRE staff enhance our strategic capability in systems engineering. This model reflects MITRE's brand of systems engineering, which is a "government view and approach" to systems engineering. In our independent partnering role as an FFRDC, we take the government's view and support its needs. Contractors would have a somewhat different systems engineering competency model than the one described here. MITRE's Systems Engineers generally become systems engineers by two mechanisms: 1) They may start their career in a deep technical specialty and broaden their system view over the years as they take on more project responsibilities; 2) They may be trained in systems engineering through either academic or corporate related education. In either case, on the job work experience is a critical requirement for becoming a good systems engineer.

Competency Model Approach

There are two general competency model approaches – a shorter "success model" and a longer "comprehensive model." The purpose of a success model is to describe a small set of competencies that differentiate successful systems engineers from average performers. The purpose of a comprehensive model is to identify all the competencies required to fulfill a particular role. The MITRE Institute chose to develop a comprehensive model, as it is more useful in assessing and developing individuals and teams for the wide range of systems engineering jobs.

The original draft competencies were based upon information from standards bodies, the MITRE Institute, commercial companies, and Government sources. The non-technical competencies were extracted from the MITRE Institute Leadership and Management competency model for consideration as part of the suite of competencies that are important for successful systems engineers. The model went through numerous revisions with input from many across MITRE before it reached this form. It will continue to evolve and be upgraded as we document more about the systems engineering practice at MITRE, especially in the enterprise systems engineering area.

Success Criteria for MITRE Systems Engineers

To assist with defining and prioritizing behaviors for MITRE Systems Engineers, the following high-level success criteria were developed by the SECEP team and reviewed by all of the focus groups.

Criteria for Successful MITRE Systems Engineers

Successful MITRE Systems Engineers:
 	
• Define the sponsor's and customer's problem or opportunity from a comprehensive, integrated perspective.
 	
• Apply systems thinking to create strategies, anticipate problems, and provide short- and long-term solutions.
 	
• Adapt to change and uncertainty in the project and program environment, and assist the sponsor, customer, and other stakeholders in adapting to these.
 	
• Propose a comprehensive, integrated solution or approach that:
   o Contributes to achieving the sponsor's, customer's and other stakeholders' strategic mission objectives in a changing environment,
   o Can be feasibly implemented within the sponsor's and customer's political, organizational, operational, economic and technical context,
   o Addresses interoperability and integration challenges across organizations, and
   o Shapes enterprise evolution through innovation.
 	
• Cultivate partnerships with our sponsors and customers to work in the public interest.
 	
• Bring their own and others' expertise to provide sound, objective evidence and advice that influences the decisions of our sponsors, customers, and other stakeholders.

Competency Model Framework

This section describes the SE competency model framework. It includes a brief definition of the competency model terms and a description of levels of proficiency.

Competencies, Key Actions, and Behaviors

The competency model describes the competencies, key actions and behaviors that are needed for systems engineers to be effective on their jobs. It consists of 36 competencies organized into five different sections of the model.

- Each competency in the model consists of a set of job-related **key actions,** which describe a set of related behaviors.

- Each **behavior** describes a specific, observable action. The behaviors affect a part of the SE's job, correlate with performance on the job, can be observed and evaluated, and can be improved via training and development (e.g., collects information to understand the sponsor's mission; translates the sponsor's needs into well-written requirements; conducts technical reviews and audits; etc**.).**

  NOTE: One specific action verb that is often used at the expert level is the verb "Recommends." While this verb is frequently used, it denotes a "strong" recommends. A "strong" recommends means that the MITRE systems engineers not only recommend solutions and results backed up by evidence, but they also remain in close association with our government sponsor/customer to help implement and carry out the agreed to recommendations.

Levels of Proficiency

The MITRE systems engineering competency model has three (3) levels of proficiency (i.e., levels of capability). The key actions and behaviors in the model are shown in three proficiency columns – **Foundational, Intermediate, and Expert**. A person's competence at a specific proficiency level is generally the result of education, work experience, job tasks, and specific job roles.

The general idea of a proficiency level is that the staff member performs work at a specific level as part of their normal job role and they are often mentoring and reviewing work from the levels below the one on which they are performing. The three proficiency levels are cumulative. Foundational level behaviors are mastered as a basis for arriving at an Intermediate level of proficiency, and Intermediate level behaviors are mastered as a prerequisite for arriving at the Expert level. The higher levels are capable of performing the work of the levels below them. They have probably accomplished this role and these behaviors in the past. Depending on the size of the project, they may have to perform some of these lower-level behaviors in their present job role.
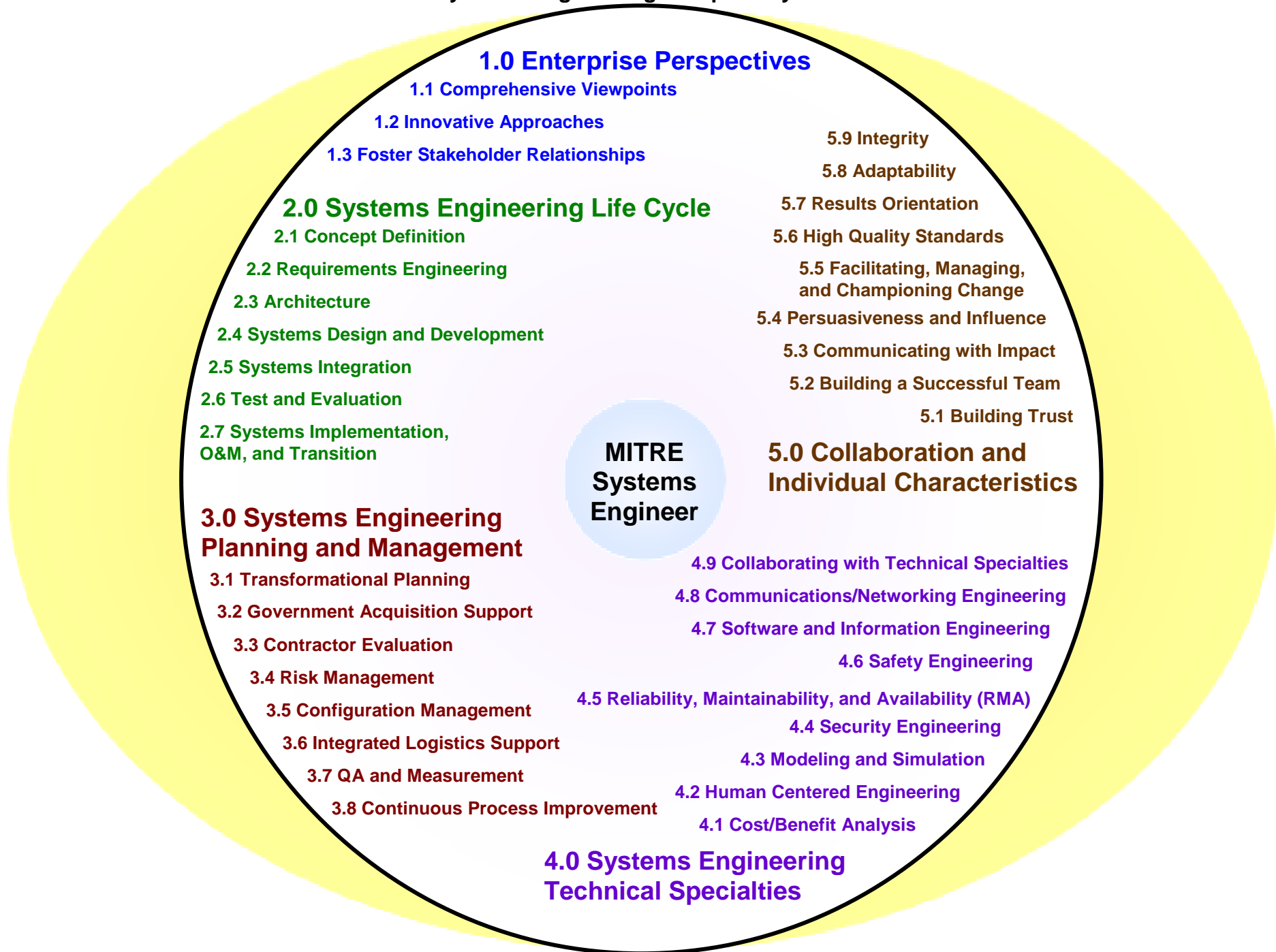
A MITRE systems engineer is likely to be expert in some competencies, intermediate in others, and foundational in others. *It is not expected, and it would be highly unlikely, that any one person would be expert in all the behaviors and competencies in this model.*

Competency Wheel

Both technical and non-technical competencies distinguish MITRE as a strategic mission partner with the Government, fulfilling its special FFRDC relationship in the public interest. There are a number of enterprise systems engineering concepts in Section 1 – Enterprise Perspectives, but there are also a number of enterprise engineering related behaviors throughout the other competency model sections, especially at the Expert proficiency level.

The SE competency wheel in Figure 1 illustrates the grouping of the competencies into the following five Sections:

- **1.0 Enterprise Perspectives** includes critical competencies that distinguish MITRE systems engineers by the way they think about and approach systems engineering efforts, how they communicate their strategic work to their sponsors and customers, and how they support and influence their decision making.

- **2.0 Systems Engineering Life Cycle** consists of the fundamental competencies that systems engineers need to conduct their job throughout the systems engineering life cycle. No specific life cycle methodology is implied.

- **3.0 Systems Engineering Planning and Management** describes the competencies that the systems engineer needs to be competent in for planning and technical management of systems engineering activities on MITRE projects and programs. Some competencies, for example, risk management, may be used in every part of the life cycle, while others are called for in only specific parts of the life cycle.

- **4.0 Systems Engineering Technical Specialties** are "call as needed" competencies that describe how the MITRE systems engineer works with a range of specialty engineering disciplines. These competencies will only be used on projects that require this type of specialty engineering support. *Note: these competencies and behaviors are written for the systems engineer, not the specialist.* Competency 4.9 was written as a general specialty engineering collaboration competency, which describes how the systems engineer would interface with technical specialties not explicitly included in this section.

- **5.0 Collaboration and Individual Characteristics** includes competencies that describe important, universal communications skills and personal characteristics. The competencies were selected from The MITRE Institute's Leadership and Management Model and were prioritized as the most important for MITRE systems engineers.

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1.2 Innovative Approaches

1.3 Foster Stakeholder Relationships

2.0 Systems Engineering Life Cycle

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2.3 Architecture

2.4 Systems Design and Development

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3.0 Systems Engineering Planning and Management

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3.8 Continuous Process Improvement

MITRE Systems Engineer

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4.6 Safety Engineering

4.5 Reliability, Maintainability, and Availability (RMA)

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4.2 Human Centered Engineering

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4.0 Systems Engineering Technical Specialties

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Brief Descriptions of the Model Sections and Competencies

1.0 Enterprise Perspectives	*Go To Table of Contents*

Enterprise Perspectives includes essential competencies that distinguish MITRE systems engineers by the way they think about and approach systems engineering efforts. They use systems thinking to work comprehensively across portfolios, model systems of varying complexities, and create strategies that consider all aspects of the sponsor's problems. They innovate and willingly work with partial and/or ambiguous problems, frame the essence of the sponsor/customer's problem, and build scalable and adaptable solutions, while considering the larger stakeholder community. Through relationship building, they find the best resources for the sponsor/customer inside and outside of MITRE, present unbiased positions to them, and explain complex ideas in understandable terms.

1.1 Comprehensive Viewpoints. Systems engineers demonstrate a broad understanding of the systems context and environment, model systems of varying complexities, and discover new approaches and ideas to model complex systems**.** They perform portfolio gap analyses and scenario developments, learn to view uncertainty as an opportunity for achieving better enterprise capability, and create long-term strategies that achieve business/mission objectives. They consider the future needs of the sponsor/customer by considering all aspects of their problems, including the political, organizational, economic, operational and technical aspects.

1.2 Innovative Approaches. Systems engineers innovatively identify partial solutions to ambiguous problems, propose and generate creative ideas and solutions, and frame the essence of the sponsor/customer's problem. They develop solutions that take a global view, while addressing competing local interests, synthesize information into solutions that make appropriate trade-offs by aligning the interests of the larger stakeholder community, and recommend scalable and adaptable solutions for complex systems to the sponsor/customer.

1.3 Foster Stakeholder Relationships. Systems engineers network to build alliances and consensus among stakeholders and leverage the best engineering resources for the sponsor/customer inside and outside MITRE. They develop and express independent, objective, and unbiased positions, and can communicate information objectively, directly, and tactfully to key decision-makers, including information on sensitive or politically-charged issues. They explain complex ideas, problems and solutions in understandable terms, question assumptions, and give frank advice even when it may require difficult conversations with our stakeholders .

2.0 Systems Engineering Life Cycle

The **Systems Engineering Life Cycle** consists of the fundamental competencies that systems engineers need to be competent in regardless of the life cycle methodology used. They conceptually define systems, specify and create architectures, and define alternative approaches. They monitor and assess design, development, integration, and test. They help the sponsor/customer with deployment, operations, and maintenance issues.

2.1 Concept Definition. Systems engineers create and gain agreement on a working description and view about how the system or systems will be used and function in the target environment, including needs assessments, a Concept of Operations, top-level systems requirements, and creation of a high-level conceptual design.

2.2 Requirements Engineering. Systems engineers integrate business/mission and operational needs and transform these needs into system requirements. They analyze, manage, and trace systems requirements, facilitate stakeholder agreement about changes to and management of the systems requirements, and recommend critical performance measures and safety features.

2.3 Architecture. Systems engineers describe the current architecture and underlying technologies for future architectures, perform an Analysis of Alternatives (AoA) to frame future architectures, and recommend solutions. They design an architecture that captures requirements and adapts to changes, and they recommend an architecture solution that meets business/mission needs.

2.4 Systems Design and Development. Systems engineers prepare design and milestone review criteria, and they develop and gain agreement from the sponsor/customer on design review and milestone-decision approaches. They evaluate and influence the contractor's design and development effort, make initial performance assessments, and lead design review teams.

2.5 Systems Integration. Systems engineers assist with the development of an integration approach and the identification of integration and interoperability challenges. They create and advocate integration strategies that meet business/mission needs, use domain knowledge to evaluate integration and interoperability options for evolving systems, and observe and assess integration testing.

2.6 Test and Evaluation. Systems engineers assist with developing and defining test and evaluation plans and procedures. They create and guide test and evaluation strategies to field effective and interoperable systems. They participate in developmental and operational testing, observe and communicate test-results, influence the re-test and mitigation strategy, and assist the sponsor/customer with the system acceptance decision.

2.7 Systems Implementation, Operations and Maintenance, and Transitions. Systems engineers prepare transition plans for delivering systems, gain agreement on the transitional approach, and support system deployment, including simultaneous systems operation. They develop, evaluate and recommend system operations, maintenance, and disposal plans. They develop and influence approaches for system modifications and technology insertion.

3.0 Systems Engineering Planning and Management

Systems Engineering Planning and Management describes fundamental competencies that the systems engineer needs to be capable of in the planning and managing the systems engineering activities for projects, programs, and enterprises throughout the life cycle. Some competencies, for example, risk management, may be used in every part of the life cycle, while others are only called for during specific life cycle phases.

3.1 Transformational Planning. Systems engineers collect and assess data related to changes in current operations, processes, and procedures.   They formulate and recommend a strategy (and plans) for transforming the sponsor/customer organization, structure, and processes, and they recommend systems interfaces and related interactions with other organizations. They collaborate and build consensus with the sponsor/customer for the transformation and they assist with a communication strategy.

3.2 Government Acquisition Support. Systems engineers identify key features of the acquisition, develop acquisition plans, and collaborate with the sponsor/customer to establish the acquisition program office. They work with the sponsor/customer to examine, develop, and select the systems engineering life cycle approach for the program. They develop plans to support the selected approach. They help plan contractor milestones and deliverables, and the exit criteria from each acquisition phase. They support the acquisition process by helping to create the SOW, WBS, and RFP, and then they assist with the analysis and selection of the best contractor.

3.3 Contractor Evaluation. Systems engineers perform contractor evaluations and milestone reviews, influence sponsor/customer decisions during these reviews, monitor contractor's continued performance, and recommend changes based upon the their performance. They also participate in independent review teams.

3.4 Risk Management. Systems engineers propose and influence the risk management approach.   They identify, analyze, and prioritize risks, with respect to impact, probabilities, dependencies, timeframes, and unknowns. They prepare and monitor risk mitigation plans and strategies, conduct reviews, and elevate important risks.

3.5 Configuration Management. Systems engineers prepare configuration management approaches, processes, and plans. They analyze and track changes to the baseline, evaluate the impacts from the proposed changes, facilitate decisions on these changes, and ensure that approved changes are implemented.

