

MILESTONE PLANNING AND RESEARCH, INC.

Innovation With Trust Occupational Standards Manual

Applied Artificial Intelligence Pathway-Occupation E

Prepared June 2026 · Release 3

Release 3 · Competency Standard Edition

© 2026 Milestone Planning and Research, Inc. All Rights Reserved

Purpose and Scope

This manual defines the full competency standards for all five occupational pathways in the AI Innovation With Trust Program. Each competency is presented with its Know, Do, and Become standards; the evidence required for signoff; and its NIST AI RMF alignment. Release 3 adds Occupation E: Artificial Intelligence Business Process Architect.

For signoff rules: Know requires a related instruction artifact. Do requires a real work product reviewed by the mentor with direct observation of performance. Become requires a specific behavioral attestation describing what the mentor actually observed in a real work context — not a general endorsement.

Five Occupational Pathways

Occupation	Primary Work	Business Value Focus
AI Analyst	AI-assisted analysis, decision support, source verification, workflow improvement.	Verified, accountable AI use that improves individual and team output quality.
AI Ops & Governance Specialist	NIST AI RMF operationalization, controls, model risk, audit, escalation.	Governance that prevents value-destroying AI failures and builds compliance readiness.
AI Quality & Validation Specialist	Test design, falsification, IV&V, explainability, assurance reporting.	Independent quality assurance that makes AI outputs trustworthy enough to act on.
AI Developer	Designs, builds, and deploys AI systems that are reproducible, auditable, and governed from the point of development. Applies probabilistic reasoning, human-in-the-loop design, and validation discipline to production AI work.	AI-enabled systems that are reproducible, auditable, and governed by design.
AI Business Process Architect	Process discovery, business case design, AI-enabled process transformation, value realization, portfolio management.	Measurable revenue creation and cost reduction through AI-transformed business processes.

Common Trunk Standards

Required by all five occupations. All fourteen trunk competencies (T-2.1 through T-2.14) must be attained before occupation-specific L3 and L4 competencies may be pursued. T-2.1 through T-2.9 are assessed across Know, Do, and Become. T-2.10 through T-2.14 are assessed at Know level only.

[Common Trunk standards T-2.1 through T-2.9 are published in full in the AI Occupational Standards Manual: Occupations A–D. T-2.1 through T-2.6 are unchanged from Release 2. T-2.7 (AI Security Awareness), T-2.8 (AI-Enabled Innovation Judgment), and T-2.9 (AI-Assisted Decision Quality) were added at Release 3 and apply to all five occupations including Occupation E. T-2.10 through T-2.14 (Organizational Context Competencies: AI Risk Governance and Framework Integration Overview, AI Organizational Processes and Alignment, AI Ownership/Oversight/Accountability, AI Policies/Procedures/Organizational Training, and AI Regulatory Compliance and Legal Considerations) are Know-level only competencies added at Release 4. They are also published in full in the Occupations A–D manual and apply to all five occupations including Occupation E. The practitioner’s role for T-2.10–T-2.14 is awareness, navigation, and escalation; Do and Become dimensions are not assessed.]

Occupation A: Artificial Intelligence Analyst

[Occupation A standards as published in Release 2 remain unchanged.]

Occupation B: Artificial Intelligence Operations and Governance Specialist

[Occupation B standards as published in Release 2 remain unchanged.]

Occupation C: Artificial Intelligence Quality and Validation Specialist

[Occupation C standards as published in Release 2 remain unchanged.]

Occupation D: Artificial Intelligence Developer

[Occupation D standards as published in Release 2 remain unchanged.]

Occupation E: Artificial Intelligence Business Process Architect

Maps current-state processes to AI transformation opportunities; designs AI-enabled future-state processes with measurable revenue or cost impact; uses AI to build AI-enabled solutions; owns the business case from discovery through value realization. Business-value realization is a signoff competency in this occupation — not a course topic.

The AI Business Process Architect is the occupation that closes the gap between AI capability and business value. This practitioner does not primarily build AI systems or govern them — they transform the organization’s business processes using AI, and they own the financial outcome.

