

Azure AI Apps & Agents Developer Associate

Comprehensive Certification Training Syllabus (2026)

Module 1: Python Foundations & Advanced Libraries

- Core Python: Variables, data types, operators, conditional statements, loops.
- Advanced Constructs: Functions, classes, dictionaries, sets, modules, file handling.
- Essential Libraries: NumPy, Pandas, Matplotlib, Pydantic, Uv package manager.
- API Development: Building REST APIs using FastAPI.

Module 2: Azure AI Services & Vision Integration

- Azure AI Fundamentals: ML, Deep Learning, Azure AI workloads.
- Vision Services: Image analysis, object/face detection, OCR, video analysis.
- Responsible AI: Principles, security, REST API/SDK integration.

Module 3: Natural Language Processing & Document Intelligence

- Azure AI Language: Text analysis, key phrase extraction, classification, entity recognition, translation.
- Conversational Language Understanding (CLU).
- Document Intelligence: Document structure/layout extraction, prebuilt/custom models.

Module 4: Generative AI, GPT Deployment & Custom Solutions

- GenAI Foundations: LLMs, Azure OpenAI configuration.
- Tooling: ChatGPT, code generation, documentation, Copilot for project automation.
- Advanced Features: Fine-tuning, DALL-E, Retrieval-Augmented Generation (RAG).

Module 5: Microsoft Azure AI Foundry & Vector Search

- Azure AI Foundry: Environment setup, resource management, model deployment.
- Azure AI Search: Data ingestion, indexing, semantic search, vector search, hybrid retrieval.

Module 6: Autonomous Agents, MCP & Multi-Agent Systems

- Open Source Models (OSS): Integration and management.
- Model Context Protocol (MCP): Context sharing and tool use.
- Agentic Frameworks: Autonomous agents, multi-agent orchestration, LangGraph, MFA.