3.6 Integrated Logistics Support. Systems engineers develop an integrated life-cycle logistics support approach, recommend alternatives during all life cycle phases to minimize risk and cost, and help guide the planning and implementation of logistics support.

3.7 Quality Assurance and Measurement. Systems engineers recommend establishing a quality assurance program in the systems acquisition and/or the Government operational organization and guide the establishment and direction of the program. They conduct process and product reviews and influence the resolution of corrective actions to ensure adherence to documented processes. They help develop a measurement capability in the systems acquisition and/or the operational organizations.

3.8 Continuous Process Improvement. Systems engineers collaborate with the sponsor/customer to develop and influence the Government's approach to implementing and improving systems engineering processes for the acquisition organization, by drafting policy, developing plans, and conducting maturity assessments. They collaborate with government and contractor organizations to implement, assess, and improve shared systems engineering processes.

4.0 Systems Engineering Technical Specialties

System Engineering Technical Specialties are "call as needed" competencies that describe how the MITRE systems engineer works with a range of specialty engineering disciplines in one or more phases of the systems engineering life cycle. *These are competencies and behaviors for which the systems engineer needs to be capable, not the specialist. These competencies would be written differently for specialists.*

4.1 Cost/Benefit Analysis. Systems engineers collaborate with the cost/benefit analyst and sponsor/customer to define the approach, scope, products, key parameters, and trade-offs of the analysis. They support and provide direction to the analyst, review results, guide and evaluate the sensitivity of the analysis, and provide technical, programmatic and enterprise-wide perspectives for the benefit of the analyst.

4.2 Human Centered Engineering (HCE). Systems engineers collaborate with the specialist to support HCE activities, define the HCE approach, and recommend design and trade-off decisions during the early acquisition phases. They collaborate with the HCE and the sponsor/customer during system development and operational phases to ensure that HCE concerns are met and resolve.

4.3 Modeling and Simulation (M&S). Systems engineers collaborate with the specialist to identify approaches, create and validate models, interpret results, and recommend changes to operational capabilities. They collaborate with and leverage other M&S efforts and they support M&S exercises and games.

4.4 Security Engineering. Systems engineers collaborate with the specialist and the sponsor/customer to identify security engineering approaches and constraints, plan for certification and accreditation, and recommend security-related trade-offs.

4.5 Reliability, Maintainability, and Availability (RMA). Systems engineers collaborate with the specialist and the sponsor/customer to identify approaches, interpret RMA model results and sensitivities, suggest design changes, and prioritize corrective actions. They collaborate with the specialist and the sponsor/customer to recommend logistics approaches to improve the RMA of operational systems.

4.6 Safety Engineering. Systems engineers collaborate with the specialist to identify safety engineering approaches and activities, conduct safety-related analyses, examine study or modeling results and their sensitivities, and provide recommendations on design trade-offs.

4.7 Software and Information Engineering. Systems engineers collaborate with the specialists to analyze user needs, develop software requirements, define performance measures, and prioritize risks. They facilitate interaction among the sponsor/customer, end-users, and specialists to clarify expectations, problems, and potential solutions. They work with the specialists to create information approaches and views of the enterprise, review data and reliability modeling studies, and ensure legacy data conforms to new practices in the operational domain. They identify critical areas for software testing, communicate risks, and develop mitigation strategies based on the testing results.

4.8 Communications/Networking Engineering. Systems engineers collaborate with the specialists to develop approaches to data and network management, define end-to-end network/communications requirements, define system performance parameters, and determine vendor independent architecture solutions. They help the specialist investigate testing and operational performance issues, examine the impacts of new technology insertions, and assist with the integration of COTS/GOTS.

4.9 Collaborating with Technical Specialties. Systems engineers identify the need, define the scope, and estimate the cost of studies and special engineering efforts. They help to obtain support and resources from the sponsor/customer and from the specialty engineering group. They select specialists and collaborate with them by providing technical and programmatic insights, analyze the results of studies, assist with specialty test and test results interpretation, and ensure system corrections and re-test occur.

5.0 Collaboration and Individual Characteristics

Collaboration and Individual Characteristics competencies describe important, universal collaboration skills and personal characteristics. Systems engineers communicate and interpret the vision of the "big picture" across multiple disciplines, teams, and environments. They transform the visions of leaders into the engineering work performed by technical staff, and communicate information to ensure success. Strong competence in these collaboration and individual characteristics is important for successful completion of their projects.

5.1 Building Trust. Systems engineers gain other people's confidence and help to set an environment of trust by communicating openly, acknowledging and advocating the contributions of others, being honest, and behaving consistently in words and actions.

5.2 Building a Successful Team. Systems engineers collaborate on teams using appropriate methods and a flexible interpersonal style. They articulate team expectations and clarify roles and responsibilities. They facilitate the completion of team goals, by developing, motivating, and guiding teams toward the achievement of their objectives.

5.3 Communicating with Impact. Systems engineers express thoughts and ideas in a clear, succinct, and compelling manner in both individual and group situations. They adjust their language to capture the attention of the audience.

5.4 Persuasiveness and Influence. Systems engineers effectively communicate to persuade or influence others outside one's formal authority to accept a point of view, to adopt a specific agenda, or to take a course of action in the best interests of the sponsor/customer and the wider stakeholder community.

5.5 Facilitating, Managing, and Championing Change. Systems engineers initiate, encourage, facilitate, manage, and support the implementation and acceptance of needed changes within one's own organization or within the sponsor/customer's organization (e.g., new strategies, methods, policies or processes).

5.6 High Quality Standards. Systems engineers set high standards of performance for self and others, assume responsibility and accountability for successfully completing assignments or tasks, and self-impose standards of excellence.

5.7 Results Orientation. Systems engineers set high goals for personal and group accomplishment, use measurement methods to monitor progress toward goal attainment, and tenaciously work to meet or exceed goals.

5.8 Adaptability. Systems engineers maintain effectiveness when experiencing changes in work tasks or the work environment and adjust effectively to operate within new work structures, processes, requirements, or cultures.

5.9 Integrity. Systems engineers champion social, ethical, and organizational values and principles, which reflect MITRE's high standards in its public interest role.

1.0 Enterprise Perspectives

Competency: 1. 1 Comprehensive Viewpoints

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Collects information and works with senior staff to understand the systems context and environment.	**Demonstrates a broad understanding of the systems context and environment.**	**Anticipates future needs and changes based on a broad understanding of the systems context and environment.**
Applies a business/mission perspective to address current sponsor/customer and stakeholder problems and opportunities.	Applies a long-term, business/mission perspective with MITRE's stakeholders that extends beyond the objectives of a specific project or program.	Advocates a long-term, business/mission perspective with our key stakeholders that extends beyond the objectives of a specific project or program.
Gathers information about the sponsor/customer's public service mission, business and operational domains, multiple stakeholder requirements, and government acquisition conditions.	Demonstrates a broad understanding of the sponsor/customer's public service mission, business and operational domains, multiple stakeholder requirements, and government acquisition conditions.	Anticipates future needs based on a broad understanding of the sponsor/customer's public service mission, business and operational domains, multiple stakeholder requirements, and government acquisition conditions.
Gathers information to understand systems from multiple perspectives that go beyond the engineering level to encompass technological, economic, managerial, and social perspectives.	Describes systems from multiple perspectives that go beyond the engineering level to encompass technological, economic, managerial, and social perspectives.	Presents systems descriptions to the sponsor/customer that go beyond the engineering level to encompass technological, economic, managerial, and social perspectives.
Collects information about a broad range of issues that may impact systems in their environment (technical standards, policies, regulations, funding, scoping, etc.).	Scans the environment to identify and anticipate changes in a broad range of issues that may impact systems across the enterprise (technical standards, policies, regulations, funding, scoping, etc.).	Communicates with the sponsor/customer about anticipated changes in a broad range of issues that may impact their systems across the enterprise (technical standards, policies, regulations, funding, scoping, etc.).
Assists in analyzing the maturity of emerging technologies and their applicability to a specific systems solution.	Assesses the maturity of emerging technologies and their applicability across broader mission areas of the enterprise.	Communicates assessment results to the sponsor/customer about the maturity of emerging technologies and their applicability across broader mission areas of the enterprise.

Competency: 1. 1 Comprehensive Viewpoints

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Models systems in their environments.	**Models systems of varying complexities in their environments.**	**Discovers new approaches and ideas to model complex systems.**
	Creates a comprehensive, integrated model that describes systems of varying complexities in their environments, including systems dynamics (e.g. human, organizational and technical dynamics).	Presents to the sponsor/customer and key stakeholders a comprehensive, integrated model that describes systems of varying complexities in their environments, including systems dynamics (e.g. human, organizational and technical dynamics).
Uses approaches, tools, and techniques to describe, analyze, and synthesize complicated and complex systems.	Identifies approaches, tools, and techniques to describe, analyze, and synthesize complicated and complex systems.	Recommends to the sponsor/customer approaches to describe, analyze, and synthesize complicated and complex systems.
Collects information to define changeable boundaries for systems.	Defines changeable boundaries for systems, including complex systems.	Explores beyond the boundaries of complex systems to discover important new concerns, opportunities, and ideas.
Assists in adapting spatial and temporal boundaries as new information is discovered about the systems.	Adapts spatial and temporal boundaries as new information is discovered, such as changing the boundaries for complex and enterprise systems.	Convinces the sponsor/customer to make changes to spatial and temporal boundaries as new information is discovered, such as changing the boundaries for complex and enterprise systems.
Supports portfolio gap analyses and scenario development.	**Performs portfolio gap analyses and scenario development.**	**Directs portfolio gap analyses and scenario development.**
	Analyzes gaps in the portfolio between business/mission objectives, existing or planned capabilities, and available funding.	Directs analyses to identify gaps and in the current portfolio, and to communicate the results to the sponsor/customer.
	Prioritizes business/mission objectives to determine which to include in the portfolio.	Gains agreement with the sponsor/customer on the prioritized business/mission objectives in the portfolios.
Collects information (e.g., resource allocations, acquisition strategies, governance, new technologies, etc.) to develop alternatives for the portfolio mix.	Develops alternatives for the portfolio mix to achieve business/mission objectives and match critical capabilities to available funding.	Convinces the sponsor/customer to select a portfolio mix that achieves business/mission objectives and matches critical capabilities to available funding.

Competency: 1. 1 Comprehensive Viewpoints		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Assimilates information to help create long-term strategies and exploit uncertainty as an opportunity.	**Creates long-term strategies that achieve business/mission objectives and exploit opportunities.**	**Recommends long-term strategies that achieve business/mission objectives and exploit opportunities.**
Collects information to understand significant organizational, political, operational, economic, and technical dimensions of the problem.	Identifies trends, interdependencies, and constraints associated with the problem's multiple dimensions and overall complexity.	Enhances the sponsor/customer understanding of the problem's multiple dimensions and overall complexity, and recommends strategies to solve those problems.
Identifies organizational, political, operational, economic, and technical uncertainties in changing environments.	Assesses organizational, political, operational, economic, and technical uncertainties to pinpoint opportunities that can be exploited in changing environments.	
.	Develops strategies to exploit opportunities and mitigate risks which arise from uncertainties in changing environments.	Recommends strategies to exploit opportunities and mitigate risks which arise from uncertainties in changing environments.
Investigates conflicts and changes in applicable laws, regulations, policies, and guidance across multiple stakeholder organizations.	Creates strategies to resolve conflicts and adjust to changes in applicable laws, regulations, policies, and guidance across multiple stakeholder organizations.	Recommends strategies to resolve conflicts and adjust to changes in applicable laws, regulations, policies, and guidance across multiple stakeholder organizations.
	Creates strategies that extend beyond the challenges of the day, short-term objectives, and current system boundaries to help solve long-term business/mission objectives.	Recommends strategies that extend beyond the challenges of the day, short-term objectives, and current system boundaries to help solve long-term business/mission objectives.
	Develops strategies to navigate the government's planning, programming, budgeting, and decision-making processes.	Recommends that the sponsor/customer implement strategies to navigate the government's planning, programming, budgeting, and decision-making processes.

1.0 Enterprise Perspectives

Competency: 1.2 Innovative Approaches

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Explores ambiguous problems and partial solutions.	**Identifies partial solutions to ambiguous problems.**	**Recommends partial solutions to ambiguous problems.**
Acknowledges what is unknown and seeks greater understanding from appropriate sources inside MITRE.	Acknowledges what is unknown and seeks greater understanding from appropriate sources inside and outside MITRE.	Acknowledges what is unknown and seeks greater understanding from appropriate sources inside and outside MITRE.
Questions the viability of incomplete ideas while allowing them to evolve.	Contributes to the exploration and evolution of incomplete ideas and embryonic concepts so that valid approaches may emerge.	Explores the potential evolution of incomplete ideas and embryonic concepts to discover if valid approaches may emerge.
Works with vague definitions, fuzzy problems, and messy boundaries that have no clear solution or outcome.	Identifies approaches to vague definitions, fuzzy problems, and messy boundaries that have no clear solution or outcome.	Recommends potential solutions to address vague definitions, fuzzy problems, and messy boundaries that have no clear solution or outcome.
Works with partial solutions.	Identifies partial solutions by assessing when "good is good enough," and offers approaches to seek better solutions.	Recommends partial solutions that meet an important subset of needs quickly, coupled with approaches to seek better or more effective solutions.
Proposes creative, innovative ideas and solutions.	**Generates creative ideas and solutions.**	**Recommends innovative and feasible, ideas and solutions.**
Combines ideas in unique and creative ways that go beyond straight-line reasoning and obvious answers.	Synthesizes ideas in unique, creative, and forward-thinking ways to explore new approaches and solutions.	Recommends new approaches and solutions in unique, creative, and forward-thinking ways.
Demonstrates openness to innovative ideas from others.	Encourages openness to innovative ideas from others.	Rewards openness to innovative ideas from others.
Creates implementable and affordable ideas quickly.	Creates implementable and affordable ideas quickly.	Proposes implementable and affordable ideas to the sponsor/customer.
Helps to create innovative solutions by building prototypes, conducting experiments, and using visualization techniques.	Builds innovative solutions that include prototyping, experimentation, and visualization techniques.	Convinces the sponsor/customer to accept innovative solutions that include prototyping, experimentation, and visualization techniques.

Competency: 1.2 Innovative Approaches		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Collects and analyzes data to frame all dimensions of the problem.	**Frames the essence of the problem.**	**Frames the essence of the problem for the sponsor/customer.**
Collects and analyzes data in order to help define and scope problems.	Defines, simplifies, and scopes problems at all levels (i.e., project, program, and the enterprise).	Defines, simplifies, and scopes problems at all levels (i.e., project, program, and the enterprise).
	Seeks and/or uses specialized skills on component problems, while looking for ways to synthesize individual solutions into larger solutions.	Seeks and/or uses specialized skills on component problems, while looking for ways to synthesize individual solutions into larger solutions.
Identifies problems for which engineering solutions cannot be assured through conventional processes.	Frames problems for which engineering solutions cannot be assured through conventional processes.	Presents the essence of the problem to the sponsor/customer for which engineering solutions cannot be assured through conventional processes.
	Clarifies and communicates problems by recognizing patterns, developing models using analogies, and drawing parallels.	Clarifies and communicates problems by recognizing patterns, developing models using analogies, and drawing parallels.
	Applies a wide variety of past experiences to current problems.	Shares a wide variety of past experiences and proven approaches that can be applied to current problems.
	Anticipates future problems by applying critical thinking and healthy skepticism.	Describes anticipated future problems to the sponsor/customer and key stakeholders.

Competency: 1.2 Innovative Approaches		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Develops solutions that satisfy the immediate interests of the sponsor/customer.	**Synthesizes information to formulate solutions that make appropriate trade-offs and align the interests of the larger stakeholder community.**	**Recommends scalable and adaptable solutions for complex systems.**
Conceives solutions that satisfy the immediate interests of the sponsor's/customer's organization.	Conceives solutions that align the interests of the sponsor's/customer's organization with those of the larger stakeholder community.	Recommends solutions that align the interests of the sponsor's/customer's organization with those of the larger stakeholder community.
Brainstorms multiple approaches and solutions.	Brainstorms multiple approaches and solutions that take a global view of the problem, while also addressing competing local interests.	Selects the best approach or solution from among multiple alternatives.
Formulates solutions for systems whose behavior is expected to be predictable.	Formulates solutions for systems whose behavior is expected to adapt to evolving systems and their emergent behavior.	Formulates scalable and adaptable solutions for future systems whose behavior is expected to evolve and emerge.
	Analyzes the potential impact of changes on future systems across projects and programs.	Analyzes the potential impact of changes on future systems across the enterprise.
	Formulates feasible and implementable solutions that make viable trade-offs among political, economic, organizational, and technical considerations.	Recommends feasible and implementable solutions to the sponsor/customer that address the political, economic, organizational, and technical dimensions of the problem.

