2024 vs. 2019 CAP Exam Blueprint Crosswalk

This document compares the 2024 CAP-Expert and 2019 CAP exam blueprints. The 2024 blueprint maintains the same seven domains as previous versions, but now includes subtasks under each domain as testing objectives. These objectives offer more detailed performance expectations to guide exam preparation. The right column shows the 2019 domain tasks for alignment with the new testing objectives.

Testing Objective: The evidence that someone is at least minimally qualified at the CAP-Expert level.

DOMAIN 1 BUSINESS PROBLEM (QUESTION) FRAMING: The business problem (question) framing domain includes activities related to understanding the business problem and evaluating the scope of the problem.

	CAP-Expert Tasks	**CAP-Expert Testing Objectives**	**CAP 2019 JTA Tasks**
Task 1.1	**Develop an initial statement of a business problem (question).**	**CAP-X 1.1.1:** Given a complex scenario, identify questions for obtaining information needed for creating a clear and complete business problem (question) statement and why.	**Task 1:** Identify initial problem statement and desired outcomes
Task 1.2	**Identify all stakeholders and their perspectives.**	**CAP-X 1.2.1:** Identify an effective method of conducting stakeholder analysis and why.	**Task 2:** Identify all stakeholders and their perspectives
		CAP-X 1.2.2: Given a complex scenario, apply responsible, accountable, consulted, and informed criteria to a set of stakeholders.	
Task 1.3	**Determine if the business problem (question) is amenable to an analytics solution.**	**CAP-X 1.3.1:** Identify changes to a problem statement and the reasons that the modified statement would make the problem amenable to an analytic solution and why.	**Task 3:** Determine if the problem can be effectively addressed by analytics
		CAP-X 1.3.2: Identify an issue that would likely have an impact on the feasibility of an analytics solution and why.	
Task 1.4	**Refine the initial business problem (question) statement until it is clear and concise.**	**CAP-X 1.4.1:** Given a complex scenario and a business problem statement with part of the statement being unclear or incorrect, identify revisions of the unclear or incorrect statement that provide the most clarity.	**Task 4:** Refine the initial problem statement and identify business constraints

Task 1.5	Create an initial business case for a solution to the business problem (question).	CAP-X 1.5.1: Identify the difference between types of business, societal, and analytical benefits.	Task 5: Define an initial set of business costs and benefits
		CAP-X 1.5.2: Given a complex scenario, identify the different types of business costs.	
		CAP-X 1.5.3: Given a complex scenario, identify methods for determining the current state and operating procedures of the relevant business processes.	
		CAP-X 1.5.4: Given a complex scenario, identify how to measure value in a potential solution.	
		CAP-X 1.5.5: Given a complex business problem statement and potential risks to the business of implementing a solution, identify the most effective approach to address acceptable risks via risk mitigation and why.	
		CAP-X 1.5.6: Given a complex scenario with a business problem statement, and a description of a potential solution, identify options for addressing unintended direct and indirect consequences of the potential solution.	
Task 1.6	Obtain sponsor agreement and stakeholder alignment on the business problem (question) statement.	CAP-X 1.6.1: Given a complex scenario with a concern from a particular party who is either Responsible, Accountable, Supporting, Consulted, or Informed about the business problem (question) statement, identify how to respond to that party and why.	Task 6: Obtain stakeholder agreement on the business problem framing

DOMAIN 2 ANALYTICS PROBLEM FRAMING: The analytics problem framing domain includes activities related to understanding and framing the business problem (question) as an analytics problem.

