

Annex A

Curriculum Outline

Modules and Topics	Dates
Module 1: Programming Methodologies: Python <ul style="list-style-type: none"> - Programming Foundation - Language Fundamentals - Python Software Development 	December 1, 2021 to December 21, 2021
Module 2: Programming Paradigms: Advanced Python <ul style="list-style-type: none"> - Python – Introduction to Object-Oriented Programming - Python – Libraries, Modules and Packages - Python – Concurrent Programming 	January 3, 2022 to January 21, 2022
Module 3: Data Structures and Algorithms with Python <ul style="list-style-type: none"> - Foundations - Basic Data Structures - Algorithm Design Techniques 	January 24, 2022 to February 15, 2022
Module 4: Databases and Data Modelling <ul style="list-style-type: none"> - Foundations - Relational Database Management Systems - Structured Query Language (SQL) 	February 21, 2022 to March 11, 2022
Module 5: Applied Mathematics and Statistics for Data Analytics <ul style="list-style-type: none"> - Linear Algebra & Vector Calculus - Probability and Statistics - Information Theory 	March 14, 2022 to April 1, 2022
Module 6: Data Visualization <ul style="list-style-type: none"> - Principles of Data Visualization - Data Visualization Tools - Visual Analytics 	April 11, 2022 to May 4, 2022
Module 7: Data Engineering: Big Data Technologies <ul style="list-style-type: none"> - Introduction to Data Engineering - Stream-processing Services - Real-time Aggregative Processing 	May 5, 2022 to May 26, 2022
Module 8: Introduction to Machine Learning <ul style="list-style-type: none"> - Introduction to Artificial Intelligence and Machine Learning - Machine Learning Algorithms - Logistic Regression 	May 30, 2022 to June 17, 2022