1.0 Enterprise Perspectives

Competency: 1.3 Foster Stakeholder Relationships

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Builds cooperative relationships.	**Obtains the best engineering resources and builds cooperative relationships inside and outside MITRE.**	**Leverages engineering resources and relationships for the sponsor/customer inside and outside MITRE.**
Networks with MITRE staff, interacting across Centers to build relationships and learn about MITRE's activities and capabilities.	Cultivates an active network across technical groups, regulatory groups, sponsors/customers, and other key stakeholders for information sharing, collaboration, and decision-making.	Forms alliances across technical and regulatory groups, sponsors/customers, and other key stakeholders for information sharing, collaboration, and decision-making.
Works on integrated engineering teams to gain cooperation, promote openness to new ideas and recommendations, and receive feedback about priorities for systems engineering efforts.	Fosters relationships with key stakeholders to gain cooperation, promote openness to new ideas and recommendations, and receive feedback about priorities for systems engineering efforts.	Leverages key alliances to gain cooperation, promote openness to new ideas and recommendations, and receive feedback about priorities for systems engineering efforts.
Works effectively with multiple engineering disciplines and teams to create and understand other analyses and solutions.	Evaluates analyses and solutions from multiple engineering disciplines and teams.	Leverages key stakeholder relationships to influence decision-makers on important integrated designs and solutions.
Finds the best systems and specialty engineering expertise from inside of MITRE.	Finds the best systems and specialty engineering expertise from inside of MITRE.	Leverages diverse resources from inside and outside of MITRE to meet future sponsor/customer needs for systems and specialty engineering expertise.
	Uses corporate memory across numerous systems engineering projects to facilitate the integration of legacy and future systems.	Leverages corporate memory across numerous systems engineering projects to facilitate the integration of legacy and future systems.

Competency: 1.3 Foster Stakeholder Relationships		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Develops and expresses independent, objective, and unbiased positions.	**Communicates independently, objectively, directly, and tactfully to key decision-makers, including information on sensitive or politically-charged issues.**	**Communicates independently, objectively, directly, and tactfully to key decision-makers, including information on sensitive or politically-charged issues.**
Develops independent, balanced viewpoints and recommendations that reflect an understanding of stakeholder needs, expectations, resources, and end-user capabilities.	Communicates independent, balanced viewpoints and recommendations to key decision-makers that reflect an understanding of stakeholder needs, expectations, resources, and end-user capabilities.	Gains support for independent, balanced viewpoints and recommendations from key decision-makers that reflect an understanding of stakeholder needs, expectations, resources, and end-user capabilities.
Communicates complex ideas, problems, and solutions in ways that are easily understood (e.g., using examples, visualizations, analogies, mental models, animations, discovery maps, interactive displays, and prototype demonstrations).	Explains complex ideas, problems and solutions by representing them in simple terms (e.g., using examples, visualizations, analogies, mental models, animations, discovery maps, interactive displays, and prototype demonstrations).	Communicates recommendations to decision makers by clearly, effectively, and confidently communicating complex ideas, problems, and solutions in understandable terms (e.g., using examples, visualizations, analogies, mental models, animations, discovery maps, interactive displays, and prototype demonstrations).
Questions assumptions, beliefs, processes, and requests that are inconsistent with the sponsors/customer's mission, objectives, problems, and solutions.	Questions assumptions, beliefs, processes, and requests that are inconsistent with the sponsors/customer's mission, objectives, problems, and solutions.	Collaborates with the sponsor/customer to resolve inconsistencies between their assumptions, beliefs, and processes on the one hand, and their mission, objectives, problems, and solutions on the other.
Strongly questions requests or requirements that can be shown to be unrealistic based on independent evidence.	Strongly questions requests or requirements that can be shown to be unrealistic based on independent evidence and works with the sponsor/customer to identify alternatives that still align with their mission.	Raises difficult issues and recommendations with key decision-makers to increase the likelihood of achieving their mission objectives.
	Speaks honestly, directly, and diplomatically to the sponsor/customer and other stakeholders, factoring in interpersonal, agency, and inter-agency politics.	Speaks honestly, directly, and diplomatically to the sponsor/customer and other stakeholders, factoring in interpersonal, agency, and inter-agency politics.
	Addresses unarticulated requirements tactfully, including unstated items associated with personal agendas.	Resolves sensitive and politically charged issues tactfully, which arise as unarticulated requirements and/or personal agendas.

Competency: 1.3 Foster Stakeholder Relationships		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Contributes to consensus building among key stakeholders.	**Builds consensus among key stakeholders.**	**Facilitates decision-making and partnering among key stakeholders.**
	Identifies trends, patterns, goals, interests, and views among key stakeholders factions in the sponsor/customer's business/mission domain.	Articulates shared goals, conflicting interests, and multiple views among the key stakeholders factions in the sponsor/customer's business/mission domain.
	Builds a common framework of ideas and objectives, as the basis for making decisions among multiple stakeholders.	Builds consensus among multiple stakeholders by using a common framework of ideas and objectives.
	Tailors personal interaction and facilitation approach to achieve results even when consensus is difficult to achieve due to interpersonal and organizational obstacles.	Tailors personal interaction and facilitation approach to achieve results even when consensus is difficult to achieve due to interpersonal and organizational obstacles.
Views conflict as an opportunity to exchange ideas and approaches.	Brings conflict out into the open to disclose areas of disagreement, seek common ground, and strengthen key stakeholder relationships.	Facilitates the resolution of conflict brought out into the open and leverages it as an opportunity to move key stakeholders towards consensus.
Informs senior MITRE managers and staff concerning potential areas of conflict.	Identifies opportunities for productive resolution of conflict as it arises, without confronting every issue.	Facilitates the resolution of conflict, employing incremental trust building strategies, without confronting every issue
	Uses a variety of direct and indirect consensus-building techniques to overcome resistance and reach agreement on ideas, recommendations, and solutions.	Uses a variety of direct and indirect consensus-building techniques to overcome resistance and reach agreement on ideas, recommendations, and solutions.

2.0 Systems Engineering Life Cycle

Competency: 2.1 Concept Definition

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Supports systems studies and analyses.	**Conducts needs assessments and creates a Concept of Operations.**	**Gains agreement on business/mission needs and the Concept of Operations.**
Assists in defining the business and mission need for systems that will provide services, capabilities or platforms to end-users and other stakeholders.	Defines the business and mission need for systems that will provide services, capabilities or platforms to end-users and other stakeholders.	Recommends the business and mission need for systems that will provide services, capabilities or platforms to end-users and other stakeholders.
Assists with developing a business case that analyzes the return on investment for a system or multiple systems.	Develops a business case that analyzes return on investment that is complete enough to be used to justify funding for a system or multiple systems.	Develops a business case that analyzes return on investment that is complete enough to be used to justify funding for a system or multiple systems and uses the business case to influence key stakeholders.
Assists with developing various scenarios for system use, functions, and performance in the target environment.	Creates various scenarios for system use, functions, and performance that include conditions, constraints, how people will work with each other, and the technology in the target environment (i.e., Concept of Operations).	Gains stakeholder acceptance of the preferred scenarios for system functions and performance based on the business/mission objectives and Concept of Operations.
Defines operational and top-level systems requirements of a system.	**Defines operational and top-level systems requirements across multiple systems.**	**Gains agreement on the operational and top-level systems requirements across multiple systems.**
Assists in defining of operational and top-level systems requirements that are reasonable, complete, and testable (and address system attributes such as functionality, performance, reliability, maintainability, availability, and usability).	Defines operational and top-level systems requirements that are reasonable, complete, and testable, and demonstrates how these requirements relate to key performance parameters and measures of effectiveness.	Gains end user and stakeholder agreement on the operational and top-level systems requirements, and demonstrates how these requirements relate to key performance parameters and measures of effectiveness.
Identifies conditions, constraints, conflicting requirements, and organizational issues, including safety and security factors.	Assesses key conditions, constraints, conflicting requirements, and organizational issues, including safety and security factors.	Gains end user and stakeholder agreement about the key conditions, constraints, and the resolution of conflicting requirements and organizational issues, including safety and security factors.

Competency: 2.1 Concept Definition		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Assists with creating a high-level conceptual design.	**Creates a high-level conceptual design.**	**Recommends a high-level conceptual design.**
Assists in defining the purpose, functions, and expected behavior of systems in their environment (e.g. context diagrams).	Creates visual design concepts that describe the purpose, functions, and expected behavior of systems in their environment (e.g. context diagrams).	Gains end user and stakeholder acceptance of candidate design concepts that describe the purpose, functions, and expected behavior of systems in their environment.
Builds prototypes or designs experiments to test system concepts and their feasibility.	Explores various conceptual design alternatives and their trade-offs including technology assessments, performance characteristics, cost/benefit analyses, and prototypes or experiments to test the feasibility of concepts.	Recommends a feasible, high-level, conceptual design that considers stakeholder requirements, constraints, and conditions (e.g., political, organizational, operational, economic, and technical influences).
Assists with creating a high-level conceptual design.	Creates the selected high-level conceptual design that is reasonable, complete, and compatible with performance requirements.	Influences the selection of the high-level conceptual design.

2.0 Systems Engineering Life Cycle

Competency: 2.2 Requirements Engineering

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Gathers business/mission and operational needs.	**Transforms business/mission and operational needs into system requirements.**	**Integrates business/mission and operational needs into systems requirements.**
Gathers end user requirements.	Explores creative ways to elicit, analyze, and document user requirements.	Recommends creative ways to elicit, analyze, and document user requirements.
Gathers business/mission and operational needs, including unstated or implied needs.	Transforms business/mission and operational needs into system requirements, including unstated or implied needs.	Integrates business/mission and operational needs into system requirements across programs or the enterprise.
	Promotes shared understanding and facilitates stakeholder agreement about systems requirements.	Achieves stakeholder understanding and agreement about systems requirements.
Defines requirements for building prototypes.	Integrates new requirements generated by the prototype into the systems requirements.	Convinces end users and key stakeholders of the need for prototype development to capture ill-defined or ambiguous requirements.
	Analyzes the interrelationships, priorities, cost, implementation, and environmental implications of system requirements.	Analyzes the interrelationships, priorities, cost, implementation, and environmental implications of system requirements for increasingly complex systems.
Identifies logical system interfaces given system boundaries.	Defines system boundaries, including how the system interacts with both inputs from and outputs to users, equipment, or other systems.	Modifies system boundaries as the system matures or evolves to ensure system extensibility.

Competency: 2.2 Requirements Engineering

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Analyzes and traces systems requirements.	**Analyzes, manages, and traces systems requirements.**	**Facilitates stakeholder agreement about changes to and management of the systems requirements.**
Analyzes systems requirements to determine if they can be tested, verified, and/or validated, and are unique, complete, unambiguous, consistent, and obtainable.	Analyzes systems requirements to determine if they can be tested, verified, and/or validated, and are unique, complete, unambiguous, consistent, and obtainable.	Analyzes high-level systems requirements to determine if they can be tested, verified, and/or validated, and are unique, complete, unambiguous, consistent, and obtainable across programs or an enterprise.
Reviews requirements to determine conformance with government policy for developing the system.	Reviews requirements to determine conformance with government policy for developing the system, and highlights potential integration and interoperability challenges.	Recommends changes to systems requirements to align with government policy, and addresses future integration and interoperability challenges across programs or the enterprise.
Uses requirements management tools to trace requirements to original business/mission needs.	Traces all requirements to original business/mission needs.	Communicates that requirements traceability is complete to the end users and stakeholders.
Complies with requirements management process to maintain a stable configuration of system and subsystem requirements.	Creates a tailored requirements management process based on standard systems engineering processes and key stakeholder needs.	Advocates for a tailored requirements management process based on standard systems engineering processes and key stakeholder needs.
Identifies possible performance measures.	**Defines critical performance measures and analyzes safety features.**	**Recommends specialized performance measures and critical safety features.**
Identifies possible technical performance measures for determining the system's success.	Defines critical technical performance measures for determining the system's success.	Defines critical technical performance measures for determining the system's success that require deep technical and operational domain knowledge.
	Analyzes safety features related to user operation or system functionality.	Recommends and obtains approval for critical safety features related to user operation or system functionality.

2.0 Systems Engineering Life Cycle

Competency: 2.3 Architecture

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Describes the current architecture and underlying technologies for future architectures.	**Performs an Analysis of Alternatives (AoA) to frame future architectures.**	**Recommends alternative future architecture solutions.**
Describes the current architecture in a clear and concise manner with the assistance of non-automated and automated tools and techniques.	Validates the description of the current architecture with end-users, stakeholders, model driven architectures, and other methods.	
Identifies underlying Commercial-Off-the-Shelf (COTS), Government-Off-the-Shelf, and research technologies for potential architectures.	Performs an Analysis of Alternatives (AoA) to frame potential architectures that meet requirements and constraints of cost, schedule, and risks.	Recommends alternative architectural solutions that meet requirements and constraints of cost, schedule, and risks.
Assists with designing an architecture that captures requirements and adapts to changes.	**Designs an architecture that captures requirements and adapts to changes.**	**Recommends an architecture solution that meets business/mission needs.**
	Provides tool evaluations for various architectural tasks.	Recommends tools for various architectural tasks.
Considers flexible, adaptable systems that may evolve with future requirements, business processes, and capabilities.	Advocates flexible, adaptable systems that may evolve with future requirements, business processes, and capabilities.	Advocates flexible, adaptable systems that may evolve with future requirements, business processes, and capabilities.
Assists with the design of an architecture solution that captures operational/systems requirements.	Designs an architecture solution that captures operational/system requirements, and is consistent across the enterprise.	Recommends an enterprise architecture solution that meets operational/systems requirements and business/mission needs.
Identifies systems interfaces and interoperability concerns.	Determines the agreements that need to be reached among stakeholders based upon the systems interfaces and interoperability concerns.	Facilitates agreements among multiple stakeholders to resolve system interfaces and interoperability concerns.
Records architecture information with tools that include functional and structural partitioning, interface definitions, design decisions, and requirements traceability.	Assesses and approves an architecture model that includes functional and structural partitioning, interface definitions, design decisions, and requirements traceability.	Assesses the integrity of the overall architectural model to ensure that it meets the operational/system requirements and the business/mission needs.
Prepares the detailed description of the architecture.	Communicates a simplified description of the architecture to multiple stakeholders.	Gains agreement on the architecture solution from multiple stakeholders.

2.0 Systems Engineering Life Cycle

Competency: 2.4 Systems Design and Development

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Prepares design and milestone review criteria.	**Develops design review and milestone decision approaches.**	**Gains agreement on design review and milestone decision approaches.**
	Develops data driven processes for conducting design reviews and making milestone decisions.	Gains agreement with the sponsor/customer on data driven processes for conducting design reviews and making milestone and programmatic decisions.
Drafts preliminary design and milestone review criteria to ensure that critical technical requirements will be met.	Refines preliminary design and milestone review criteria to ensure that critical business/operational requirements will be met.	Gains agreement with the sponsor/customer on the design and milestone review criteria to ensure that critical business/operational requirements will be met.
Evaluates contractor designs, artifacts, and deliverables.	**Evaluates the contractor's design and development effort.**	**Influences the contractor's design and development effort.**
Reviews the contractor's preliminary design against systems/operational requirements, technical standards, and good design practices.	Reviews the contractor's preliminary design against systems/operational requirements and the business/mission objectives.	Influences the contractor's preliminary design so that it is acceptable to the sponsor/customer and meets the overall business/mission objectives of the enterprise.
Analyzes the contractor's artifacts and deliverables to ensure they are clear and complete, and meet technical requirements.	Evaluates the contractor's design and development activities, artifacts, and deliverables to assess performance, and determine if requirements and business/mission objectives have been satisfied.	Recommends changes to the contractor's design and development activities, artifacts, and deliverables to address performance shortfalls.
	Decides if a performance shortfall meets mission requirements whether or not the design meets technical requirements.	Recommends to the sponsor/customer if a performance shortfall meets mission requirements whether or not the design meets technical requirements.
Provides technical and other support for the sponsor/customer's design review teams, and suggests participation by specialty engineering.	Leads the sponsor/customer's design review teams, and determines the need for participation by specialty engineering.	Influences decisions made in the sponsor/customer's design review teams and ensures the appropriate involvement of specialty engineering.