	CAP-Expert Tasks	CAP-Expert Testing Objectives	CAP 2019 JTA Tasks
Task 2.1	**Reformulate the statement of the business problem (question) as an analytics problem statement.**	**CAP-X 2.1.1:** Given a complex scenario about a business problem statement, identify what is missing from the statement that would make it an analytics problem.	**Task 1:** Reformulate the business problem statement as an analytics problem
		CAP-X 2.1.2: Given a complex scenario about a business problem statement, identify what information is necessary to translate the business problem into one or more analytics problem statement(s) and how the information should be obtained.	
		CAP-X 2.1.3: Given a complex scenario about a business problem statement including client requirements, identify the analytics problem statement that will result in client success and achieving project/program goals and why.	
Task 2.2	**Develop a proposed set of drivers/inputs and determine how they relate to outputs.**	**CAP-X 2.2.1:** Given a complex business scenario and a proposed set of analytic inputs and outputs, identify the appropriateness of the proposed set of inputs and outputs and why.	**Task 2:** Develop a proposed set of drivers and relationships to outputs
		CAP-X 2.2.2: Given a complex scenario with a business problem statement, identify stated drivers and their relationship to outputs and why.	
Task 2.3	**State the set of assumptions related to the analytics problem.**	**CAP-X 2.3.1:** Given a complex scenario, identify the explicit and implicit assumptions and the implications of those assumptions for appropriate analytical approach(es).	**Task 3:** State the set of assumptions related to the problem
		CAP-X 2.3.2: Given a complex scenario about analytics, identify the impacts if the assumptions for the project/program have not been met and why.	
		CAP-X 2.3.3: Given a complex scenario and a business problem, identify examples of types of constraints that need to be addressed in an analytics problem statement.	
		CAP-X 2.3.4: Given a complex scenario with a business problem statement and associated analytics problem statement, identify limitations to the	

		analytics problem statement with respect to the business problem.	
Task 2.4	Define primary measures of success.	CAP-X 2.4.1: Given a complex scenario with a business problem statement and an associated analytical problem statement, identify the tradeoff and relative importance of the primary measures of success as they relate to the business and analytic statements.	Task 4: Define key metrics of success
		CAP-X 2.4.2: Given a complex scenario with a business problem, identify the process to verify if the primary measures of success have been met and why.	
Task 2.5	Identify baseline performance of the current state.	CAP-X 2.5.1: Given a complex scenario with a business problem statement, identify the analytical problem statement that will have the most significant impact on the performance of the current state.	Task 4: Define key metrics of success
Task 2.6	Identify risks and mitigation strategies for an effective potential analytics solution implementation.	CAP-X 2.6.1: Given a complex scenario with an analytics problem statement and potential risk, identify the most effective approach for risk mitigation and why.	
		CAP-X 2.6.2: Given a complex scenario with a business problem statement and ethical risk, identify the most effective approach for risk mitigation and why.	
		CAP-X 2.6.3: Given a scenario, identify the risks of using Generative AI or relatively new technologies as part of the analytics solution.	
Task 2.7	Obtain sponsor agreement and stakeholder alignment on the Analytics Problem Framing.	CAP-X 2.7.1: Given a complex scenario with a concern from a particular party who is either Responsible, Accountable, Supporting, Consulted, or Informed about the analytics problem statement, identify how to respond to that party and why.	Task 5: Obtain stakeholder agreement on the analytics problem framing
		CAP-X 2.7.2: Given a complex scenario, evaluate the clarity and completeness in communicating the analytics problem statement including future concerns and sustainability for informed stakeholder alignment	

DOMAIN 3 DATA: The data domain includes activities related to identifying what data is needed and available, manipulating data so as to render it usable to find the answer to an analytics problem, and the required documentation and reporting needs.

	CAP-Expert Tasks	CAP-Expert Testing Objectives	CAP 2019 JTA Tasks
Task 3.1	**Identify and prioritize data needs.**	**CAP-X 3.1.1:** Given a complex scenario with an analytics problem statement, prioritize data needs, sources, and sequence.	**Task 1:** Identify and prioritize data needs and sources
		CAP-X 3.1.2: Given a complex scenario about communicating data requirement to stakeholders and providers including navigating and negotiating conflicts, identify the data requirements, limitations, and priorities.	
Task 3.2	**Identify and analyze data sources including data structures.**	**CAP-X 3.2.1:** Given a complex scenario based on data attributes, data context, and metadata, identify appropriate courses of actions including negotiating changes in business processes or different source systems.	**Task 1:** Identify and prioritize data needs and sources
		CAP-X 3.2.2: Given a complex scenario including an organization's data strategy, identify how necessary data governance roles should be defined and deconflicted and why.	
		CAP-X 3.2.3: Given a complex scenario, identify data that is missing and how it might be obtained.	
		CAP-X 3.2.4: Given a complex scenario, identify how the analytics technology stack connect and how performance or other needs may shape architecture choices.	
		CAP-X 3.2.5: Given a complex scenario with a description of the attributes of a data architecture, identify implications of data architectures for analytics projects/programs.	
		CAP-X 3.2.6: Identify advanced characteristics of a relational database.	
		CAP-X 3.2.7: Given a complex scenario with a description of data, identify which of the 4 Vs (volume, veracity, variety, velocity) are NOT relevant.	
Task 3.3	**Create a data management plan.**	**CAP-X 3.3.1:** Given a complex scenario, identify how to work with stakeholders to develop a data strategy and data governance culture.	**Task 1:** Identify and prioritize data needs and sources