The defining characteristic of this occupation is the combination of three capabilities that most AI programs treat separately: business process analysis, AI solution development (using AI to build AI), and financial accountability for the value created. A practitioner who can discover a high-value process transformation opportunity, build a defensible business case, design the AI-enabled future state, prototype and test a solution, and then measure and report real business outcomes is a different kind of professional from any of the other four occupations.

This is also the occupation most directly relevant to the gap identified across DOL AI apprenticeship programs and most AI certificate curricula: they teach AI skills but do not map those skills to business value. The AI Business Process Architect occupation is built around that mapping as its primary purpose.

Risk Management Scope: views AI from a business process perspective much like a six-sigma practitioner including investment analysis, business process transformation, and strategic risk management — business case risk analysis, transformation project risk management, realized value risk monitoring, and the governance of AI initiatives from approval through measured outcome. The BPA’s risk accountability is the broadest in the program: they are responsible for whether the AI investment produced the projected return net of all risks that materialized.

Work Process Areas

Work Process Area	Key Activities	Primary Output
Process discovery and value mapping	First-principles process observation; AI readiness scoring; baseline calculation; value at stake quantification.	Process discovery report with scored opportunities and documented baselines.
Business case design	Two-sided ROI modeling (cost reduction + revenue creation); measurement design; sensitivity analysis; risk register. Because trust is proportionate to the inverse of residual risk ($\text{Trust} \propto 1/\text{Risk}$), the risk register is simultaneously a trust instrument: it provides independently verified evidence that the BPA’s investment risk judgment was exercised and documented.	Business case document with NPV, payback, and probability-weighted expected value.
Future-state process design	OODA redesign; AI authority scoping; human override design; failure mode review.	Future-state process map with governance design and FMEA review.
AI-assisted solution development	Prototype building using AI tools; baseline testing; iteration; production readiness assessment.	Working prototype with test results and development roadmap.
Prompt and workflow architecture	Multi-step AI workflow design; intermediate output materialization; adversarial testing; governance documentation.	Prompt architecture document reproducible by a second practitioner.
Platform and integration architecture	Platform selection with governance rationale; business system integration; architecture documentation.	Integration architecture document meeting enterprise IT governance standards.
Value measurement and reporting	Outcome metric design; attribution methodology; value realization reporting; CFO-accessible dashboard.	Value realization report and executive portfolio dashboard.
Change management and adoption	Stakeholder impact analysis; adoption design; behavioral tracking; sponsor communication.	Adoption plan with behavioral (not training-completion) metrics.

Work Process Area	Key Activities	Primary Output
Portfolio management	Multi-initiative prioritization; resource allocation; portfolio risk management including transformation project risk (scope, dependency, integration, adoption) and concentration risk across simultaneous AI deployments; C-suite and board-level risk reporting.	Portfolio dashboard with investment recommendations.
Competitive strategy	Defensible advantage identification; replication barrier analysis; strategic positioning.	Strategic positioning memo and transformation roadmap.

Competency Standards

P-P1 P1 Business Process Discovery and Value Mapping

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Understand process mapping methods (swim-lane, SIPOC, value stream mapping) and how to score a process for AI transformation readiness across five dimensions: decision frequency, data availability, measurability, reversibility, and economic leverage. Know how to calculate a baseline value at stake — the revenue or cost that moves if the process improves. Understand the difference between automating a bad process (destroying value) and redesigning a process around AI capability (creating it).	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	MAP
DO	Map a current-state business process from first-principles observation, not from documentation alone. Score it against the five AI readiness dimensions. Calculate the value at stake with a documented baseline. Identify the specific decision, prediction, or classification within the process that AI can improve. Produce a process discovery report that a senior executive can read in 10 minutes and use to make a resource decision.	Real work product reviewed by mentor with direct observation of performance.	10	MAP
BECOME	A process discoverer who goes to where the work happens rather than relying on stated descriptions. Consistently finds the decision that no one had framed as a decision — the implicit judgment embedded in a manual step. Produces baselines that survive scrutiny because they are built from observation, not assumption.	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific incident. Cannot be signed off from documentation alone.	6	MAP