2.0 Systems Engineering Life Cycle

Competency: 2.5 Systems Integration

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Assists with the development of an integration approach and identification of integration and interoperability challenges.	**Creates integration strategies that meet business/mission needs and addresses integration and interoperability challenges.**	**Advocates for integration strategies that meet business/mission needs and addresses integration and interoperability challenges.**
Assists in formulating an integrated picture that encompasses multiple, interoperable systems, and their environments, components and interfaces.	Formulates an integrated picture that encompasses multiple, interoperable systems, and their environments, components and interfaces.	Formulates an integrated picture that encompasses multiple, interoperable systems, and their environments, components and interfaces.
Assists with developing an integration approach, and identifying integration, interface, and interoperability constraints within and across environments.	Develops strategies that address business/mission needs, and integration, interface, and interoperability challenges within and across environments	Recommends strategies that address business/mission needs, and integration, interface, and interoperability challenges within and across environments
Identifies resources needed to complete an integration plan (expertise, funding, roadmaps, interface definitions, etc.).	Analyzes information about the resources needed to complete an integration plan.	Recommends resources needed to complete the integration plan and activities.
Applies basic domain knowledge and previous systems engineering experience to identify systems integration and interoperability issues.	Applies deep domain knowledge and breadth of systems engineering experience to address systems integration and interoperability challenges and issues.	Leverages knowledge from multiple domains and extensive systems engineering experience to achieve the desired state of systems integration and interoperability.
Identifies interfaces involving prototypes, developed software, commercial off the shelf software (COTS), and legacy systems.	Evaluates interfaces and integration problems involving prototypes, developed software, commercial off the shelf software (COTS), and legacy systems.	
Identifies integration and interoperability options for evolving systems, phasing out of legacy systems, and phasing in of new systems.	Evaluates integration and interoperability options for evolving systems, phasing out of legacy systems, and phasing in of new systems.	Influences integration and interoperability strategies for evolving systems, phasing out of legacy systems, and phasing in of new systems.
Participates in integration testing and evaluation to assess systems performance and conformance to requirements.	Observes the integration test and evaluation process to assess results and identify integration challenges.	Guides integration testing and evaluation activities to influence the sponsor/customer and contractor to address integration challenges.

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Competency: 2.6 Test and Evaluation

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Assists with developing and defining test and evaluation plans and procedures.	**Creates test and evaluation strategies to field an effective and interoperable system.**	**Guides test and evaluation strategies to field an effective and interoperable system.**
	Creates test and evaluation strategies that result in fielding an effective and interoperable system.	Gains stakeholder agreement for the recommended test and evaluation strategy and the certification and accreditation process.
Prepares lower level test and evaluation plans and procedures that may include validation by paper, equipment, or models.	Creates a Test and Evaluation Master Plan (TEMP) linked to the Systems Engineering Plan (SEP) that dedicates scheduled resources to assess the operational effectiveness, interoperability, and performance of the system(s).	Gains approval of the Test and Evaluation Master Plan (TEMP) from the sponsor/customer, program manager, and chief systems engineer.
Assists in defining test requirements based on the systems requirements, and verifying traceability of requirements from the lowest to highest level of integration.	Defines test requirements based on the systems requirements, and verifies traceability of requirements from the lowest to highest level of integration.	
Develops system test and evaluation scenarios and acceptance criteria for operational states, cases, missions, and environmental factors.	Reviews and recommends system test and evaluation scenarios and acceptance criteria for operational states, cases, missions, and environmental factors.	
Assists in developing an approach to verify and validate requirements by inspection, demonstration, analysis, and testing (static, dynamic, usability, and stress tests).	Develops an approach to verify and validate requirements by inspection, demonstration, analysis, and testing (static, dynamic, usability, and stress tests).	Influences trade-off decisions which affect the sponsor/customer, contractor, and other stakeholders (cost, schedule, test activities and fidelity).

Competency: 2.6 Test and Evaluation		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Participates in developmental and operational testing.	**Observes and communicates developmental and operational test results.**	**Influences sponsor/customer on mitigation strategy and system acceptance, based on the results of the developmental and operational tests.**
Observes developmental system test and evaluation activities to assess results and compliance with procedures.	Observes developmental system test and evaluation activities to assess results and identify process improvements.	Recommends adjustments to the systems developmental test and evaluation process to produce test results that accurately measure how the system performs.
Participates in operational capability testing, certification and accreditation.	Coordinates operational capability testing, certification and accreditation processes.	
Identifies problems, issues, and corrective actions uncovered during system test and evaluation activities.	Communicates problems, issues, and corrective actions uncovered during system test and evaluation activities.	
Tracks problems, issues, corrective actions, and the status of system re-test and re-evaluation activities.	Develops a mitigation strategy that recommends corrective actions to resolve problems, and to re-test and re-evaluate the system.	Builds consensus on a mitigation strategy that that recommends corrective actions to resolve problems, and to re-test and re-evaluate the system.
Evaluates system test and evaluation results to determine compliance with system requirements as described in the test plans and procedures.	Presents system re-test and re-evaluation results, including trends, problems, corrective actions, and recommendations about system acceptance or rejection.	Influences the decision to accept or reject the system based on the outcomes of corrective actions and re-test and re-evaluation results.

2.0 Systems Engineering Life Cycle

Competency: 2.7 Systems Implementation, Operations and Maintenance, and Transition

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Prepares transition plans for delivering systems.	**Creates transitional approach and supports system deployment.**	**Gains agreement on transitional approach and system deployment.**
Prepares the system deployment and transition plan for fielding the system into its operational environment (includes multiple locations, end user and operator training, simultaneous systems operations, etc.).	Recommends a system deployment and transition approach (includes multiple locations, end user and operator training, simultaneous systems operations, etc.).	Gains agreement for a system deployment and transition approach (includes multiple locations, end user and operator training, simultaneous systems operations, etc.).
Helps to develop the training plan(s), if separate, for operators and users.	Evaluates accuracy and completeness of the training plan for operators and users.	Recommends the training plan for operators and users.
	Develops strategies for simultaneous systems operations.	Recommends strategies for simultaneous systems operations.
Identifies support issues from fielding the system (e.g., training, manpower, performance, procedures, etc.)	Identifies significant issues with and lessons learned from fielding the system.	Communicates significant issues with and lessons learned from fielding the system to stakeholders, end users, and operators.
Develops system operations, maintenance, and disposal plans.	**Evaluates system operations, maintenance, and disposal plans.**	**Recommends system operations, maintenance, and disposal plans.**
Develops system operations and maintenance plans (e.g., training needs, preventative maintenance, automated test equipment, help desk, etc.).	Evaluates systems operations and maintenance approach.	Recommends system operations and maintenance approach.
Assists with answering questions, resolving anomalies, and reporting incidents about the system in its operational environment.	Answers questions, resolves anomalies, and analyzes trends for the system in its operational environment.	
Helps to prepare disposal plans.	Creates disposal plans and evaluates the impact of disposal plans on the operational environment.	Recommends the disposal approach to the sponsor/customer.

Competency: 2.7 Systems Implementation, Operations and Maintenance, and Transition		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Supports system performance management and modifications.	**Develops approaches to system modifications and technology insertion.**	**Influences approaches to system modifications and technology insertion.**
Conducts system performance management studies as the system evolves to assess increases in users, data, and complexity.	Develops a system performance management approach to enable future system modifications and technology insertion in increasingly complex environments.	Recommends a performance management strategy to enable future system modifications and technology insertion in increasingly complex environments.
Supports backup, recovery, failover, and operational/system integrity in the production environment.	Advises about improvements to backup, recovery, failover, and operational/system integrity in the production environment.	Advises about improvements to backup, recovery, failover, and operational/system integrity in the production environment.
Supports continuous integration of new and existing systems.	Advises about continuous integration of new and existing systems.	Advocates for the strategic integration of new and existing systems.
Collects requirements for system upgrades and future enhancements.	Manages and analyzes requirements for system upgrades and future enhancements.	Prioritizes requirements for system upgrades and future enhancements with the sponsor/ customers, key stakeholders, and end users.
Identifies future system modifications and technology insertion in the production environment.	Evaluates future system modifications and technology insertion in the production environment.	Influences decisions about future system modifications and technology insertion in the production environment.

3.0 Systems Engineering Planning and Management

Competency: 3.1 Transformational Planning

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Collects and assesses data related to changes in current operations, processes, and procedures.	**Formulates a strategy for transforming the sponsor/customer organization, structure, processes, systems interactions with other organizations, etc.**	**Recommends a strategy for transforming the sponsor/customer organization, structure, processes, systems interactions with other organizations, etc.**
Identifies gaps (e.g., performance and quality) and technical and organizational constraints in current operations.	Analyzes technical and organizational drivers and constraints, as well as potential resistance to change in current operations.	Proposes ways to address technical and organizational drivers and constraints, as well as potential resistance to change in current operations.
Collects technical, programmatic, and other dependency data used to create a model of the organization's transformation and/or system's evolution.	Creates a model of the organization's transformation and/or the system's evolution that addresses technical, programmatic, and other dependency information.	Proposes to the sponsor/customer a model of the organization's transformation and/or the system's evolution that addresses technical, programmatic, and other dependency information.
Participates in assessing the impacts of the organization's transformation and/or the system's evolution.	Assesses the impacts of the organization's transformation and/or the system's evolution.	Communicates the impacts of the organization's transformation and/or the system's evolution.
	Identifies critical staff and associated resources needed to transform the organization and/or evolve its systems.	Recommends ways to optimize the use of critical staff and associated resources, which are needed to transform the organization and/or evolve its systems.
	Formulates a transformational strategy as the basis for creating proposals and plans.	Recommends a transformational strategy to the sponsor/customer.

Competency: 3.1 Transformational Planning		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Assists in developing plans for transforming the sponsor/customer organization, processes, systems, and interactions with other organizations.	**Proposes plans for transforming the sponsor/customer organization, processes, systems, and interactions with other organizations.**	**Collaborates and builds consensus with the sponsor/customer for transforming their organization, processes, systems, and interactions with other organizations.**
Conducts assessments, demos, prototypes, and integrates other supporting programmatic information to assist in making decisions for transforming the organization and/or for evolving systems.	Proposes approaches for transforming the organization and/or for evolving systems, based on data from assessments, demos, prototypes, and other supporting programmatic information.	Collaborates and builds consensus with the sponsor/customer to make data-driven decisions concerning transforming the organization and/or for evolving systems.
	Develops draft transformational plans (e.g., Strategic Technical Plan) in the context of technical, cost, political and environmental factors.	Collaborates with the sponsor/customer to establish decision-making criteria, resolve critical issues, and develop transformational plans in the context of technical, cost, political and environmental factors.
Assists in describing sponsor/customer expectations, requirements, and accountability for the organizational and/or system transformation.	Describes sponsor/customer expectations, requirements, and accountability for the organizational and/or the system transformation.	Influences sponsor/customer expectations, requirements, and assignment of accountability for the organizational and/or system transformation.
Helps to prepare materials to communicate planned transformations.	Develops a communication strategy for the sponsor/customer and other stakeholders regarding the planned transformation.	Recommends a communication strategy for the sponsor/customer and other stakeholders regarding the planned transformation.

3.0 Systems Engineering Planning and Management

Competency: 3.2 Government Acquisition Support

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Assists in collecting, organizing and analyzing sponsor/customer information for the development of acquisition plans.	**Identifies key features of and develops plans for the acquisition program and the program office.**	**Collaborates with the sponsor/customer to establish the acquisition program and the program office.**
Demonstrates understanding of the roles and responsibilities of the acquisition program office.	Defines the roles and responsibilities of the acquisition program office to ensure effective communication and scope.	Guides the sponsor/customer in establishing partnerships among stakeholders for the acquisition program office.
Demonstrates understanding of the acquisition program's boundaries, stakeholders, and system dependencies.	Identifies the acquisition program's boundaries, stakeholders, and systems dependencies.	Recommends the scope, operating concept, organization, and staffing of the acquisition program.
	Determines gaps in the acquisition program's resources and skills.	Negotiates government, contractor, and FFRDC roles in closing the acquisition program's resource and skill gaps.
	Collaborates with the acquisition program office to define the acquisition model for the program (e.g., PRIME, Service Level Agreements, etc.).	Collaborates with the acquisition program office to define the acquisition model for the program (e.g., PRIME, Service Level Agreements, etc.).
Helps to collect, organize, and analyze context sensitive information for the development of various acquisition plans.	Develops draft program plans (e.g., Systems Engineering Plan, Program/ Project Plans, Contingency Plans, and Master Test and Evaluation Plan) leading into an acquisition that take into account the full context of the sponsor/customer's environment (i.e., technical, cost, political and environmental factors).	Collaborates with the sponsor/customer to resolve significant issues with the acquisition plan and or approach.
	Helps the sponsor/customer plan contractor milestones and deliverables that demonstrate value to the funding authority and end user.	Recommends approaches for planning contractor milestones and deliverables that demonstrate value to the funding authority and end user.

Competency: 3.2 Government Acquisition Support		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Examines systems engineering life cycle approaches for the program.	**Develops systems engineering life cycle approaches for the program.**	**Works with the sponsor/customer to select the systems engineering life cycle approach for the program.**
Examines information on systems engineering life cycle approaches, technical alternatives, and acquisition risks, while considering the operational concept, conceptual design, and technical and programmatic trade-offs.	Identifies alternative systems engineering life cycle approaches, technical alternatives, and acquisition risks, while considering the operational concept, conceptual design, technical and programmatic trade-offs, and contractor incentives, performance, deliverables, and deadlines.	
	Develops relevant systems engineering life cycle approaches for the program, including exit criteria for each phase as well as technical and programmatic trade-offs.	Collaborates with the sponsor/customer to select the preferred systems engineering life cycle approach, based on the analysis of supporting acquisition information.
Contributes technical input to the acquisition approach.	**Develops the best acquisition approach for the program.**	**Recommends the best acquisition approach to the sponsor/customer.**
	Develops the best acquisition strategy within funding and other constraints.	Recommends the best acquisition strategy to the sponsor/customer.
	Defines the plan for implementing the acquisition strategy including milestones, documentation requirements, reviews, etc.	Recommends the plan for implementing the acquisition strategy including milestones, documentation requirements, reviews, etc.
Provides information for the Statement of Work (SOW) and Work Breakdown Structure (WBS) for the acquisition program.	Develops the Statement of Work (SOW) and Work Breakdown Structure (WBS) for the acquisition program.	Gains agreement from the sponsor/customer about the Statement of Work (SOW) and Work Breakdown Structure (WBS) for the acquisition program.
Identifies possible evaluation criteria for proposals to ensure that acquisition program goals will be met by the selected contractor.	Determines evaluation criteria for proposals to ensure that acquisition program goals will be met by the selected contractor.	Recommends evaluation criteria for proposals to ensure that acquisition program goals will be met by the selected contractor.
	Integrates technical, planning, and programmatic information into the Request for Proposal (RFP).	Defends technical, planning, and programmatic information in the Request for Proposal (RFP) during reviews, industry days, and contractor communications.

Competency: 3.2 Government Acquisition Support		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Identifies possible procurement sources and evaluates proposals.	**Prioritizes procurement sources and distinguishes offerors' capabilities.**	**Recommends the best value offeror to the sponsor/customer.**
Provides input to the source selection plan regarding consistency between award evaluation factors and instructions to offerors.	Reviews the source selection plan for consistency between award evaluation factors and instructions for offerors.	Gains consensus with the sponsor/customer on the final source selection plan and team.
Researches viable market sources and technology maturity studies to support a successful procurement.	Prioritizes viable market sources and evaluates technology maturity to support a successful procurement.	Influences the selection of procurement sources by the sponsor/customer.
Evaluates technical areas of proposals against evaluation criteria for the award.	Prepares technical evaluation results and cost comparisons to distinguish offerors' capabilities.	Recommends the best value offeror for the award to the sponsor/customer based on past performance, technical evidence, offeror interviews, and cost.
	Strategizes and gains support with the sponsor/customer concerning approaches for milestones and reviews during program implementation.	Strategizes and gains support with the sponsor/customer concerning approaches for milestones and reviews during program implementation.
Participates in integrated project teams.	**Guides activities of the systems acquisition partnership.**	**Recommends adjustments and changes to the systems acquisition partnership.**
Participates in integrated project teams (IPTs) to develop relationships between contractors, government, and MITRE to enhance the government's ability to monitor the contractor.	Coordinates integrated project teams to develop relationships between contractors, government, and MITRE to enhance the government's ability to monitor the contractor.	Guides high visibility integrated project teams between contractors, government, and MITRE to enhance the government's ability to monitor the contractor.
Identifies trade-offs during program implementation involving design constraints, budget, schedule, and changing priorities.	Analyzes trade-offs during implementation involving design constraints, budget, schedule, and changing priorities across projects and programs.	Recommends high impact changes during program implementation, based on trade-offs involving design constraints, budget, schedule, and changing priorities across programs and the enterprise.
	Guides management of the infrastructure and resources of the systems engineering environment, both within MITRE and at government locations.	Recommends changes to the infrastructure and resources of the systems engineering environment, both within MITRE and at government locations.

