

Data science principles

Session No#	Session mode	Session Type	Week - Day No. #	Duration Hrs
1	EL-Async	<ul style="list-style-type: none"> • Overview of data science, • Applications of data science, • Common data formats, Storing data, • Fundamentals of Azure Storage Account 	Before Sync Session	3
2	FC -Sync	Demonstration of data file formats, blob storage, and file share	1-1	3
3	MS -Sync	Assignment 1: Create an Azure blob storage and access the data from the storage account.	1-2	3
4	MS -Async	Additional Practice-Complete all the pending works	Before Sync Session	8
5	EL-Async	<ul style="list-style-type: none"> • Introduction to AI, machine learning, • Computer vision, natural language processing, generative AI, • Azure AI services, • Azure ML workspace, • Responsible AI. 	Before Sync Session	3
6	FC- Sync	Discussions on AI and ML services in Azure and capabilities and use cases of AI services.	1-3	3
7	MS -Sync	Assignment 2: Create and explore Azure ML workspace assets.	2-4	3
8	MS -Async	Additional Practice-Complete all the pending works	Before Sync Session	8
9	EL-Async	<ul style="list-style-type: none"> • Data assets, data stores, • Azure ML Designer, • Tabular and File dataset, • Data Cleaning, • Feature Engineering, • Normalization, Standardization, • Train-Test Split. 	Before Sync Session	3
10	FC- Sync	Discussions on no-code data preprocessing using Azure ML Designer	2-5	3

11	MS- Sync	Assignment 3: Data pre-processing, and feature engineering using no-code solution Azure ML Designer	2-6	3
12	MS -Async	Additional Practice-Complete all the pending works	Before Sync Session	8
13	EL-Async	<ul style="list-style-type: none"> • What is machine learning, • supervised learning, and unsupervised learning. • Capabilities of Automated ML. • Auto featurization, • Model selections, • Exit criteria. 	Before Sync Session	3
14	FC -Sync	Demonstration and discussions of the capabilities of Auto ML	3-7	3
15	MS -Sync	Assignment 4: Design and execute an Auto ML machine learning model training on a practical dataset	3-8	3
16	MS -Async	Additional Practice-Complete all the pending works	Before Sync Session	8
17	MS- Sync	Discussion on data cleaning, and pre-processing steps on flight delay dataset using Azure ML Designer	3-9	3
18	MS- Async	Implementation of data pre-processing and data cleaning on different datasets.	Before Sync Session	3
19	MS -Async	Additional Practice-Complete all the pending works	Before Sync Session	8
20	MS- Sync	Review of data cleaning and pre-processing. Discussion on project tasks of using the processed data asset to use Automated ML for regression tasks.	4-10	3
21	MS- Async	Implementation of using the pre-processed data asset to use Automated ML for regression tasks.	Before Sync Session	3
22	MS -Async	Additional Practice-Complete all the pending works	Before Sync Session	8
23	MS-sync	Review of Automated ML for regression task. And Discussion on the AutoML classification task.	4-11	3

24	MS-Async	Implementation of AutoML classification task.	Before Sync Session	3
25	MS -Async	Additional Practice-Complete all the pending works	Before Sync Session	8
26	MS-Sync	Discussion on exploring more ML algorithms on the auto ML job and a comparative study of the models.	4-12	3
27	MS-Async	Implementation of exploring more ML algorithms on the auto ML job and a comparative study of the models.	Before assessment	3
28	MS -Async	Additional Practice-Complete and submit project report	Before assessment	14
29	AS- Sync	Summative Assessment (per learner)	5-13	30 min

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