

Agentic AI & Workflow Orchestration

Course ISI-1619

2 Days

Instructor-led, Hands on

Course Description

This course teaches leaders and practitioners how to plan, design, and prototype task-seeking AI assistants that use tools, memory, and multi-step workflows. Students will learn to map business processes to agentic workflows, compare platform options including Microsoft Copilot Studio, Power Automate, and Amazon Bedrock Agents, and implement safety controls such as tool scopes, confirmation gates, and audit trails. The course emphasizes practical implementation patterns and organizational adoption strategies.

Participants will gain hands-on experience designing agent architectures (planners, routers, reviewers, tool-callers), configuring multi-step workflows with human-in-the-loop controls, implementing data permissions and security, building reliability patterns with fallbacks and retries, and creating adoption plans with change management strategies. Through progressive labs and a capstone project, students will develop a complete agent proof-of-concept ready for organizational review.

Who Should Attend?

This course is designed for leaders designing AI-assisted processes across operations, customer experience, finance, HR, claims, and related business domains. Product and operations leads, solution owners and architects, business process analysts, and technical leads implementing agentic AI solutions will benefit from this practical, implementation-focused curriculum.

Course Objectives

In this course, you will learn how to:

- Map business processes to agentic workflows using plan → act → check → report patterns.
- Design agent architectures including planners, routers, reviewers, and tool-calling agents.
- Evaluate and select appropriate tooling options: Copilot Studio actions, Power Automate, Bedrock Agents, and low-code patterns.
- Implement safety controls including tool scopes, confirmation gates, least privilege access, and audit trails.
- Build reliability patterns with fallbacks, timeouts, retries, and handoff procedures.
- Create organizational adoption plans with rollout strategies, enablement materials, and success metrics.

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Topics

- Agent design patterns: planner, router, reviewer, and tool-caller architectures
- Goal definition, tool selection, guardrail implementation, and success metrics
- Microsoft Copilot Studio actions and custom copilot development
- Power Automate flow orchestration and integration patterns
- Amazon Bedrock Agents configuration and deployment
- Data permissions, least privilege access, and sensitive data masking
- Confirmation gates and human-in-the-loop workflow patterns
- Audit logging, compliance tracking, and governance controls
- Reliability engineering: fallbacks, timeouts, retries, and graceful degradation
- Impact measurement, change management, and organizational adoption strategies

Prerequisites

Prior to attending, students should have:

- Comfort with business process mapping and workflow design
- Understanding of organizational processes and approval workflows
- Familiarity with enterprise software systems and integrations (helpful but not required)
- Modern web browser with internet access
- Access to Microsoft Copilot Studio and Power Automate, or Amazon Bedrock Agents (instructor demos available if access is limited)

Course Outline

Module 1: Agent Architecture Patterns

- Introduction to Agentic AI Systems
 - Agent vs. traditional automation: autonomy, reasoning, and tool use
 - Core agent patterns: planner, router, reviewer, and tool-caller
- Designing Your First Agent
 - Goal definition and success criteria
 - Tool inventory and capability mapping
 - Guardrail design and safety boundaries
- Hands-On Lab 1: Sketch Your Agent Design
 - Define agent goals and success metrics
 - Identify required tools and data sources
 - Design guardrails and safety controls
 - Create agent design canvas documentation

Module 2: Platform Tooling Options

- Microsoft Copilot Studio and Actions
 - Custom copilot creation and configuration
 - Action design and connector integration
 - Conversation flow and topic management
- Power Automate Flow Orchestration
 - Multi-step workflow design and triggers
 - Conditional logic and branching patterns
 - Error handling and retry mechanisms
- Amazon Bedrock Agents
 - Agent configuration and foundation model selection
 - Action group definition and API integration
 - Knowledge base grounding and retrieval
- Hands-On Lab 2: Configure a Multi-Step Flow with Human-in-the-Loop
 - Build agent workflow with approval steps
 - Implement confirmation gates and user notifications
 - Configure timeout handling and escalation paths
 - Test complete workflow end-to-end

Module 3: Data Security and Permissions

- Least Privilege Access Design
 - Role-based access control (RBAC) for agent operations
 - Data source permissions and connection security
 - API key management and credential vaulting
- Sensitive Data Protection
 - PII detection and masking strategies
 - Data classification and handling policies
 - Compliance considerations (GDPR, HIPAA, etc.)
- Audit and Compliance Controls
 - Logging agent actions and decisions
 - Audit trail design and retention policies
 - Compliance reporting and governance integration

Module 4: Reliability and Error Handling

- Failure Modes and Mitigation
 - Common failure patterns in agentic systems
 - Timeout configuration and handling
 - Retry logic with exponential backoff
- Fallback Strategies
 - Graceful degradation patterns
 - Human handoff triggers and escalation
 - Alternative tool selection and routing
- Hands-On Lab 3: Add Reliability Controls to Your Agent
 - Implement confirmation gates for high-risk actions

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- Configure audit logging for compliance
- Add timeout handling and retry logic
- Test failure scenarios and recovery

Module 5: Measuring Impact and Driving Adoption

- Success Metrics and KPIs
 - Task completion rates and accuracy
 - Time savings and efficiency gains
 - User satisfaction and adoption metrics
 - Cost analysis and ROI calculation
- Change Management and Rollout
 - Pilot program design and participant selection
 - Training and enablement strategies
 - Feedback collection and iteration
 - Scaling from pilot to production
- Hands-On Lab 4 - Capstone: Agent POC Plan and Demo
 - Create 2-page agent proof-of-concept proposal
 - Develop demo script and walkthrough
 - Design 90-day rollout plan with milestones
 - Prepare stakeholder presentation materials
 - Present POC and adoption strategy