3.0 Systems Engineering Planning and Management

Competency: 3.3 Contractor Evaluation

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Supports contractor evaluations and milestone reviews.	**Performs contractor evaluations and milestone reviews.**	**Influences sponsor/customer decisions during contractor evaluations and milestone reviews.**
Reviews, analyzes and provides feedback on contractor documentation for the integrated baseline review to assure consistency with the Statement of Work (SOW), work breakdown structure (WBS) and proposed technical approach.	Provides technical leadership during the integrated baseline review of contractor documentation to assure consistency with the Statement of Work (SOW), work breakdown structure (WBS) and proposed technical approach.	Influences adjustments made by the sponsor/customer after the acquisition award to align the contractor's activities with evolving programmatic and contractual requirements.
Organizes information for the design review analysis in order to make assessments against milestone entry and exit criteria.	Analyzes design review content against milestone entry and exit criteria to ensure that the contractor delivers quality products on time and within budget.	Recommends technical trade-offs, schedule and/or funding changes, and/or writes technical guidance letters of concern.
	Assesses the contractor's technical and programmatic approaches, work packages, prototypes, and deliverables before and during reviews to identify issues.	Recommends adjustments to the sponsor/customer concerning the contractor's approaches and performance to address and close identified issues from assessments.
	Proposes data driven decisions during technical and program milestone reviews.	Advises the sponsor/ customer on making data driven decisions during technical and program milestone reviews.

Competency: 3.3 Contractor Evaluation		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Monitors contractor's performance.	**Monitors contractor's performance.**	**Recommends changes based upon the contractor's performance.**
Assists with tracking contractor performance to measure and assess the likelihood of meeting program and contractual requirements (cost, schedule, and technical viability).	Tracks contractor performance to measure and assess the likelihood of meeting program and contractual requirements (cost, schedule, and technical viability).	Recommends schedule, funding, scope, and work statement changes, based upon contractor performance.
Identifies deviations from program and control requirements.	Recommends resources to complete the program on time and within budget based on an analysis of metrics and deviations from program and contract requirements.	Guides the sponsor/customer in making adjustments, closing program gaps, and conducting independent assessments.
	Participates in independent review teams (e.g., red teams and MITRE Subject Matter Experts teams), when concerns arise about the contractor's performance.	Manages independent review teams (e.g., red teams and MITRE Subject Matter Expert teams), when concerns arise about the contractor's performance.

3.0 Systems Engineering Planning and Management

Competency: 3.4 Risk Management

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
	Proposes risk management approach.	**Influences risk management approach.**
	Proposes a risk management approach across programs and projects that will successfully achieve the sponsor/customer's program goals.	Influences the sponsor/customer's risk management approach for successfully achieving program goals.
	Identifies personnel from the sponsor/customer, contractors, and stakeholder organizations that should be involved in risk management activities.	Builds consensus with the sponsor/customer, contractor and stakeholder organizations on membership of the risk management team.
	Facilitates the establishment of risk management processes, tools, techniques, technical performance measurements, and taxonomies.	Influences the selection of risk management processes, tools and techniques, technical performance measurements, and taxonomies.
Writes risk statements and identifies risks.	**Analyzes and prioritizes risks.**	**Elevates important risks and influences the strategic direction of the program.**
Writes risk statements that are clear, unambiguous, and supported by evidence.	Writes and reviews risk statements that are clear, unambiguous, and supported by evidence.	Evaluates the risk statements to ensure they reflect the actual project and program risks.
Identifies risks with respect to impact, probability, dependencies and timeframes, using a variety of risk management processes, tools, and techniques.	Analyzes risks with respect to impact, probability, dependencies and timeframes.	Elevates key risks to sponsor/customer using compelling evidence.
Identifies unconsidered factors that may impact the project and program (i.e., "known unknowns" and "unknown-unknowns").	Identifies unconsidered factors that may impact the project and program (i.e., "known unknowns" and "unknown-unknowns").	Communicates to the sponsor/customer the importance of unconsidered factors that may impact the project or program.
	Prioritizes risks to facilitate the sponsor/customer's decision-making.	Gains agreement from the sponsor/customer about the prioritization of risks for decision making.

Competency: 3.4 Risk Management		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Prepares and monitors risk mitigation plans.	**Develops and monitors risk mitigation strategies.**	**Influences risk mitigation strategies and program direction.**
Prepares actionable risk mitigation plans across projects and programs for the sponsor/customer.	Develops actionable risk mitigation strategies and monitoring metrics to be used across projects and programs.	Influences the direction of the project or program based on actionable risk mitigation strategies.
Assists in executing the risk mitigation plan to ensure successful project and program completion.	Monitors implementation of the risk mitigation plan to ensure successful project and program completion.	Guides implementation of the risk mitigation plan to ensure successful project and program completion.
Participates with the government team in risk reviews for the project and program.	Collaborates with the government team in conducting risk reviews across projects and programs.	Collaborates with the government team in conducting risk reviews across projects and programs.
Analyzes metrics to determine ongoing risk status.	Analyzes metrics to determine ongoing risk status and identifies serious risks to elevate to the sponsor/customer.	Elevates serious risks, opportunities, and solutions for timely, informed government decision-making.

3.0 Systems Engineering Planning and Management

Competency: 3.5 Configuration Management

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Maintains and organizes work products.	**Prepares configuration management approaches, processes, and plans.**	**Influences configuration management approach.**
Maintains current version of internal and external work products.	Identifies data and configuration management information needs, storage methods, and security approaches that effectively manage the program.	Gains agreement from the sponsor/customer regarding configuration management information needs to increase program organization, efficiency, and effectiveness.
Analyzes data using configuration management and deficiency reporting tools.	Recommends configuration management and deficiency reporting tools that are appropriate for the project and program.	
	Proposes a configuration management approach across programs and projects, including required resources, organizational structure, processes, plans, and configuration hierarchy.	Gains agreement with the sponsor/customer on the configuration management approach across programs and projects, including required resources, organizational structure, processes, plans, and configuration hierarchy.
Analyzes and tracks changes to the baseline.	**Evaluates proposed changes against baselines and ensures that approved changes are implemented.**	**Facilitates decisions on proposed baseline changes.**
Assembles work products for inclusion in the baseline.	Validates the technical, cost, and program baselines for the configuration control activity.	
Organizes work products to prepare for physical and functional configuration audits, to produce more efficient audits, and to maintain the evidence chain.	Participates in physical configuration audits (product versus specification/drawing/source code) and functional configuration audits (test results versus specification) to verify the systems to be fielded.	
Analyzes appropriateness of proposed technical baseline changes and draft Engineering Change Proposals (ECPs).	Evaluates all proposed baseline changes to determine the effects on program schedule, cost, and work products.	Gains agreement from the sponsor/customer on proposed baseline changes for high impact/priority items.
Performs action item tracking to ensure change modifications are implemented.	Reviews and validates that change proposals are successfully completed.	

3.0 Systems Engineering Planning and Management

Competency: 3.6 Integrated Logistics Support

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Supports development and implementation of an integrated life cycle logistics support approach.	**Develops and helps implement an integrated life cycle logistics support approach.**	**Recommends and helps implement an integrated life cycle logistics support strategy.**
Participates in environmental impact studies, logistics analyses and trade studies (e.g., reliability, maintainability and availability, supply, packaging, support equipment, level/source of repair, training, transportation, and maintainer task/skills).	Reviews environmental impact studies, logistics analyses, and trade studies to identify changes that minimize costs and risks during systems design, maintenance, and sustainment.	
	Recommends an integrated life cycle logistics support approach for systems, equipment, and products across acquisition phases (i.e., how products and services will be acquired, and how the logistics requirements will be met within established cost, benefit, schedule, and performance baselines).	Recommends an integrated life cycle logistics support approach for systems, equipment, and products across acquisition phases (i.e., how products and services will be acquired, and how the logistics requirements will be met within established cost, benefit, schedule, and performance baselines).
Develops inputs for hardware and software logistics in the acquisition strategy, program plan, and solicitation documentation (e.g., concerning factors such as Section L&M, specification requirements and constraints, CDRL requirements, SOW requirements, and data rights).	Formulates strategy for hardware and software logistics support for acquiring, designing and fielding effective systems.	Develops consensus with the sponsor/customer on a performance-based logistics acquisition strategy across the acquisition life cycle.
	Recommends performance specifications for the sustainment of fielded systems.	

Competency: 3.6 Integrated Logistics Support		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Provides input on integrated logistic support alternatives during systems design, maintenance, and sustainment (e.g., modification engineering, technology insertion, diminishing manufacturing resources, and re-procurement).	Recommends integrated logistic support alternatives during systems design, maintenance, and sustainment that minimize life cycle costs and risks (e.g., modification engineering, technology insertion, diminishing manufacturing resources, and re-procurement).	Guides the approval and implementation of integrated logistic support alternatives during systems design, maintenance, and sustainment that minimize life cycle costs and risks.
Participates in site surveys, net readiness certification, site acceptance, site accreditation, and planning activities leading to system fielding.	Guides planning and implementation of logistics support, including training, installation, tech order verification, initial spare planning, and interim contract support.	

3.0 Systems Engineering Planning and Management

Competency: 3.7 Quality Assurance and Measurement

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Supports the quality assurance program in the systems acquisition and/or the Government operational organization.	**Recommends establishing a quality assurance program in the systems acquisition and/or the Government operational organization.**	**Guides the establishment and direction of the quality assurance program in the systems acquisition and/or the Government operational organization.**
	Proposes a plan to resource, implement and manage a quality assurance program to enable a positive, preventive approach to managing the systems acquisition.	Guides the establishment and direction of a quality assurance program to enable a positive, preventive approach to managing the systems acquisition.
Participates in integrated teams to create directives and plans that establish quality assurance standards, processes, procedures, and tools.	Participates in integrated teams to create directives and plans that establish quality assurance standards, processes, procedures, and tools.	
Identifies continuous process improvements that enhance processes, products, and service quality.	Recommends continuous process improvements that enhance processes, products, and service quality.	Influences the sponsor/customer to prioritize and implement recommendations for continuous process improvements that enhance processes, products, and service quality.

Competency: 3.7 Quality Assurance and Measurement		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Supports process and product reviews in the systems acquisition and/or the operational organizations.	**Conducts process and product reviews across boundaries in the systems acquisition and/or the operational organizations.**	**Influences the resolution of corrective actions to ensure adherence to documented processes in the systems acquisition and/or the operational organizations.**
Assists government and contractor organizations with documenting quality processes and work product specifications.	Assists government and contractor organizations with documenting quality processes and work product specifications.	
Supports reviews of government and contractor quality process and products to ensure adherence to documented processes and work product specifications.	Reviews government and contractor quality processes and products to ensure adherence to documented processes and work product specifications.	
Evaluates the contractor quality assurance program for adherence to documented quality processes and work product specifications.	Evaluates the contractor quality assurance program for adherence to documented quality processes and work product specifications.	
Identifies process improvement opportunities and corrective actions to ensure adherence to documented processes and work product specifications.	Prioritizes quality process improvement opportunities and corrective actions to ensure adherence to documented processes and work product specifications.	
Assists with developing reports to present the results from process and product reviews.	Reports results from process and product review to key decision makers.	
	Elevates high priority corrective actions to ensure adherence to documented quality processes and work product specifications.	Influences resolution of corrective action to ensure adherence to documented quality processes and work product specifications.
Conducts measurement analyses for the systems acquisition and/or the operational organizations.	**Develops a measurement capability in the systems acquisition and/or the operational organizations.**	**Develops a measurement capability for the systems acquisition and/or the operational organizations.**
Assists the organization in learning how to identify, collect, analyze and report on measurement data.	Develops the organization's capability to identify, collect, analyze, and report on measurement data through training and technology transfer.	Develops the organization's capability to identify, collect, analyze, and report on measurement data through training and technology transfer.

3.0 Systems Engineering Planning and Management

Competency: 3.8 Continuous Process Improvement

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Provides information to help develop an approach for implementing and improving systems engineering processes for the acquisition organization.	**Collaborates with the sponsor/customer and develops an approach to implementing and improving systems engineering processes for the acquisition organization.**	**Influences the Government's approach for implementing and improving systems engineering processes for the acquisition organization.**
Identifies new and tailors existing systems engineering directives, plans, process descriptions, procedures, tools, and guides.	Selects and tailors a SE process improvement model (e.g., SPICE, SEI Ideal, CMMI, Lean Six Sigma, etc.) to modify, integrate, test, baseline, deploy, and maintain systems engineering processes.	Facilitates the selection of a systems engineering process improvement framework based on the systems engineering life cycle.
	Drafts policy briefings to support the implementation and continuous improvement of core and shared systems engineering processes.	Recommends policy and stakeholder involvement to implement and continuously improve core and shared systems engineering processes.
Assists in estimating the resources required to continuously improve systems engineering processes (e.g., personnel, funding, facilities, etc.).	Develops implementation plans, including process improvement goals, schedules, and estimated resources, to continuously improve systems engineering processes.	Recommends implementation plans, including process improvement goals, schedules, and estimated resources, to continuously improve systems engineering processes.
	Identifies the need for and potentially helps to conduct capability maturity assessments of systems engineering processes in Government's acquisition and/or contractor's organizations.	Recommends capability maturity assessments of systems engineering processes when needed.

Competency: 3.8 Continuous Process Improvement		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Helps to identify, document, and review shared systems engineering processes in the government and contractor organizations.	**Collaborates with government and contractor organizations to develop, implement, assess, and continuously improve shared systems engineering processes.**	**Influences government and contractor organizations to finalize, implement, and continuously improve shared systems engineering processes.**
Participates in integrated government and contractor teams to identify and document shared systems engineering processes.	Participates in integrated government and contractor teams to develop and document shared systems engineering processes.	Recommends approval of documented government and contractor shared systems engineering processes.
Collaborates on a government and contractor integrated team to implement and continuously improve shared systems engineering processes and work products.	Collaborates on a government and contractor integrated team to implement and continuously improve shared systems engineering processes and work products.	Guides the government and contractor decision-makers to implement and continuously improve shared systems engineering processes and work products.
Collects work products, metrics, and improvement information derived from performing systems engineering processes.	Analyzes collected work products, metrics, and improvement information to help the acquisition organization and/or the contractor to obtain a specified capability maturity.	Communicates results of continuous process improvement studies and recommends improvements to the government and contractor organizations.

4.0 Systems Engineering Technical Specialties

Competency: 4.1 Cost/Benefit Analysis

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Collaborates with the cost/benefit analyst to define the approach and products of the assessment.	**Defines the scope and products of the cost/benefit analysis, and collaborates with the cost/benefit analyst to clarify key parameters.**	**Provides direction to the cost/benefit analyst and collaborates with the sponsor/customer concerning the scope, key parameters, products, and tradeoffs of the analysis.**
	Defines the scope of the cost/benefit analysis and collaborates with the analyst to define the key parameters.	Directs the scoping of the cost/benefit analysis, including dependent systems, stakeholders, and system context (i.e., system, system of systems, or enterprise).
	Defines the technical and programmatic assumptions of the cost/benefit analysis, based on the acquisition strategy.	Builds consensus with the sponsor/customer on the technical and programmatic assumptions of the analysis, based on the acquisition strategy.
Collaborates with the cost/benefit analyst to define the products, activities, trade-offs, and required assessments for an independent, objective analysis.	Collaborates with the cost/benefit analyst to define the products, activities, trade-offs, and required assessments for an independent, objective analysis.	Provides recommendations and gains consensus with the sponsor/customer on the decisions regarding the products, activities, trade-offs, and required assessments to be included in an independent, objective analysis.