P-P2 P2 Business Case Design and ROI Architecture

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Know how to build a two-sided AI business case: a cost-reduction model (labor displacement, error reduction, cycle time improvement, rework elimination) and a revenue-creation model (new capability enabled, speed-to-market advantage, customer experience improvement, pricing power). Understand that AI business cases fail most often from unmeasured baselines, missing counterfactuals, and confounded	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	MAP; MEASURE

Dimension	Standard	Evidence	RTI Hrs	NIST
	attribution. Know how to design a business case that isolates AI's contribution from other concurrent changes.			
DO	Build a structured AI business case with a documented baseline, a specific intervention hypothesis, a measurement design that isolates AI's contribution, projected outcomes with explicit assumptions, a sensitivity table, and a risk register. Express the case in terms a CFO will recognize: NPV, payback period, and probability-weighted expected value. Present the case to a decision-maker and defend every assumption under questioning.	Real work product reviewed by mentor with direct observation of performance.	10	MAP; MEASURE
BECOME	A business case architect who kills weak cases before they reach sponsors rather than letting them survive on optimism. Asks 'What would make this wrong?' before 'What would make this work?' Has been the person in the room who recommended against an AI project because the business case did not hold — and been right.	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific incident. Cannot be signed off from documentation alone.	6	MAP; MEASURE

P-P3 P3 Future-State AI Process Design

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Understand the design principles for AI-enabled processes: where AI generates a recommendation (human decides), where AI executes within bounds (human monitors), and where AI acts autonomously (human audits). Know the OODA loop redesign pattern: AI compresses Orient and Observe cycles; human authority is preserved at Decide and Act. Understand that a well-designed AI process creates a new constraint — the human bottleneck shifts from information processing to decision quality. Know how to design around that new bottleneck.	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	GOVERN; MAP
DO	Design a future-state AI-enabled process with explicit role assignments at every decision point, defined AI output bounds, human override mechanisms, escalation thresholds, and audit trails. Produce a future-state process map that shows what the AI does, what the human does, and what happens when AI output falls outside expected parameters. Walk the design through a structured failure mode review before presenting to sponsors.	Real work product reviewed by mentor with direct observation of performance.	10	GOVERN; MAP
BECOME	Designs AI-enabled processes that make the humans in them more capable — not just faster. Thinks first about what the human in the redesigned process needs to know and decide, and designs the AI layer around that human need rather than around the AI capability available. Refuses to design a process where AI authority exceeds what governance structures can audit.	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific incident. Cannot be signed off from documentation alone.	6	GOVERN; MAP

Q-Q1 Q1 AI-Assisted Solution Development

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Understand how to use AI tools (coding assistants, process automation platforms, no-code/low-code AI builders, prompt-chaining frameworks) to accelerate the development of AI-enabled solutions. Know the difference between AI-assisted prototyping (fast, exploratory, useful for validating a business hypothesis) and AI-assisted production development (governed, reproducible, auditable). Understand that AI-assisted development compresses the time from business hypothesis to working prototype from weeks to hours — and that this speed advantage is only valuable if the prototype is tested against real business conditions, not just technical benchmarks.	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	MAP; MEASURE
DO	Use AI coding and automation tools to build a working prototype of an AI-enabled process component in a sprint of five days or less. Test the prototype against the baseline conditions identified in the process discovery. Document what the prototype demonstrated, what it failed to demonstrate, and what the next development iteration requires. Distinguish clearly between prototype results and production claims.	Real work product reviewed by mentor with direct observation of performance.	10	MAP; MEASURE
BECOME	Uses AI-assisted development as a thinking tool rather than a production shortcut. Builds fast to learn, not fast to ship. Has a reliable instinct for when a prototype is revealing something genuine about the business problem versus when it is performing competence without testing the real constraint.	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific incident. Cannot be signed off from documentation alone.	6	MAP; MEASURE