Task 3.4	Acquire data.	**CAP-X 3.4.1:** Given a complex scenario, identify the tradeoffs and risks of different types of data sources and how to address the issues.	**Task 2:** Acquire data
		CAP-X 3.4.2: Given a complex scenario which has data that has risks or ethical implications, identify methods for mitigating or managing those risks and ethical implications.	
		CAP-X 3.4.3: Identify appropriate methods for establishing lineage, traceability, and version control of data.	
Task 3.5	Clean, harmonize, transform, merge/join, and validate data.	**CAP-X 3.5.1:** Given a complex scenario, identify an appropriately designed solution to resolve conflicting needs from data in multiple sources.	**Task 3:** Clean, transform, and validate the data
		CAP-X 3.5.2: Given a complex scenario, identify problems related to cleaning and transforming data in a way to support future modeling.	
Task 3.6	Assess data quality and identify relationships in the data.	**CAP-X 3.6.1:** Given a complex scenario with data quality gaps including missing data, accuracy, completeness, consistency, timeliness, validity, uniqueness, and outliers, identify how to correct issues with the data.	**Task 4:** Identify relationships in the data
		CAP-X 3.6.2: Given a complex scenario with multivariate data and data profiling outputs, identify patterns and characteristics of the data and their implications.	
		CAP-X 3.6.3: Given a complex scenario with a visual, identify the clearest interpretation of the visual and why.	
		CAP-X 3.6.4: Given a complex scenario, identify appropriate methods of evaluating data quality issues and how to mitigate them.	
Task 3.7	Document and report data findings (e.g., data quality, impact analysis, results, data management plan.)	**CAP-X 3.7.1:** Given a complex scenario, identify valid conclusions in the report about the data's applicability for analytics and why.	**Task 5:** Document and report preliminary findings (e.g., insights, results, business performance)
Task 3.8	Validate and update the business and analytics problem statements.	**CAP-X 3.8.1:** Given a complex scenario with observed data findings, identify appropriate changes to an analytic problem statement and the business implications of the changes.	**Task 6:** Refine the business and analytics problem framing

DOMAIN 4 METHODOLOGY (APPROACH) SELECTION: The methodology (approach) selection domain includes activities related to selecting the methods/techniques, software and tools that will enable analytics problem solutions.

	CAP-Expert Tasks	CAP-Expert Testing Objectives	CAP 2019 JTA Tasks
Task 4.1	**Determine available and appropriate methods/techniques for the identified problem.**	**CAP-X 4.1.1:** Given a complex scenario with an analytics problem statement, identify the methods/techniques that should be used and why.	**Task 1:** Identify available problem-solving methodologies (approaches)
		CAP-X 4.1.2: Given a complex scenario with an analytics problem statement, identify which descriptive/diagnostic analytics methods/techniques should be used and why.	
		CAP-X 4.1.3: Given a complex scenario with an analytics problem statement, identify which predictive analytics methods/techniques should be used and why.	
		CAP-X 4.1.4: Given a complex scenario with an analytics problem statement, identify which prescriptive analytics methods/techniques should be used and why.	
		CAP-X 4.1.5: Given a scenario with an analytics problem statement, identify how Generative AI could be used and the benefits.	
Task 4.2	**Evaluate and select methods / techniques, given the resources and available data.**	**CAP-X 4.2.1:** Given a complex scenario, which could include limitations on resources and data, identify technical costs, business costs, benefits, risks, and implications of choosing different methods/techniques and why.	**Task 3:** Evaluate methodologies (approaches) Selection of methodologies (approaches)
Task 4.3	**Understand the technical solution architecture.**	**CAP-X 4.3.1:** Given a complex scenario, identify an appropriate technical solution needed to employ in the solution set and why.	
Task 4.4	**Evaluate and select the technology stack.**	**CAP-X 4.4.1:** Given a complex scenario, identify strengths, weaknesses, and risks of the technology stack including databases, analytics software, networking, security, on-premises, cloud, open source vs. proprietary, platforms, etc.	**Task 2:** Select software tools
		CAP-X 4.4.2: Given a complex scenario, identify the most appropriate alternative to a spreadsheet analytics model.	