Competency: 4.1 Cost/Benefit Analysis		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Supports the cost/benefit analyst during the analysis, and reviews the results.	**Guides work on and evaluates the sensitivity of the cost/benefit analysis.**	**Provides strategic, programmatic, and enterprise-wide perspective concerning the cost/benefit analysis.**
Supports the cost/benefit analyst by providing technical, programmatic, and other data needed to populate the analytical methods and tools.	Identifies and provides the analyst with the technical, programmatic, and other data needed to complete an accurate and well-supported cost/benefit analysis.	Works with the cost/benefit analyst and the sponsor/customer to obtain the data that is needed to complete an accurate and well-supported cost/benefit analysis.
		Builds consensus with the sponsor/customer on strategic approaches to the cost/benefit analysis, such as analysis of alternatives, technology maturity, and interagency funding.
Works with the cost/benefit analyst to adjust the Work Breakdown Structure (WBS) to better define the cost framework for the functions, activities, and products included in the analysis.	Guides the analyst's adjustments to the Work Breakdown Structure (WBS) to better define the cost framework for the functions, activities, and products included in the analysis.	Gains consensus with the sponsor/customer on modifications to the Work Breakdown Structure (WBS) to better define the cost framework for the functions, activities, and products included in the analysis.
Provides insight about technical uncertainties and probabilities that allows the cost/benefit analyst to model and quantify results, risks, and confidence levels.	Provides insight about technical uncertainties and probabilities that allows the cost/benefit analyst to model and quantify results, risks, and confidence levels.	Gains consensus with the sponsor/customer on a strategic, enterprise-wide perspective concerning the technical uncertainties and probabilities that allows the analyst to quantify results, risks, and confidence levels.
Reviews results with the cost/benefit analyst to determine how key assumptions and cost drivers may affect alternatives for reducing cost and risk.	Assesses the sensitivity of the cost/benefit analysis to determine how key assumptions and cost drivers affect alternatives for reducing cost and risk.	Recommends alternatives to the sponsor/customer that reduce program or enterprise-wide costs or risks, based on the results of the cost-benefit analysis.

4.0 Systems Engineering Technical Specialties

Competency: 4.2 Human Centered Engineering (HCE)

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Collaborates with the human centered engineer (HCE) to support HCE activities during the early acquisition phases.	**Collaborates with the human centered engineer (HCE) during the early acquisition phases to define and analyze the HCE approach, requirements, and trade-offs.**	**Recommends design and trade-off decisions during the early acquisition phases, based on a human-centered engineering approach.**
	Tailors the acquisition program, HCE approach, and life cycle activities, based on input from the HCE.	Builds consensus with the sponsor/customer and multiple stakeholders on the HCE approach and life cycle activities.
Collaborates with the HCE to describe the users, their work tasks, the context they work in, and the socio-cultural factors that affect the user interface.	Collaborates with the HCE to synthesize information across multiple users concerning the work tasks, work context, and socio-cultural factors that affects the system and/or the enterprise.	Collaborates with the HCE to synthesize information across multiple users concerning the work tasks, work context, and socio-cultural factors that affects the system and/or the enterprise.
Works with the HCE to identify disconnects among user desires, system requirements, and budgetary factors.	Collaborates with the HCE to analyze disconnects and trade-offs among user desires, system requirements, and budgetary factors to resolve complex systems issues across multiple stakeholders.	Recommends and builds consensus with the sponsor/customer on trade-offs involving HCE user requirements, budgetary factors, and system performance objectives.
Assists the HCE to organize and document the HCE system requirements, in order to provide a historical record, in case HCE decisions are questioned during development.	Integrates user input, as defined by the HCE, into the requirements definition, design, and evaluation approach to ensure a complete and well-defined human-computer interface.	
Identifies the need for human centered engineering to avoid disconnects between the intentions of the user and the design of the system.	Assesses the contractor's ability to apply top-level human centered engineering expertise to design systems that perform as intended by the user.	

Competency: 4.2 Human Centered Engineering (HCE)		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Supports the work with the HCE during the system development and operational phases to ensure that HCE concerns are met.	**Collaborates with the HCE during the system development and operational phases to ensure that HCE concerns are met.**	**Collaborates with the HCE and the sponsor/customer to resolve HCE issues.**
Collaborates with the HCE to define usability tests, user classes, modes of operation, and domain context to ensure that end user requirements are well-represented.	Collaborates with the HCE to define usability tests, user classes, modes of operation, and domain context to ensure that end user requirements are well-represented.	
Documents the decisions and rationale for end user requirements to avoid second guessing during the final development stages.	Collaborates with the HCE to adjudicate disagreements and requests to re-open decisions about end-user requirements during the final development stages.	Communicates and builds consensus with the sponsor/customer on design and trade-off decisions.
Works with the HCE to document HCE mitigations intended to optimize the operational use of the system.	Proposes HCE mitigations, designed by the HCE specialist, to optimize the operational use of the system.	Builds consensus with the sponsor/customer to adopt HCE mitigations to optimize the operational use of the system.
Collaborates with the HCE to document priorities for HCE issues related to future upgrades and enhancements.	Collaborates with the HCE to advocate for prioritization of HCE issues related to future upgrades and enhancements.	

4.0 Systems Engineering Technical Specialties

Competency: 4.3 Modeling and Simulation (M&S)

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Supports the M&S specialist in creating and validating models.	**Collaborates with the M&S specialist to identify approaches, create and validate models, interpret results, and participate in cooperative modeling arrangements.**	**Recommends M&S scope, approaches, and changes to operational capabilities, and facilitates cooperative modeling arrangements.**
	Utilizes input from the specialist to define the needs and the scope of modeling, simulation and analysis activities across projects and programs.	Recommends the scope of modeling, simulation and analysis activities within and across projects/programs, with input from the modeling and simulation specialist.
Works with the specialist to demonstrate candidate modeling and/or simulation approaches (e.g., constructive, virtual, and live synthetic environments).	Works with the specialist to compare the strengths and limitations of modeling and simulation approaches, identify approaches that fit the scope, and define the visualization approach.	Recommends modeling and simulation approaches within and across projects, programs, and enterprises, including the visualization approach.
Surveys existing data and previous modeling efforts to incorporate previous M&S capabilities into the current effort.	Leverages existing data and previous modeling efforts to incorporate previous M&S capabilities into the current effort.	Influences the sponsor/customer to leverage existing data and previously modeling efforts.
Assists the specialist with collecting data and formulating assumptions to create and validate simple simulation models (e.g., operational capabilities, networking, computing resources, and processes).	Collaborates with the specialist to develop assumptions and scenarios, and create and validate complex simulation models (e.g., operational capabilities, networking, computing resources, and processes).	Guides the formulation of assumptions and scenarios developed by the specialist to create complex simulation models (e.g., operational capabilities, networking, computing resources, and processes).
Collaborates with the specialist to run M&S scenarios, based on current and future operational capabilities.	Collaborates with the specialist to interpret the results of various M&S scenarios, based on current and future operational capabilities.	Recommends changes to current and future operational capabilities based on modeling and simulation results.
Identifies potential integration and interoperability links within and between modeling and simulation tools and synthetic environments.	Suggests collaboration with other organizations to establish integration and interoperability within and between modeling and simulation tools and synthetic environments.	Suggests collaboration with other organizations to establish integration and interoperability within and between modeling and simulation tools and synthetic environments.
Participates in networked and federated M&S developments (e.g. training exercise support or simulation war games), with assistance from the specialist.	Leads networked and federated M&S developments (e.g. training exercise support or simulation war games), with assistance from the specialist.	Leads networked and federated M&S developments (e.g. major training exercises or simulation war games), with assistance from the specialist.

4.0 Systems Engineering Technical Specialties		
Competency: 4.4 Security Engineering		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Supports the specialist to identify security engineering approaches and constraints, plan for certification and accreditation, and assist with security related trade-offs.	**Collaborates with the specialist to identify security engineering approaches and constraints, plan for certification and accreditation, and assist with security related trade-offs.**	**Collaborates with the specialist and the sponsor/customer to identify security engineering approaches and constraints, plan for certification and accreditation, and determine security related trade-offs.**
Provides information and assistance to the security engineering specialist to identify security drivers for the Concept of Operations or business/mission requirements.	Collaborates with the security engineering specialist to identify security drivers for the Concept of Operations or business/mission requirements.	Collaborates with the security engineering specialist and the sponsor/customer to identify security drivers for the Concept of Operations or business/mission requirements, including those that affect the enterprise (e.g., cross-domain sharing).
Provides baseline system technologies so that the specialist can identify and address security and interoperability issues.	Collaborates with the specialist to identify and address security and interoperability issues and define a technology investment strategy.	Collaborates with the specialist to identify the baseline enterprise architecture, technology investment strategy and appropriate security architectures.
Works with the specialist to identify operational constraints that affect security technologies.	Collaborates with the specialist to detail how operational and business constraints affect security technologies.	Collaborates with the specialist and the sponsor/customer to determine how enterprise-level operational and business constraints (e.g., net-centricity) affect security technologies.
Works with the program office to identify the applicable regulatory environment.	Identifies organizational stakeholders, in particular the end user(s), in order to identify the Designated Approving Authority(ies).	Influences enterprise stakeholders (e.g., Chief Technology Officer), to make decisions that affect the enterprise regulatory environment and technology investment strategy.
Works with the specialist to integrate security requirements into the overall requirements.	Works with the specialist to analyze and integrate security tradeoffs with system tradeoffs (e.g., security interoperability and system performance).	Works with the specialist to integrate security architecture issues and requirements into the enterprise architecture.

Competency: 4.4 Security Engineering

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Works with the specialist when security issues arise during design reviews, technical exchanges, and other program interactions.	Works with the specialist to integrate security certification and accreditation into program planning activities.	Works with the specialist and the sponsor/customer to integrate enterprise security engineering into enterprise planning activities.
Identifies tests that address security requirements, so that the specialist can support test reviews, and witness software and system tests.	Collaborates with MITRE, Government, and contractor technical resources to support security certification and accreditation testing.	Collaborates with the specialist and the sponsor/customer to integrate the validation and assessment of security processes into system- or enterprise-wide capabilities
Supports the specialist to identify changes in security drivers and baseline system technologies for evolving and/or operational systems, so that security implications can be assessed.	Collaborates with the specialist to identify changes in security drivers and the technology investment strategy for evolving and/or operational systems, so that security implications can be assessed.	Collaborates with the specialist and the sponsor/customer to make security-related adjustments to the enterprise architecture for evolving and/or operational systems.

4.0 Systems Engineering Technical Specialties

Competency: 4.5 Reliability, Maintainability, and Availability (RMA)

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Supports the RMA specialist with necessary data and information to identify approaches and build RMA models.	**Collaborates with the RMA specialist to identify approaches, interpret model results, suggest design changes, and prioritize corrective actions.**	**Collaborates with RMA specialist and the sponsor/customer to identify approaches, interpret model results, and determine design changes and prioritized corrective actions.**
Assists the specialist in gathering data to define RMA requirements in the context of the overall systems requirements.	Collaborates with the specialist to define the RMA requirements in relation to the user's mission and needs, system sustainability, and logistical support.	Influences the sponsor/customer to adjust RMA requirements related to the user's mission and needs, system sustainability, and logistical support.
Provides data and verifies assumptions, based on an understanding of the program and RMA requirements, so that the specialist can build the RMA models.	Collaborates with the specialist to interpret results from the RMA predictions, modeling, and analyses, and identifies system design change alternatives based on the results.	
	Works with the specialist to communicate system design changes to the design team, based on the results of RMA modeling predictions and analyses.	Recommends system design change alternatives to the sponsor customer and the system design team, based on the results of the RMA modeling predictions and analyses.
Works with the specialist to develop an understanding of how RMA requirements are tested and evaluated within the program.	Interacts with the specialist, contractor and operational test agency to ensure that the RMA test requirements are addressed, and test results accurately represent the RMA characteristics of the system.	Recommends alternatives for major program decisions that could change the mission concept, based upon interpretation of RMA analyses.
Works with the specialist to identify corrective actions that improve system RMA.	Works with the specialist to prioritize corrective actions that improve RMA, given cost and schedule constraints.	Recommends corrective actions that improve RMA, given programmatic constraints and alignment with business/mission objectives.
	Recommends Performance Based Logistics approaches to the sponsor/customer to improve RMA performance of operational systems.	Recommends Performance Based Logistics approaches to the sponsor/customer to improve RMA performance of operational systems.

4.0 Systems Engineering Technical Specialties

Competency: 4.6 Safety Engineering

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Works with the specialist to support safety engineering activities and safety-related analyses.	**Collaborates with the specialist to identify safety engineering approaches and activities, and conduct safety-related analyses and design trade-offs.**	**Recommends and gains consensus on safety engineering approaches, design trade-offs, and solutions.**
	Collaborates with the safety specialist to define safety engineering approaches and activities throughout the acquisition cycle.	Recommends safety engineering approaches and activities, including experiments and prototypes, to demonstrate emerging techniques and solutions.
Works with the specialist to identify safety-related impacts on the target operational environment, by assessing current systems, procedures, policies, regulations, processes, etc.	Works with the specialist to identify safety-related impacts on the target operational environment, by assessing current systems, procedures, policies, regulations, processes, etc.	Gains consensus from stakeholders on safety-related impacts and their priority.
Works with the specialist to identify safety factors and translate them into testable safety requirements, based on the operational system.	Works with the specialist to identify safety factors and translate them into testable safety requirements, based on the operational system.	Builds consensus with the sponsor/customer on important safety issues, which need significant study.
Assists the specialist with data collection and modeling techniques to perform safety analyses.	Collaborates with the specialist to define data collection and modeling requirements for complex safety analyses.	
	Reviews safety analyses performed by the specialist to ensure that safety-related issues are identified and resolved.	Communicates the results of the safety analyses to the sponsor/customer in clear and meaningful terms.
Supports the specialist performing sensitivity analyses by providing acceptable system ranges for analysis, and by determining associated costs and risks.	Collaborates with the specialist to review safety and sensitivity analyses, and to develop recommendations about safety-related requirements, system or configuration changes, and associated costs and risks.	Communicates to all stakeholders about complex safety-related requirements, system or configuration changes, cost and risk implications, and safety recommendations.
Supports the specialist in performing design trade-offs for system safety solutions that are cost effective and operationally responsive.	Collaborates with the specialist to develop recommendations about design trade-offs for system safety solutions that are cost effective and operationally responsive.	Influences the customer/sponsor, contractor, and other stakeholders to select and implement effective system and enterprise-level safety solutions.

4.0 Systems Engineering Technical Specialties

Competency: 4.7 Software and Information Engineering

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Works with software engineers to analyze interrelationships among end-user, software, and system requirements.	**Collaborates with software engineers to understand end-user needs, define software performance measures, capture software requirements, and prioritize risks.**	**Facilitates interaction among the sponsor/customer, end-users, and software engineers to determine system expectations, problems, and potential solutions.**
Collaborates with specialist to define and incorporate software engineering tasks and procedures into the acquisition cycle.	Collaborates with specialist to define and incorporate software engineering tasks and procedures into the acquisition cycle.	Recommends software engineering approaches and activities for demonstrating the success of emerging software engineering techniques and solutions, such as experiments and prototypes.
Collaborates with specialist to ensure that software requirements are complete and validated.	Collaborates with specialist to ensure that system requirements form a foundation for detailed software requirements.	Reports to the sponsor/customer on key software and system requirements issues.
Assists specialist in understanding how the software implementation will affect end-users' information needs and performance.	Assists specialist in understanding how the software will affect end-users' information needs and performance.	Facilitates interaction among sponsor/customer, end-users and specialist about system/software expectations and performance.
Collaborates with specialist to define software performance by explaining operational and functional requirements.	Collaborates with specialist to define software performance that lead to systems performance.	Facilitates discussions with the sponsor/customer and the specialist about performance, functionality, and schedule trade-offs.
Collaborates with specialist and end-users to identify data dependencies, interoperability needs, information flow, and operational/business processes to be included in the software requirements.	Collaborates with specialist to validate that all top-level functionality, information flows, interoperability requirements, and end-user needs are properly captured in the system architecture.	
Collaborates with specialist to identify and prioritize software and system risks that may affect the schedule, quality, and capability.	Collaborates with specialist to identify and prioritize software and system risks that may affect the schedule, quality, and capability.	Reports software implementation and performance problems to the sponsor/customer, and recommends mitigation strategies to alleviate software and system risks.

Competency: 4.7 Software and Information Engineering		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Collaborates with the software/ information engineer to examine and test new information-centric approaches and techniques.	**Collaborates with the software/ information engineer to create an information-centric view of the enterprise.**	**Gains consensus with the sponsor/customer on an information-centric view of the enterprise.**
Assists the specialist with experiments in information/data engineering approaches, so they can be applied to the project or program (e.g., net centric paradigm, service oriented architecture, etc.).	Collaborates with the specialist to apply the principles of evolving information/data engineering to the project or program (e.g., net centric paradigm, service oriented architecture, etc.).	Recommends information/data engineering approaches for the project or program (e.g., net centric paradigm, service oriented architecture, etc.).
	Works with the specialist to create an information/data centric view of the enterprise (i.e., provides proper and accurate information to the decision makers at the right time).	Proposes to the sponsor/customer an information/data centric view of the enterprise (i.e., provides proper and accurate information to the decision makers at the right time).
	Collaborates with the specialist on an approach to information/ data sharing, timing and accuracy, including ways to reduce cultural and organizational barriers to sharing information.	Builds consensus with the sponsor/customer on an approach to information/data sharing, timing and accuracy, including ways to reduce cultural and organizational barriers to sharing information.
Collaborates with the specialist to discover ways to apply tools, standards, and techniques to manage and share data in projects and programs.	Collaborates with the specialist to discover ways to apply tools, standards, and techniques to manage and share data in projects and programs.	Recommends to the sponsor/customer ways to apply tools, standards, and techniques to manage and share data in projects and programs.