Q-Q2 Q2 Prompt Architecture and AI Workflow Design

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Understand prompt engineering as a design discipline: system role design, context injection, output format specification, chain-of-thought elicitation, and multi-step workflow orchestration. Know the difference between a prompt that produces a plausible output and one that reliably produces a governed output — where parameters are documented, output format is testable, and failure modes are known. Understand the intermediate output compliance mandate: every agentic AI workflow must materialize auditable artifacts at each governed stage before downstream consumption.	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	GOVERN; MAP
DO	Design and document a multi-step AI workflow for a real business process,	Real work product reviewed by mentor with	10	GOVERN; MAP

Dimension	Standard	Evidence	RTI Hrs	NIST
	specifying system role, context injection method, output format and validation criteria, intermediate materialization points, failure mode handling, and human review checkpoints. Test the workflow against adversarial inputs. Produce a prompt architecture document that a second practitioner could reproduce and modify without access to the original designer.	direct observation of performance.		
BECOME	Treats prompt architecture as engineering, not craft. Designs workflows that can be read, reproduced, tested, and governed by someone other than the designer. Consistently materializes intermediate outputs as auditable artifacts rather than passing unverified AI output directly to downstream steps.	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific incident. Cannot be signed off from documentation alone.	6	GOVERN; MAP

Q-Q3 Q3 Automation Platform and Integration Architecture

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Understand the landscape of AI automation and integration platforms: RPA + AI layers, no-code AI builders, API orchestration frameworks, and custom Python pipelines. Know how to select the right platform based on: required governance level, IT integration complexity, maintenance burden, total cost of ownership, and reversibility. Understand that platform selection is a governance decision — different platforms have different audit trail capabilities, override mechanisms, and failure mode profiles.	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	GOVERN; MAP
DO	Select and document a platform architecture for an AI-enabled process transformation with explicit rationale across governance, integration, cost, and reversibility dimensions. Build a working integration between the AI component and at least one upstream or downstream business system. Produce an integration architecture document that satisfies the IT governance review process of a mid-size enterprise.	Real work product reviewed by mentor with direct observation of performance.	10	GOVERN; MAP
BECOME	Makes platform decisions that the organization will not regret in two years. Resists the fastest platform and asks instead which platform the organization can govern, maintain, and exit from if the technology changes. Has recommended against a technically capable platform because its governance properties were insufficient for the risk level of the process.	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific incident. Cannot be signed off from documentation alone.	6	GOVERN; MAP

R-R1 R1 Value Measurement and Business Outcome Tracking

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Understand the difference between activity metrics (prompts run, processes automated, hours saved) and outcome metrics (revenue generated, cost reduced, error rate decreased, cycle time improved, customer	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	MEASURE; MANAGE

Dimension	Standard	Evidence	RTI Hrs	NIST
	retention increased). Know how to design a measurement system that isolates AI's contribution from confounding factors. Understand the four-stage value realization model: baseline → prototype test → pilot → production, with specific measurement gates at each stage. Know that most AI initiatives report activity metrics because outcome metrics are harder — and that outcome metrics are the only ones that matter to a business sponsor.			
DO	Design and implement a measurement system for an AI-enabled process transformation that tracks outcome metrics with documented baselines, measurement intervals, attribution methodology, and reporting format accessible to a non-technical executive sponsor. Run the measurement system through at least one full reporting cycle. Produce a value realization report that a CFO can use to make a portfolio investment decision.	Real work product reviewed by mentor with direct observation of performance.	10	MEASURE; MANAGE
BECOME	Refuses to declare success on activity metrics alone. Holds the AI initiative accountable to the business case that justified it. Has delivered a value realization report that showed less value than originally projected and communicated that clearly to the sponsor with a revised forecast and root cause analysis — rather than finding a metric that made the numbers look better.	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific incident. Cannot be signed off from documentation alone.	6	MEASURE; MANAGE