DOMAIN 5 ANALYTICS / MODEL DEVELOPMENT: The analytics/ model development domain includes activities related to identifying, using, calibrating, and integrating models as well as the documentation of the model and communication of findings.

	CAP-Expert Tasks	**CAP-Expert Testing Objectives**	**CAP 2019 JTA Tasks**
Task 5.1	**Design the model structure.**	**CAP-X 5.1.1:** Given a complex scenario, identify appropriate inputs, outputs, and relationships for **descriptive/ diagnostic** analytics models and why.	**Task 1:** Specify conceptual models
		CAP-X 5.1.2: Given a complex scenario, identify appropriate inputs, outputs, and relationships for **predictive** analytics models and why.	
		CAP-X 5.1.3: Given a complex scenario, identify appropriate inputs, outputs, and relationships for **prescriptive** analytics models and why.	
Task 5.2	**Build one or more appropriate models.**	**CAP-X 5.2.1:** Given a complex scenario, with a **predictive** model and a set of model elements (dependent and independent variables) identify which does not belong or is missing.	**Task 1a:** Build and verify the models[1]
		CAP-X 5.2.2: Given complex scenario with a **prescriptive** model and a set of model elements (decision variables, constraints, and objective(s)), identify which does not belong or is missing.	
		CAP-X 5.2.3: Given a complex scenario with a **predictive** model, identify an error from a list of candidate errors for the model and how to rectify the error(s).	
		CAP-X 5.2.4: Given a complex scenario including a **prescriptive** model, identify an error from a list of candidate errors for the model and how to rectify the error(s).	

Task 5.3	Run, verify, and evaluate the model's performance and outputs.	**CAP-X 5.3.1:** Given a complex scenario with a **descriptive/ diagnostic** analytics model output with an error in interpretation, identify the correct interpretation and why the interpretation is correct.	**Task 2:** Run and evaluate the models
		CAP-X 5.3.2: Given a scenario with a set of **predictive** analytics models, identify an appropriate ensemble modeling approach.	
		CAP-X 5.3.3: Given a **complex set of predictive** analytics models, identify an appropriate interpretation of the output.	
		CAP-X 5.3.4: Given a **complex prescriptive** analytics model output, identify the correct verification of the solution and why.	
		CAP-X 5.3.5: Given an observed biased or unethical outcomes of a **predictive or prescriptive** model, identify which data and/or model issue is the cause and why.	
Task 5.4	Calibrate model and improve data applicability based on client input.	**CAP-X 5.4.1:** Given a complex scenario with client concern about the output of a **predictive** analytics model, identify the combination of data and model issues that are the cause and why.	**Task 3:** Calibrate models and data[1]
		CAP-X 5.4.2: Given a complex scenario with a client concern about the output of a **prescriptive** analytics model, identify the combination of data and model issues that are the cause and why.	
Task 5.5	If necessary, integrate multiple models.	**CAP-X 5.5.1:** Given a complex scenario, identify conflicts and synergies between multiple models given a list of alternative conflicts / synergies and why.	**Task 4:** Integrate the models[1]
Task 5.6	Document and communicate model findings including assumptions, limitations, and constraints.	**CAP-X 5.6.1:** Given a complex scenario about communicating findings and an audience, identify appropriate assumptions, limitations and constraints and why.	**Task 5:** Document and communicate findings (including assumptions, limitations and constraints)

DOMAIN 6 DEPLOYMENT: The deployment domain includes activities related to the delivery of the analytics solution and requirements to support the deployment into the business.