Competency: 4.7 Software and Information Engineering		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Supports software and information engineers building approaches for data modeling and legacy data processing. Assists the specialist to select data/meta-data representations and tools that help application developers and integrators to build, use, and evolve required data models. Supports the specialist to ensure that the collection, migration, aggregation, and manipulation of legacy data conforms to new business practices and/or the operational domain.	**Reviews data modeling approaches and ensures that legacy data conforms to new business practices and/or the operational domain.** Reviews selected data/meta-data representations and tools that help application developers and integrators build, use, and evolve data models. Verifies that the collection, migration, aggregation, and manipulation of legacy data conforms to new business practices and/or the operational domain.	

Competency: 4.7 Software and Information Engineering		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Collaborates with software engineers on software testing and reliability.	**Collaborates with the software engineer to identify critical areas for software testing and the interpretation of software reliability model results.**	**Communicates risks and mitigation strategies to the sponsor/customer based on software testing and/or software reliability model results.**
Collaborates with the specialist to validate the completeness and accuracy of the software test plan in relation to system test requirements.	Collaborates with the specialist to identify critical software testing areas that affect overall system operation and performance.	
Provides input to software and/or system reliability models by gathering appropriately configured data from the specialist.	Collaborates with the specialist to interpret results from software and/or system reliability models.	
Collaborates with the specialist and the contractor to complete software and closely related system tests.	Collaborates with the specialist and the contractor to interpret and prioritize the results of software and closely related system tests.	Reports to the sponsor/customer on significant software related problems that might preclude the sponsor from meeting business or mission needs.
Collaborates with the specialist and the contractor to re-test the software.	Collaborates with the specialist to develop mitigation strategies to correct the system so that it meets requirements, and to re-test for software.	Builds consensus between the sponsor/customer and the contractor on mitigation approaches to significant problems, and ensures that they are corrected and re-tested.

4.0 Systems Engineering Technical Specialties

Competency: 4.8 Networking and Communications Engineering

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Works with the networking and communications specialists to accomplish tasks.	**Collaborates with the specialist to identify tasks and de-conflict trade-offs between the networking and communications function and other system functions.**	**Interacts with the specialist to facilitate task completion, and makes recommendations to the sponsor/customer on network and communication issues.**
Works with the specialist to collect and understand information about the receiving, processing, and moving of data, based on networking and communications requirements.	Works with the specialist to understand network, data, and component management within the networking and communications requirements.	Works with the sponsor/customer and the specialist to agree upon network operations approaches for the system.
Works with the specialist to collect and understand information on how system complexity affects networking and communications systems, especially in cost and performance.	Collaborates with the specialist to explore how system complexity affects networking and communications systems, especially in cost and performance.	Recommends project adjustments to the sponsor/customer to address the impacts of system complexity on networking and communications systems.
Assists in translating needs into a set of requirements for network and communications systems performance.	Collaborates with the specialist to define end-to-end networking and communications requirements, both vertically (i.e., OSI stack) and horizontally (i.e., across multiple disciplines and programs).	Collaborates with the sponsor/customer and the specialist to finalize end-to-end requirements that address the threat environment, vertical networking and communication requirements (i.e., OSI stack), and horizontally networking and communications requirements (i.e., across multiple disciplines and programs).
Works with the specialist to collect and understand information about key constraints and performance parameters, and the impact of availability, real time performance, performance under environmental constraints (e.g., threat), and sustainment.	Collaborates with the specialist to define key constraints and performance parameters, and to assess system availability, real time performance, performance under environmental constraints (e.g., threat), and sustainment.	
Collects information on network architecture and technology changes.	Works with the specialist to identify network architecture solutions independent of a specific vendor.	Recommends to the sponsor/customer network architecture solutions independent of a specific vendor.

Competency: 4.8 Networking and Communications Engineering		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
	Translates network proposals into an appropriate architectural framework for use by the architectural group.	Facilitates the resolution of disconnections among architectural groups.
	Asks probing questions of the specialist to identify systemic issues (e.g., latency, round trip transmission, and processing time) and address root causes by examining the results from modeling and simulation, field studies, or operational studies.	Recommends changes to the sponsor/customer, which address systemic issues raised by the specialists, based on results from the modeling and simulation, field studies, or operational studies.
Interacts with systems/sub-systems specialists in the networking and communications area to surface issues about system trade-offs.	Facilitates resolution of issues and trade-offs between systems/sub-systems specialists in the networking and communications areas.	Resolves breakdowns between systems/sub-systems specialists in the networking and communications areas to address system trade-offs.
Works with the specialist to collect and understand information about the impact of changes to networking and communications technologies.	Collaborates with the specialist to quantify the impact of adopting, adapting, developing, and inserting new technologies into a system.	Recommends to the sponsor/customer a migration path for implementing new networking and communications technologies.
	Collaborates with the specialist and contractor to integrate complex networking and communications systems.	Resolves issues between the specialists and the sponsor/customer, which arise from the integration of complex networking and communications systems.
Collects information and works with the specialist to understand relevant standards and how they affect the performance of networking and communications system.	Works with the specialist to evaluate the performance of networking and communications systems, based on relevant standards.	Recommends adjustments to the sponsor/customer that will affect the performance of networking and communications systems.
Works with the specialist to collect information to help define potential COTS/GOTS integrations for the networking and communications area.	Defines approaches for COTS/GOTS integration for networking and communications systems.	Recommends that the sponsor/customer invest in commercially available networking and communications technologies, or integrate available GOTS into networking and communications systems.
	Identifies when a malfunction is a breakdown in a system engineering process instead of a component type problem (i.e., systemic vs. point problem).	Recommends improvements to systems engineering processes to address systemic problems related to networking and communications systems.

4.0 Systems Engineering Technical Specialties

Competency: 4.9 Collaborating with Technical Specialties

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Assists senior staff in identifying need, scope, and resources for studies and engineering efforts requiring specialized expertise.	**Determines, with help from the specialist, the need, scope, and cost of studies and engineering efforts requiring specialized expertise.**	**Obtains support and resources from the sponsor/customer for studies and engineering efforts requiring specialized expertise.**
Strives to understand systems engineering practices and technical domains to facilitate effective working relationships with various technical specialists.	Strives to understand systems engineering practices and technical domains to facilitate effective working relationships with various technical specialists.	Strives to understand systems engineering practices and technical domains to facilitate effective working relationships with various technical specialists.
Assists senior staff in identifying problems and disconnects in a project or program that may require study or engineering effort.	Identifies problems and disconnects in a project or program that may require study or additional engineering effort.	Reports to sponsor/customers on problems and disconnects in a project or program that may require study or additional engineering effort.
Works with senior staff to define the scope and assumptions of the study or additional engineering effort.	Defines the scope and assumptions of the study or additional engineering effort with advice from the specialists.	Gains agreement with the sponsor/customer about the scope and assumptions of the study or additional engineering effort.
Surveys work inside MITRE that may help resolve the identified problems and disconnects.	Surveys and leverages work inside and outside MITRE that may help resolve the identified problems and disconnects.	Assists in making connections to work inside and outside MITRE that may help resolve the identified problems and disconnects.
Assists senior staff in estimating the human, technical, cost, and other resources for the study or additional engineering effort.	Estimates the human, technical, cost, and other resources for the study or additional engineering effort, with the help of the specialist.	Obtains resources and funding from the sponsor/customer for the study or additional engineering effort.

Competency: 4.9 Collaborating with Technical Specialties		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Collaborates with specialists during the study or engineering effort and assists in incorporating the results of the study into general project/program documentation.	**Selects specialists, provides technical and programmatic insights, and analyzes the results of studies or engineering efforts.**	**Recommends appropriate specialists, communicates pertinent information to the sponsor/customer, and helps to build consensus among key stakeholders.**
	Selects appropriate specialists for the study or engineering effort.	Recommends appropriate specialists for the study or engineering effort to the sponsor/customer, and works with MITRE managers to make appropriate human and other resources available.
	Ensures that specialists and other project team members have input to the design of the study or engineering effort.	Directs the study or engineering effort.
	Ensures that the specialist understands the terminology, approaches, parameters, and constraints of the project/program.	Ensures that the specialist understands the terminology, approaches, parameters, and constraints of the project/program.
Provides insights about technical uncertainties that enable technical specialists to produce results with appropriate confidence levels.	Provides insights about technical uncertainties that enable technical specialists to produce results with appropriate confidence levels.	
Works with the specialist to document the results of the study or engineering effort in relation to project or program requirements.	Assesses the results of the study or engineering effort to determine the impact on the project or program.	Communicates the results of the study or engineering effort to the sponsor/customer.

Competency: 4.9 Collaborating with Technical Specialties		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Documents actions, based on the work of the specialists, which mitigate problems on the project or program.	Proposes actions and approaches, based on the work of the specialists, which mitigate problems on the project or programs.	Builds consensus with the sponsor/customer on actions and approaches, which mitigate problems on the project or program.
Collaborates with the specialist and the contractor to complete tests related to the specialty.	Collaborates with the specialists and the contractor to interpret the specialty test results, and prioritize the problems along with the other system problems.	Reports to the sponsor/customer on significant specialty related problems that might preclude them from meeting business or mission needs.
Collaborates with the specialist and the contractor to re-test the system in failed specialty areas.	Collaborates with the specialist to develop mitigation strategies to correct the system, so that it meets requirements, and to re-test the failed specialty areas.	Builds consensus between the sponsor/customer and key stakeholders on mitigation approaches to specialty area problems, and ensures that they are corrected and re-tested.

5.0 Collaboration and Individual Characteristics

Competency: 5.1 Building Trust

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Acknowledges others' contributions.	**Acknowledges others' contributions.**	**Acknowledges others' contributions.**
Sincerely compliments others contributions.	Sincerely compliments others contributions.	Sincerely compliments others contributions.
Supports employees and colleagues when their esteem is threatened.	Supports employees and colleagues when their esteem is threatened.	Supports employees and colleagues when their esteem is threatened.
Promotes open disclosure.	**Promotes open disclosure.**	**Promotes open disclosure.**
Shows empathy and understanding for others' feelings or concerns.	Shows empathy and understanding for others' feelings or concerns.	Shows empathy and understanding for others' feelings or concerns.
Invites feedback about oneself.	Invites feedback about oneself.	Invites feedback about oneself.
Actively and attentively listens.	Actively and attentively listens.	Actively and attentively listens.
Behaves consistently.	**Behaves consistently.**	**Behaves consistently.**
Ensures that words and actions are consistent.	Ensures that words and actions are consistent.	Ensures that words and actions are consistent.
Behaves consistently across situations.	Behaves consistently across situations.	Behaves consistently across situations.
Keeps commitments around agreed upon actions.	Keeps commitments around agreed upon actions.	Keeps commitments around agreed upon actions.
Demonstrates honesty.	**Demonstrates honesty.**	**Demonstrates honesty.**
Deals with people in an honest and forthright manner.	Deals with people in an honest and forthright manner.	Deals with people in an honest and forthright manner.
Represents information and data accurately and completely.	Represents information and data accurately and completely.	Represents information and data accurately and completely.
Focuses on facts rather than relying on own preferences or self-interest.	Focuses on facts rather than relying on own preferences or self-interest.	Focuses on facts rather than relying on own preferences or self-interest.

Competency: 5.1 Building Trust		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Advocates for others.	**Advocates for others.**	**Advocates for others.**
Supports and gives credit to deserving associates.	Supports and gives credit to deserving associates.	Supports and gives credit to deserving associates.
Actively pursues recognition and rewards for strong performers.	Actively pursues recognition and rewards for strong performers.	Actively pursues recognition and rewards for strong performers.
Defends employees and colleagues, even in the face of challenge and mistakes.	Defends employees and colleagues, even in the face of challenge and mistakes.	Defends employees and colleagues, even in the face of challenge and mistakes.
Displays openness.	**Displays openness.**	**Displays openness.**
Demonstrates openness in dealing with others.	Demonstrates openness in dealing with others.	Demonstrates openness in dealing with others.
Shares personal agenda regarding issue at hand.	Shares personal agenda regarding issue at hand.	Shares personal agenda regarding issue at hand.
Admits mistakes.	Admits mistakes.	Admits mistakes.

5.0 Collaboration and Individual Characteristics

Competency: 5.2 Building a Successful Team

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Establishes team direction.		
Ensures that the purpose and importance of the team are clarified (e.g., team has a clear charter or mission statement).		
Guides the setting of specific and measurable team goals and objectives.		
Recruits team members.	**Populates teams.**	**Builds teams.**
Recruits candidates with the right expertise for consideration for team.	Determines staffing needs; recruits and retains individuals with required expertise both locally and across organizational boundaries.	Determines staffing needs; recruits and retains individuals with required expertise both locally and across organizational boundaries.
Looks for candidates with diverse backgrounds and experiences to broaden the team's perspective.	Negotiates to get the right people on the right teams.	Negotiates to get the right people on the right teams.
	Balances interests of individuals with sponsor/customer needs.	Balances interests of individuals with sponsor/customer needs.
Articulates team expectations.	**Articulates team expectations.**	**Articulates team expectations.**
Works with team members to specify performance expectations (e.g., results, deliverables, deadlines and metrics).	Works with team leaders and team members to specify performance expectations (e.g., results, deliverables, deadlines, and metrics).	Works with team leaders and team members to specify performance expectations (e.g., results, deliverables, deadlines, and metrics).
Develops team structure.	**Clarifies roles and responsibilities.**	**Clarifies roles and responsibilities.**
Helps to clarify roles and responsibilities of team members.	Works with team leaders or team members to clarify team roles and responsibilities.	Works with team leaders or team members to clarify team roles and responsibilities.
Helps ensure that necessary organizational review and support functions are in place.		

Competency: 5.2 Building a Successful Team

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Facilitates goal accomplishment.	**Motivates teams.**	**Encourages teams.**
Makes suggestions and adjustments to procedures and processes to achieve team goals or perform team functions.	Looks for and capitalizes on opportunities to motivate, celebrate and reward successful team performance.	Looks for and capitalizes on opportunities to motivate, celebrate and reward successful team performance.
Provides necessary resources and helps to remove obstacles to team accomplishments.		
Involves others.	**Leverages diversity**.	**Leverages diversity.**
Listens to and fully involves others in team decisions and actions.	Looks for candidates with diverse backgrounds and experiences to broaden the team's perspective.	Looks for candidates with diverse backgrounds and experiences to broaden the team's perspective.
Values and uses individual differences and talents.	Maximizes team effectiveness by appreciating and encouraging contributions from all individuals.	Maximizes team effectiveness by appreciating and encouraging contributions from all individuals.
Informs team members.	**Informs team members.**	**Shares information.**
Shares important or relevant information with the team.	Shares important or relevant information with the team leaders or team members.	Shares important or relevant information with the team leaders or team members.
Models commitment.		
Adheres to the team's expectations and guidelines.		
Fulfills team responsibilities.		
Demonstrates personal commitment to the team.		

Competency: 5.2 Building a Successful Team		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Provides support. Makes self available to the team when needed. Proactively addresses team conflicts in a timely fashion. Monitors team performance. Provides ongoing feedback and appropriate guidance.	**Provides support.** Makes self available to the team when needed. Proactively addresses team conflicts in a timely fashion. Monitors team performance. Provides ongoing feedback and appropriate guidance.	**Provides support.** Makes self available to the team when needed. Proactively addresses team conflicts in a timely fashion. Monitors team performance. Provides ongoing feedback and appropriate guidance.