R-R2 R2 Change Management and Adoption Architecture

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Understand that AI-enabled process transformation fails most often not in technology but in adoption. Know the Janis-Mann decision stress model applied to process change: workers under high-uncertainty conditions revert to familiar patterns even when the new pattern is demonstrably better. Know how to design adoption mechanisms that work with cognitive constraints: visible quick wins, progressive trust building, and feedback loops that demonstrate AI reliability in the worker's own experience.	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	MANAGE
DO	Design and implement an adoption plan that includes: stakeholder impact analysis, role-specific training design, trust calibration mechanisms, feedback loop design, and escalation paths for workers who identify AI output quality problems. Track adoption not as training completion but as behavioral change — are workers actually using the new process correctly?	Real work product reviewed by mentor with direct observation of performance.	10	MANAGE
BECOME	Treats adoption as a design problem rather than a communication problem. Does not assume that rational people who understand a better process will automatically adopt it. Has redesigned a change management plan	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific	6	MANAGE

Dimension	Standard	Evidence	RTI Hrs	NIST
	mid-rollout because behavioral observation showed adoption was not occurring as expected — and was willing to say so to the sponsor.	incident. Cannot be signed off from documentation alone.		

R-R3 R3 Portfolio Management of AI Transformation Initiatives

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Understand how to manage a portfolio of AI transformation initiatives across multiple business processes: prioritization frameworks (value at stake vs. readiness score), resource allocation under constraints, sequencing logic, and portfolio-level risk management. Know how to report portfolio progress to a C-suite audience: what is on track, what is at risk, aggregate value realization against original forecast, and what decisions the executive needs to make.	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	GOVERN; MANAGE
DO	Build and maintain an AI transformation portfolio with at least three concurrent initiatives, including a prioritization matrix, portfolio-level risk register, resource allocation model, and C-suite reporting dashboard. Present portfolio status to an executive audience with recommendations for resource reallocation based on current evidence. Defend prioritization decisions under questioning.	Real work product reviewed by mentor with direct observation of performance.	10	GOVERN; MANAGE
BECOME	Manages the AI transformation portfolio as a business investment portfolio — with the same discipline applied to stopping underperforming initiatives as to accelerating high-performing ones. Has recommended killing a significant AI initiative based on evidence and executed the wind-down cleanly. Known by executives as the person who will tell them what is actually happening, not what they want to hear.	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific incident. Cannot be signed off from documentation alone.	6	GOVERN; MANAGE

S-S1 S1 Competitive Differentiation Through AI Process Innovation

Dimension	Standard	Evidence	RTI Hrs	NIST
KNOW	Understand the sources of durable competitive advantage from AI process transformation: proprietary data assets, process designs that competitors cannot quickly replicate, network effects built on AI-generated intelligence, and organizational capability that cannot be purchased from a vendor. Know the difference between AI adoption (doing what competitors are doing) and AI innovation (redesigning processes in ways competitors have not considered). Understand that the most valuable AI process innovations are often invisible to	Written explanation, quiz, oral questioning, or reflection demonstrating conceptual understanding.	8	MAP; MANAGE

Dimension	Standard	Evidence	RTI Hrs	NIST
	competitors because they are embedded in the organization's data, workflows, and decision culture.			
DO	Identify at least one AI process transformation opportunity that produces a competitive advantage the organization can defend for at least 18 months. Document why competitors cannot quickly replicate it. Build the case for why the organization should prioritize this opportunity over higher-volume but more easily replicated alternatives. Present the strategic case to senior leadership.	Real work product reviewed by mentor with direct observation of performance.	10	MAP; MANAGE
BECOME	Thinks about AI transformation not as a technology deployment but as a competitive strategy. Asks 'What does this enable us to do that our best competitor cannot easily do?' before asking 'What can AI do here?' Has shaped the organization's AI transformation roadmap based on competitive positioning logic rather than technology availability logic.	Specific behavioral attestation by mentor or journeyworker based on direct observation. Must describe a specific incident. Cannot be signed off from documentation alone.	6	MAP; MANAGE