

Data Science using Microsoft Azure

In this course, you will learn how to use Azure Machine Learning to operate machine learning workloads in the cloud. As you work through the material and hands-on exercises in this course, you will build on your existing data science and machine learning knowledge and learn how to leverage cloud services to perform machine learning at scale.

This course also prepares students to write the Microsoft DP-100 Azure Data Scientist Certification exam

Course details

- Length: 21 hours
- Material Required:
 - *The course textbook:* [DP 100 Azure Data Scientist](#) Microsoft Learn modules available online.
 - *Lab content:* DP-100 Labs provided through the CloudLabs lab provider
- Course Requirements: Students are recommended to have some experience with coding, and to understand the basics of Machine Learning. These will be reviewed briefly in class.
- Recommended course cap: 25 students

Learning Outcomes

1. Getting Started with Azure Machine Learning for Building Machine Learning Models
 - 1.1. Introduction to Azure Machine Learning
 - 1.2. Working with Azure Machine Learning
2. Visual Tools for Machine Learning
 - 2.1. Automated Machine Learning
 - 2.2. Azure Machine Learning Designer
3. Running Experiments and Training Models
 - 3.1. Introduction to Azure ML Experiments
 - 3.2. Training, Tracking and Registering Models
4. Working with Data
 - 4.1. Working with Datastores
 - 4.2. Working with Datasets
5. Working with Compute
 - 5.1. Machine Learning Environments
 - 5.2. Compute Targets
6. Orchestrating Machine Learning Workflows
 - 6.1. Introduction to Pipelines
 - 6.2. Publishing and Running Pipelines

7. Deploying and Consuming Models
 - 7.1. Real-time Inferencing
 - 7.2. Batch Inferencing
 - 7.3. Continuous Integration and Delivery

8. Training Optimal Models
 - 8.1. Hyperparameter Tuning
 - 8.2. Automated Machine Learning

9. Responsible Machine Learning
 - 9.1. Differential Privacy
 - 9.2. Model Interpretability
 - 9.3. Fairness

10. Monitoring Models
 - 10.1. Monitoring Models with Application Insights
 - 10.2. Monitoring Data Drift