5.0 Collaboration and Individual Characteristics

Competency: 5.3 Communicating with Impact

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Delivers clear messages.	**Delivers clear messages.**	**Delivers clear messages.**
Uses appropriate and effective vocabulary.	Uses appropriate and effective vocabulary.	Uses appropriate and effective vocabulary.
Stays focused on the message; logically and simply conveys ideas.	Stays focused on the message; logically and simply conveys ideas.	Stays focused on the message; logically and simply conveys ideas.
Presents with impact.	**Presents with impact.**	**Presents with impact.**
Speaks with appropriate pace and inflection.	Speaks with appropriate pace and inflection.	Speaks with appropriate pace and inflection.
Conveys an air of confidence, ease, and enthusiasm.	Conveys an air of confidence, ease, and enthusiasm.	Conveys an air of confidence, ease, and enthusiasm.
Understands the material and uses congruent non-verbal communication.	Understands the material and uses congruent non-verbal communication.	Understands the material and uses congruent non-verbal communication.
Uses visual aids to enhance understanding of the content.	Uses visual aids to enhance understanding of the content.	Uses visual aids to enhance understanding of the content.
Creates clear written communications.	**Creates clear written communications.**	**Creates clear written communications.**
Writes clearly and understandably.	Writes clearly and understandably.	Writes clearly and understandably.
Sequences information in a logical manner to aid understanding.	Sequences information in a logical manner to aid understanding.	Sequences information in a logical manner to aid understanding.
Uses appropriate grammar and punctuation.	Uses appropriate grammar and punctuation.	Uses appropriate grammar and punctuation.
Adjusts message to the audience.	**Adjusts message to the audience.**	**Adjusts message to the audience.**
Frames message in line with audience experience, background, and expectations.	Frames message in line with audience experience, background, and expectations.	Frames message in line with audience experience, background, and expectations.
Uses tone, format, language, technical terms, examples, and analogies that are meaningful to the audience.	Uses tone, format, language, technical terms, examples, and analogies that are meaningful to the audience.	Uses tone, format, language, technical terms, examples, and analogies that are meaningful to the audience.

5.0 Collaboration and Individual Characteristics

Competency: 5.4 Persuasiveness and Influence

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Ensures understanding of issues. Uses an open-ended questioning style to explore and clarify operational and strategic information. Checks for understanding of others' organizational needs, constraints, and requirements.	**Ensures understanding.** Uses an open-ended questioning style to explore and clarify operational and strategic information. Checks for understanding of others' organizational needs, constraints, and requirements.	**Ensures understanding.** Uses an open-ended questioning style to explore and clarify operational and strategic information. Checks for understanding of others' organizational needs, constraints, and requirements.
Presents clear rationale. Presents logical arguments, data, and concrete examples. Provides clear explanation of relevant facts and presents a well-prepared case.	**Presents clear rationale.** Presents logical arguments, data, and concrete examples. Provides clear explanation of relevant facts and presents a well-prepared case.	**Presents clear rationale.** Presents logical arguments, data, and concrete examples. Provides clear explanation of relevant facts and presents a well-prepared case.
Adapts communication style. Adapts communication methods and style based on the players involved and the target objectives.	**Adapts communication style.** Adapts communication methods and style based on the players involved and the target objectives.	**Adapts communication.** Adapts communication methods and style based on the players involved and the target objectives.

Competency: 5.4 Persuasiveness and Influence		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Speaks to mutual needs and win-win solutions. Presents ideas, suggestions and recommendations in a manner that clearly links to the needs/priorities of MITRE, sponsors, customers, and the public interest. Looks for win-win solutions where possible.	**Speaks to mutual needs and win-win solutions.** Presents ideas, suggestions and recommendations in a manner that clearly links to the needs/priorities of MITRE, sponsors, customers, and the public interest. Looks for win-win solutions where possible.	**Speaks to organizational needs.** Presents ideas, suggestions and recommendations in a manner that clearly links to the needs/priorities of MITRE, sponsors, customers, and the public interest. Looks for win-win solutions where possible
		Influences through others. Uses experts or other third parties to influence when necessary. Builds direct and "behind-the-scenes" support for ideas; uses chains of indirect influence (e.g., gets A to show B so B will tell C…).
Persists to outcome. Uses appropriate facilitation techniques to gain agreement or move others to action. Summarizes outcomes of discussions and establishes next steps if needed.	**Persists to outcome.** Uses appropriate facilitation techniques to gain agreement or move others to action. Summarizes outcomes of discussions and establishes next steps if needed.	**Persists to outcome.** Uses appropriate facilitation techniques to gain agreement or move others to action. Summarizes outcomes of discussions and establishes next steps if needed.

Managing Complexity and Oneself

5.0 Collaboration and Individual Characteristics		
Competency: 5.5 Facilitating, Managing, and Championing Change		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
	Identifies change opportunities. Within given scope of authority, questions established work processes, structures, assumptions, etc.; identifies problems or opportunities for increased effectiveness or barriers to current effectiveness. **Designs the solution.** Gathers information to diagnose the problem/opportunity. Generates alternatives to address the problem/opportunity including new and innovative solutions. Evaluates options; chooses and effective course of action. Appropriately involves others as needed to diagnose the problem/opportunity and generate/evaluate alternatives.	**Identifies change opportunities.** Within given scope of authority, questions established work processes, structures, assumptions, etc.; identifies problems or opportunities for increased effectiveness or barriers to current effectiveness. **Designs the solution.** Gathers information to diagnose the problem/opportunity. Generates alternatives to address the problem/opportunity including new and innovative solutions. Evaluates options; chooses and effective course of action. Appropriately involves others as needed to diagnose the problem/opportunity and generate/evaluate alternatives.

Competency: 5.5 Facilitating, Managing, and Championing Change		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Assesses the impact.	**Assesses the impact.**	**Assesses the impact.**
Gathers information to clarify the nature of the change (e.g., what, when, how, why, etc.).	Gathers information to clarify the nature of the change (e.g., what, when, how, why, etc.).	Gathers information to clarify the nature of the change (e.g., what, when, how, why, etc.).
Identifies the impact of the change on individuals, structures and processes.	Identifies the impact of the change on individuals, structures and processes.	Identifies the impact of the change on individuals, structures and processes.
Identifies potential resistance to the change and how to overcome it.	Identifies potential resistance to the change and how to overcome it.	Identifies potential resistance to the change and how to overcome it.
Plans the implementation.	**Manages the planning and implementation.**	**Manages the planning and implementation.**
Develops action plans to communicate and implement the changes decided by higher level management (e.g., how to inform and prepare individuals to carry out the change, what resources and support are needed, etc.).	Creates or delegates the development of action plans to communicate and implement the change (e.g., how to inform and prepare individuals to carry out the change, what resources and support are needed, etc.).	Creates or delegates the development of action plans to communicate and implement the change (e.g., how to inform and prepare individuals to carry out the change, what resources and support are needed, etc.).
	Obtains necessary resources and support; adjusts structures, systems, processes or procedures to support the change (e.g., roles and responsibilities, individual goals, organization structures, work procedures, etc.).	Obtains necessary resources and support; adjusts structures, systems, processes or procedures to support the change (e.g., roles and responsibilities, individual goals, organization structures, work procedures, etc.).
	Actively coaches those who implement the change to assure success.	Actively coaches those who implement the change to assure success.

Competency: 5.5 Facilitating, Managing, and Championing Change		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Communicates the change.	**Communicates the change.**	**Communicates the change.**
Persuasively describes the reason, purpose, benefits and plan for change.	Persuasively describes the reason, purpose, benefits and plan for change.	Persuasively describes the reason, purpose, benefits and plan for change.
Clarifies changes in expectations for behavior and performance.	Clarifies changes in expectations for behavior and performance.	Clarifies changes in expectations for behavior and performance.
Regularly repeats the key messages of the change; anticipates and addresses concerns.	Regularly repeats the key messages of the change; anticipates and addresses concerns.	Regularly repeats the key messages of the change; anticipates and addresses concerns.
Provides timely and accurate information to affected parties about the plan, changes to the plan, and progress made.	Provides timely and accurate information to affected parties about the plan, changes to the plan, and progress made.	Provides timely and accurate information to affected parties about the plan, changes to the plan, and progress made.
Utilizes others' ideas.	**Utilizes others' ideas.**	**Values sound approaches.**
Supports and uses good ideas offered by others regarding how to implement the change.	Supports and uses good ideas offered by others regarding how to implement the change.	Supports and uses good ideas offered by others regarding how to implement the change.

Competency: 5.5 Facilitating, Managing, and Championing Change		
Foundational Behaviors	**Intermediate Behaviors**	**Expert Behaviors**
Provides support. Takes the pulse of individuals to assess their responses to the change. Acknowledges and responds to individuals' questions and concerns. Suggests alternatives and resources to individuals who need additional support.	**Provides support.** Takes the pulse of individuals to assess their responses to the change. Acknowledges and responds to individuals' questions and concerns. Suggests alternatives and resources to individuals who need additional support.	**Supports individuals through the change.** Takes the pulse of individuals to assess their responses to the change. Acknowledges and responds to individuals' questions and concerns. Suggests alternatives and resources to individuals who need additional support.
Rewards change. Recognizes and rewards individuals who implement the change. Celebrates successes along the way.	**Rewards change.** Recognizes and rewards individuals who implement the change. Celebrates successes along the way.	**Rewards change.** Recognizes and rewards individuals who implement the change. Celebrates successes along the way.
Follows up. Monitors change to assure progress Identifies and takes corrective action when issues arise.	**Follows up.** Monitors change to assure progress Identifies and takes corrective action when issues arise.	**Follows up on the change.** Monitors change to assure progress Identifies and takes corrective action when issues arise.
	Learns from change. Captures and shares lessons learned in order to improve the design and implementation of future changes.	**Learns from change.** Captures and shares lessons learned in order to improve the design and implementation of future changes.

5.0 Collaboration and Individual Characteristics

Competency: 5.6 High Quality Standards

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Sets standards for excellence.	**Sets standards for excellence.**	**Sets standards for excellence.**
Establishes criteria and/or work procedures to achieve a high level of quality, productivity, or service.	Establishes criteria and/or work procedures to achieve a high level of quality, productivity, or service.	Establishes criteria and/or work procedures to achieve a high level of quality, productivity, or service.
Ensures high quality.	**Ensures high quality.**	**Ensures high quality.**
Dedicates appropriate time and energy to assignments or tasks to ensure that no aspect of the work is neglected	Dedicates appropriate time and energy to assignments or tasks to ensure that no aspect of the work is neglected	Dedicates appropriate time and energy to assignments or tasks to ensure that no aspect of the work is neglected
Works to overcome obstacles to completing tasks or assignments.	Works to overcome obstacles to completing tasks or assignments.	Works to overcome obstacles to completing tasks or assignments.
Maintains appropriate quality oversight for the work of individuals who one supervises or leads in a team environment.	Maintains appropriate quality oversight for the work of individuals who one supervises or leads in a team environment.	Maintains appropriate quality oversight for the work of individuals who one supervises or leads in a team environment.
Accepts responsibility and accountability.	**Accepts responsibility and accountability.**	**Accepts responsibility and accountability.**
Accepts responsibility for outcomes (positive or negative) of one's work.	Accepts responsibility for outcomes (positive or negative) of one's work.	Accepts responsibility for outcomes (positive or negative) of one's work.
Admits mistakes and refocuses efforts when appropriate.	Admits mistakes and refocuses efforts when appropriate.	Admits mistakes and refocuses efforts when appropriate.
Demonstrates accountability for the work of individuals who one supervises or leads in a team environment.	Demonstrates accountability for the work of individuals who one supervises or leads in a team environment.	Demonstrates accountability for the work of individuals who one supervises or leads in a team environment.
Encourages others to take responsibility.	**Encourages others to take responsibility.**	**Encourages others to take responsibility.**
Provides encouragement and support to others in accepting responsibility.	Provides encouragement and support to others in accepting responsibility.	Provides encouragement and support to others in accepting responsibility.
Does not accept others' denial of responsibility without questioning.	Does not accept others' denial of responsibility without questioning.	Does not accept others' denial of responsibility without questioning.

5.0 Collaboration and Individual Characteristics

Competency: 5.7 Results Orientation

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Targets opportunities.	**Targets opportunities.**	**Targets opportunities.**
Systematically evaluates opportunities and focuses work programs on those opportunities with the greatest potential for increasing MITRE's value for sponsors, customers, and the public interest.	Systematically evaluates opportunities and focuses work programs on those opportunities with the greatest potential for increasing MITRE's value for sponsors, customers, and the public interest.	Systematically evaluates opportunities and focuses work programs on those opportunities with the greatest potential for increasing MITRE's value for sponsors, customers, and the public interest.
Establishes challenging goals.	**Establishes challenging goals.**	**Establishes challenging goals.**
Establishes stretch goals for self and others that are designed to achieve positive results.	Establishes stretch goals for self and others that are designed to achieve positive results.	Establishes stretch goals for self and others that are designed to achieve positive results.
Persists to outcome.	**Persists to outcome.**	**Persists to outcome.**
Works tenaciously toward and derives satisfaction from achieving challenging goals.	Works tenaciously toward and derives satisfaction from achieving challenging goals.	Works tenaciously toward and derives satisfaction from achieving challenging goals.
Pitches in where required without regard to status.	Pitches in where required without regard to status.	Pitches in where required without regard to status.
Stays focused.	**Stays focused**.	**Stays focused.**
Self-disciplined; measures progress and evaluates results.	Self-disciplined; measures progress and evaluates results.	Self-disciplined; measures progress and evaluates results.
Reprioritizes as appropriate.	Reprioritizes as appropriate.	Reprioritizes as appropriate.
Prevents irrelevant issues or distractions from interfering with timely completion of important tasks.	Prevents irrelevant issues or distractions from interfering with timely completion of important tasks.	Prevents irrelevant issues or distractions from interfering with timely completion of important tasks.

5.0 Collaboration and Individual Characteristics

Competency: 5.8 Adaptability

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Seeks understanding.	**Seeks understanding.**	**Understands changes.**
Seeks information to understand changes in work tasks, priorities, and the internal/external environment, as well as the logic or basis for these changes.	Seeks information to understand changes in work tasks, priorities, and the internal/external environment, as well as the logic or basis for these changes.	Seeks information to understand changes in work tasks, priorities, and the internal/external environment, as well as the logic or basis for these changes.
Approaches change openly.	**Approaches change openly.**	**Approaches change or newness openly.**
Treats change as opportunities to learn and grow.	Treats change as opportunities to learn and grow.	Treats change as opportunities to learn and grow.
Focuses on the beneficial aspects of change.	Focuses on the beneficial aspects of change.	Focuses on the beneficial aspects of change.
Speaks positively about change to others.	Speaks positively about change to others.	Speaks positively about change to others.
Adjusts behavior.	**Adjusts behavior.**	**Adjusts behavior.**
Quickly modifies behavior to deal effectively with changes in the work environment.	Quickly modifies behavior to deal effectively with changes in the work environment.	Quickly modifies behavior to deal effectively with changes in the work environment.
Readily tries new approaches appropriate for new or changed situations.	Readily tries new approaches appropriate for new or changed situations.	Readily tries new approaches appropriate for new or changed situations.
Does not persist with ineffective behaviors.	Does not persist with ineffective behaviors.	Does not persist with ineffective behaviors.

5.0 Collaboration and Individual Characteristics

Competency: 5.9 Integrity

Foundational Behaviors	Intermediate Behaviors	Expert Behaviors
Keeps commitments and confidentiality.	**Keeps commitments and confidentiality.**	**Keeps commitments and confidentiality.**
Performs actions as promised.	Performs actions as promised.	Performs actions as promised.
Does not share confidential information.	Does not share confidential information.	Does not share confidential information.
Demonstrates honesty.	**Demonstrates honesty.**	**Demonstrates honesty.**
Deals with people in an honest and forthright manner; shares personal agenda regarding the issue at hand.	Deals with people in an honest and forthright manner; shares personal agenda regarding the issue at hand.	Deals with people in an honest and forthright manner; shares personal agenda regarding the issue at hand.
Represents information and data accurately and completely.	Represents information and data accurately and completely.	Represents information and data accurately and completely.
Adheres to ethics in conduct.	**Adheres to ethics in conduct.**	**Adheres to ethics in conduct.**
Knows and understands MITRE's Ethical Code and Code of Ethics and Conduct and displays that knowledge unwaveringly in words and deeds.	Knows and understands MITRE's Ethical Code and Code of Ethics and Conduct and displays that knowledge unwaveringly in words and deeds.	Knows and understands MITRE's Ethical Code and Code of Ethics and Conduct and displays that knowledge unwaveringly in words and deeds.
Displays courage.	**Displays courage.**	**Displays courage**
States convictions and stands by principles even in the face of disagreement or direct challenge.	States convictions and stands by principles even in the face of disagreement or direct challenge.	States convictions and stands by principles even in the face of disagreement or direct challenge.
Demonstrates character.	**Demonstrates character.**	**Demonstrates character.**
Consistently acts in a manner that conveys organizational, social, and moral values of the highest standard.	Consistently acts in a manner that conveys organizational, social, and moral values of the highest standard.	Consistently acts in a manner that conveys organizational, social, and moral values of the highest standard.