Trainer Preparation Guide for AI900: Azure AI Fundamentals

Design of the Course

This course introduces fundamentals concepts related to artificial intelligence (AI), and the services in Microsoft Azure that can be used to create AI solutions. The course is <u>not</u> designed to teach students to become professional data scientists or software developers, but rather to build awareness of common AI workloads and the ability to identify Azure services to support them.

Learners will be able to identify and describe core AI concepts such as workloads and core services for AI and machine learning on Microsoft Azure.

This course can be taken as an optional first step in learning about cloud AI services with Microsoft Azure, before taking further Azure role-based certifications like Azure Data Scientist Associate or Azure AI Engineer Associate.

This course is designed to be delivered in one full day.

The course is designed as a *blended* learning experience that combines instructor-led training with online materials on the Microsoft Learn platform (https://docs.microsoft.com/learn). The hands-on exercises in the course are completed in the associated Microsoft Learn modules, and students are encouraged to use the content on Learn as reference materials to reinforce what they learn in class and to explore topics I more depth.

Required Materials to Teach This Course

To teach this course, you need the following materials:

- Course Handbook

- Microsoft PowerPoint files

- The related modules on Microsoft Learn

- The hosted environment links which students will use to complete labs

Prerequisite Knowledge to Teach This Course

To teach this course, you must have the following knowledge and skills:

- Familiarity with machine learning and AI software development.

- Programming skills – preferably with Python.

- Experience working with Azure Machine Learning.

- Experience developing software with Azure Cognitive Services.

- Experience creating bots with Azure Bot Service.

Preparation Tasks

Complete the following tasks to prepare for this course.

Learning

Complete the related content on Microsoft learn, including the hands-on exercises:

- Microsoft Azure AI Fundamentals: Get started with artificial intelligence
  https://aka.ms/learn-artificial-intelligence

- Microsoft Azure AI Fundamentals: Explore visual tools for machine learning
  https://aka.ms/no-code-ml

- Microsoft Azure AI Fundamentals: Explore computer vision
  https://aka.ms/explore-computer-vision

- Microsoft Azure AI Fundamentals: Explore natural language processing
  https://aka.ms/explore-nlp

Exams

To identify your technical proficiency with the content of this course, we highly recommend that you pass the following exams:

- Exam AI-900: Azure AI Fundamentals

Lab Preparation

The labs for this course require an Azure subscription to complete. Instructions for using a provided subscription are replacing instructions for Azure Pass redemption. Step by step instructions for labs can be found on Microsoft Learn. Links to labs and demos are included in the learning materials and listed below.

Labs:

- Lab: Explore Cognitive Services
- Lab: Explore Automated Machine Learning
- Lab: Analyze Images with Computer Vision
- Lab: Analyze Text with the Language Service

Note that the course includes a subset of the labs in the associated modules on Microsoft Learn. To be fully prepared to answer students questions about the concepts covered in this course, trainers are advised to complete all of the labs in Microsoft learn – not just the ones included in the instructor-led course. If you have time during the class delivery, consider using these labs as the basis for additional demonstrations, and in any case, encourage students to review them on Microsoft Learn for themselves after class.

In most deliveries, you should use the services of a Microsoft authorized lab hoster to provide a Virtual Machine and Azure subscription for students to use when completing the labs.

Course Timing

The following schedule is an estimate of the course timing. Your timing might vary. Not every student will finish every lab. Use your judgment to set a reasonable time to move on to the next module.

This schedule provides about six hours of training in a single day. The day starts at 9:00 A.M. and ends at 5:00 P.M. and includes two 15-minute breaks and one hour for lunch.

Start	End	Module
9:00	9:10	Introduction
9:10	10:00	Module 1: Introduction to AI
10:00	10:30	Module 1: Introduction to AI (*Lab*)
10:30	11:15	Module 2: Machine Learning
11:15	11:30	Break
11:30	12:30	Module 2: Machine Learning (*Lab)*
12:30	1:30	Lunch
1:30	2:30	Module 3: Computer Vision
2:30	3:00	Module 3: Computer Vision (*Lab)*
3:00	3:15	Break
3:15	4:15	Module 4: Natural Language Processing
4:15	4:45	Module 4: Natural Language Processing (*Lab*)
4:45	5:00	Summary and Next Steps

Delivery Tips

This section includes some tips and suggestions to help you deliver the course.

- Before class starts, complete the exercises in the online modules on Learn.

- There's a lot of content to get through in the time available, so be strict with break durations and lab times. Don't spend a lot of time on introductions at the beginning of the course, as you'll find it difficult to make this time up over the rest of the day!

- Review some of the customer case studies at https://www.microsoft.com/ai. You can use these to show students how AI is being used in real scenarios. In particular, take a look at https://www.microsoft.com/ai/ai-for-good to focus on how AI makes it possible to create solutions that benefit society and the planet.

- Review the content at https://www.microsoft.com/ai/responsible-ai to become familiar with Microsoft's approach to responsible AI, and the 6 principles for AI developers to follow.

- Use the presenter notes in the slides to help you deliver the content - these notes include suggested demonstrations that will help students become acquainted with some of the web-based portals they will use in the labs. Remember that many students may not have a technical background, and the online portals may be confusing and intimidating – reassure students that the goal is to help them experience the AI capabilities for themselves, not to teach them to be application developers.

- Ensure students get the opportunity to complete the labs in the flow of the course. Don't be tempted to skip labs or leave them to be completed after presenting all the modules. Hands on experience in context is the best way to reinforce the concepts.

- Emphasize the relationship between the classroom experience you are delivering and the online content on Microsoft Learn. The goal is to provide the best blend of your expertise as an instructor during the classroom experience with a rich set of online content that enables students to explore further in their own time – particularly if they are preparing for the associated certification exam.

- Cloud-based services are subject to frequent changes, and can be affected by network configuration and transient network issues. If something goes wrong during a lab, avoid spending too long trying to troubleshoot it. If you can get the exercise working on your own computer, demonstrate it and encourage students to go back to the relevant module on Microsoft Learn later.