Agentic AI Fundamentals: Building Autonomous & Intelligent AI Systems

Course Level: Foundation / Practitioner Awareness
Duration: 08 hours – 2 half days
Delivery Mode: Instructor-led (Virtual / In-Person)

Target Audience

- Product Managers & Product Owners
- Architects & Technical Leads
- Developers & Data Scientists
- Digital Transformation & Innovation Teams
- Business Analysts & AI Strategy Teams

Pre-Requisites

- Basic understanding of AI / Generative AI concepts
- Familiarity with LLMs (ChatGPT, Copilot, etc.) is helpful but not mandatory

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Course Objectives

By the end of this program, participants will be able to:

- Understand **what Agentic AI is** and how it differs from traditional GenAI
- Identify **when and where agentic systems are applicable** in enterprises
- Understand the **core building blocks** of agentic AI systems
- Design **simple agent workflows** using tools and frameworks
- Apply **governance, safety, and control principles** to agent-based systems

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Module 1: From Generative AI to Agentic AI

- Evolution of AI systems: Rules → ML → GenAI → Agentic AI
- What makes an AI system “agentic”?

- Key differences:
  - Chat-based AI vs Agent-based AI
  - Reactive vs autonomous systems
- Enterprise examples of agentic AI

Outcome:
Clear conceptual understanding of agentic AI.

Module 2: Core Concepts of Agentic AI

- Agents, goals, tools, memory, and environment
- Task decomposition and planning
- Decision-making and autonomy levels
- Single-agent vs multi-agent systems

Hands-on (conceptual):

- Break down a business task into agent actions

Module 3: Agent Architectures & Design Patterns

- Common agent architectures:
  - React
  - Plan-and-Execute
  - Tool-using agents
- Event-driven vs goal-driven agents
- Stateless vs stateful agents
- Agent orchestration patterns

Outcome:
Participants understand how agent systems are structured.

Module 4: Tools & Frameworks for Building Agents

- Overview of popular agent frameworks:

  - LangChain
  - AutoGen
  - Crew AI
  - OpenAI Assistants (conceptual)
- Tool integration (APIs, databases, search, files)
- Choosing the right framework for the use case

Demo:

- Building a simple agent workflow (conceptual or low-code)

Module 5: Memory, Context & Knowledge in Agents

- Short-term vs long-term memory
- Retrieval-Augmented Generation (RAG) basics
- Managing context windows and cost
- Using external knowledge sources safely

Outcome:
Understanding how agents “remember” and learn.

Module 6: Safety, Control & Governance in Agentic AI

- Risks of autonomous agents
- Guardrails and human-in-the-loop design
- Role-based access and approvals
- Monitoring agent behaviour and outcomes
- Responsible AI considerations

Enterprise Focus:

- Compliance, auditability, and explainability

Module 7: Enterprise Use Cases for Agentic AI

- Software development agents
- Finance & operations agents
- Customer support agents
- Research & analysis agents
- Internal productivity copilots

Activity:

- Map agentic AI use cases to participant roles

Module 8: Designing Your First Agent (Capstone – Light)

- Identify a business problem
- Define agent goal, inputs, tools, and outputs
- Decide autonomy level and controls
- Sketch an agent workflow

Outcome:
Participants leave with a **ready-to-build agent blueprint**.