

Develop AI apps and agents on Azure (AI-103)

Duration: 4 Days **Course Code: M-AI103** **Delivery Method: Virtual Learning**

Overview:

Design and build intelligent AI apps and agents on Azure that reason over text, images, and documents.

This course is intended for software developers wanting to build AI infused applications that leverage Microsoft Foundry. Topics in this course include developing generative AI apps, building AI agents, and solutions that implement knowledge connections or tools in your agentic applications. This course also covers multimodal capabilities and understanding of complex content.

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Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

This course was designed for software engineers concerned with building, managing and deploying AI solutions that leverage Microsoft Foundry.

Objectives:

- By the end of this course, participants should be able to:
- Develop generative AI applications using Microsoft Foundry on Azure
- Design and implement AI agents capable of task execution and orchestration
- Integrate external tools and knowledge sources into agent-based solutions
- Apply multimodal AI techniques to process diverse data types
- Build natural language processing solutions for conversational and text-based scenarios
- Extract, analyse, and reason over visual and complex content
- Design scalable, production-ready AI systems using Azure services

Prerequisites:

Participants are familiar with Python and have knowledge on using APIs and SDKs to build agents and generative AI solutions on Azure.

Testing and Certification

- Exam AI-103: Developing AI Apps and Agents on Azure

Follow-on-Courses:

- Develop AI cloud solutions on Azure (AI-200)
- Operationalize machine learning and generative AI solutions (AI-300)
- Depending on projects, course codes starting with AI-30xx

Content:

Module 1: Introduction to AI applications and agents on Azure

- Overview of AI application architectures
- Introduction to generative AI concepts
- Understanding agent-based systems and their role in modern AI
- Overview of Microsoft Foundry capabilities
- Azure services for AI development

Module 2: Developing generative AI applications

- Working with foundation models
- Prompt engineering techniques
- Designing application workflows with generative AI
- Managing inputs, outputs, and context
- Evaluating and refining model responses

Module 3: Building AI agents on Azure

- Agent architecture and design patterns
- Task planning and execution
- Managing agent state and memory
- Event-driven and autonomous agent behaviours
- Debugging and monitoring agent performance

Module 4: Integrating tools and knowledge into agentic solutions

- Tool integration patterns for agents
- Connecting agents to APIs and external services
- Knowledge grounding and retrieval techniques
- Implementing retrieval-augmented generation (RAG)
- Managing data sources and context injection

Module 5: Developing natural language AI solutions

- Natural language processing fundamentals
- Conversational AI design
- Text analysis and classification
- Language generation and summarisation
- Building chat-based interfaces

Module 6: Multimodal AI and complex content understanding

- Working with image and text inputs
- Multimodal model capabilities
- Extracting insights from visual data
- Combining modalities in a single workflow
- Handling complex and unstructured content

Module 7: Building scalable AI solutions with Microsoft Foundry

- Application deployment strategies on Azure
- Scaling AI workloads
- Performance optimisation
- Monitoring and logging
- Security and responsible AI considerations

Module 8: Designing production-ready AI systems

- End-to-end solution design
- Architectural best practices
- Managing lifecycle and updates
- Testing and validation strategies
- Real-world use case scenarios

Additional Information:

Official course book provided to participants

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

info@globalknowledge.co.uk

www.globalknowledge.com/en-gb/

Global Knowledge, Mulberry Business Park, Fishponds Road, Wokingham Berkshire RG41 2GY UK