	CAP-Expert Tasks	CAP-Expert Testing Objectives	CAP 2019 JTA Tasks
Task 6.1	**Perform business validation of the analytics solution.**	**CAP-X 6.1.1:** Given a complex scenario, identify how to perform business validation of the analytics solution and how it should be communicated to the client.	**Task 1:** Perform business validation of the model
		CAP-X 6.1.2: Given a complex scenario with a model and a list of possible business uses of the model, identify the use with the most risk of adverse ethical analytics consequences.	
Task 6.2	**Deliver business validation report with findings.**	**CAP-X 6.2.1:** Given a complex scenario with a complicated, technical paragraph, identify the most appropriate non-technical summary of the finding for a non-technical audience.	**Task 2:** Deliver report with findings; and/or
Task 6.3	**Obtain sponsor agreement and stakeholder alignment on moving forward with deployment.**	**CAP-X 6.3.1:** Given a complex scenario, identify the characteristics of business impacts of implementing the analytics solution for informed stakeholder alignment.	**Task 2:** Deliver report with findings; and/or
Task 6.4	**Create requirements for a deployed analytics solution including model, usability, system and business.**	**CAP-X 6.4.1:** Given a complex scenario, with a description of a production system and documentation of how the system is to be used, identify if the documentation is sufficient for a business user and why.	**Task 3:** Create model, usability and system requirements for production
		CAP-X 6.4.2: Given a complex scenario with a business validation report arising from a strategic analysis, identify characteristics of the **model and report** documentation so that the analytics solutions can be reused if the business circumstances should change.	
Task 6.5	**Actively support the implementation and testing of the production analytics solution/system.**	**CAP-X 6.5.1:** Identify the characteristics of deployment testing and why they are important.	**Task 4:** Deliver production model/system[1]
		CAP-X 6.5.2: Identify the responsibilities of the analytics professional in the delivery of the production analytics solution/system.	

Task 6.6	**Actively support deployment validation and verification, including production data flows.**	**CAP-X 6.6.1:** Given a complex scenario with multiple data sources, identify which data sources need to be synchronized and how,	**Task 5:** Support deployment

DOMAIN 7 ANALYTICS SOLUTION LIFECYCLE MANAGEMENT: The analytics solution lifecycle management domain includes activities related to continuous oversight and calibration and training activities to ensure the analytics solution continues to function as planned and returns valid answers.

	CAP-Expert Tasks	**CAP-Expert Testing Objectives**	**CAP 2019 JTA Tasks**
Task 7.1	**Track analytics solution performance.**	**CAP-X 7.1.1:** Given a complex scenario, identify factors that may affect analytics solution performance over time.	**Task 2:** Track model performance
Task 7.2	**Recalibrate and maintain the analytics solution.**	**CAP-X 7.2.1:** Given a complex scenario, identify potential opportunities and risks for recalibration of the analytics solution.	**Task 3:** Re-calibrate and maintain the model[1]
		CAP-X 7.2.2: Given a complex scenario involving changes in the external environment, identify and compare alternative solutions.	
Task 7.3	**Support training activities.**	**CAP-X 7.3.1:** Given a complex scenario, identify the type of training that is needed for business users in different roles.	**Task 4:** Support training activities
Task 7.4	**Validate the business case for the analytics solution over time.**	**CAP-X 7.4.1:** Given a complex scenario with a list of benefits and costs from the customers, identify the benefits and costs that are directly attributable to the analytics solution.	**Task 5:** Evaluate the business costs and benefits of the model over time
Task 7.5	**Analyze side effects of the analytics solution over time.**	**CAP-X 7.5.1:** Given a complex scenario in predictive modeling, identify an outcome that exhibits adverse or ethical issues but is not readily apparent in the data.	**Task 5:** Evaluate the business costs and benefits of the model over time
Task 7.6	**Ensure documentation is complete and/or maintained.**	**CAP-X 7.6.1:** Given a complex scenario, identify the solution lifecycle activities that should be documented and monitored.	**Task 1:** Create documentation