NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE | Centre for Professional and Continuing Education

(SCTP) Advanced Professional Certificate in Data Analytics: 20 January to 3 May 2025

SN	Week	Module Name	Class Type	Online Type	Topics	Hours	Trainer	Date	Day	Time			Remarks
		Data Management, Data Wrangling and Exploratory Data Analysis (EDA)		Synchronous and Asynchronous	**LEARNING OBJECTIVES**: **Week 1**: Introduction to Data Management and Wrangling and EDA concepts **Week 2**: More on Wrangling and EDA concepts **Week 3**: Introduction to Relational Databases and SQL Statements **Week 4**: Understanding Data Model Documentation **Week 5**: Shaping Data with SQL	48	Kan Hwa Heng Francis Tay			Attendance Check-In times		Participants will be required to have SQLite and DB Browser for SQLite installed in their PC or Macbook.
1	Wk 1	Introduction to Data Management and Wrangling and EDA concepts	Check-in	Synchronous	Introduction to Programme, Data Wrangling, EDA	2	Francis Tay Kan Hwa Heng	20-Jan-25	Monday	7:00 pm	to	9:00 pm	Introductory Lecture
2			Check-in	Asynchronous	Access to Materials, Self-Learning.	2	Kan Hwa Heng	21-Jan-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
3			Check-in	Asynchronous	Access to Materials, Self-Learning.	2	Kan Hwa Heng	22-Jan-25	Wednesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
4			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	2	Kan Hwa Heng	23-Jan-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
5			Assignment/Quiz	Asynchronous	Assignment/Quiz	2	Kan Hwa Heng	24-Jan-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
6			Lecture	F2F	Introduction to Relational Databases and SQL statements.	3	Kan Hwa Heng	25-Jan-25	Saturday	9:00 am	to	12:00 pm	Lecture and Group Work
7	Wk 2	Introduction to Data Management and Wrangling and EDA concepts	Check-in	Asynchronous	Access to Materials, Self-Learning.	1	Kan Hwa Heng	27-Jan-25	Monday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
8			Check-in	Asynchronous	Access to Materials, Self-Learning.	1	Kan Hwa Heng	28-Jan-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
9								29-Jan-25	Wednesday				Chinese New Year Holiday
10								30-Jan-25	Thursday				Chinese New Year Holiday
11			Assignment/Quiz	Asynchronous	Assignment/Quiz	1	Kan Hwa Heng	31-Jan-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
			Lecture	F2F	Career Pathfinder Series - Module 1 - Fundamentals of Career Discovery Navigation and Readiness	3	Justus Teo	1-Feb-25	Saturday	10:00 am	to	1.00 pm	Lecture and Group Work
12	Wk 3	Introduction to Relational Databases and SQL statements	Check-in	Asynchronous	Access to Materials, Self-Learning.	1	Kan Hwa Heng	3-Feb-25	Monday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
13			Check-in	Asynchronous	Access to Materials, Self-Learning.	1	Kan Hwa Heng	4-Feb-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
14			Check-in	Asynchronous	Access to Materials, Self-Learning.	1	Kan Hwa Heng	5-Feb-25	Wednesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
15			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	1	Kan Hwa Heng	6-Feb-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
16			Assignment/Quiz	Asynchronous	Assignment/Quiz	1	Kan Hwa Heng	7-Feb-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
17			Lecture	F2F	Introduction to Relational Databases and SQL statements.	3	Kan Hwa Heng	8-Feb-25	Saturday	9:00 am	to	12:00 pm	Lecture and Group Work
18	Wk 4	Introduction to Data Model Documentation	Check-in	Asynchronous	Access to Materials, Self-Learning.	2	Kan Hwa Heng	10-Feb-25	Monday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
19			Check-in	Asynchronous	Access to Materials, Self-Learning.	2	Kan Hwa Heng	11-Feb-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
20			Check-in	Asynchronous	Access to Materials, Self-Learning.	2	Kan Hwa Heng	12-Feb-25	Wednesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
21			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	2	Kan Hwa Heng	13-Feb-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
22			Assignment/Quiz	Asynchronous	Assignment/Quiz	2	Kan Hwa Heng	14-Feb-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz Due Date
23			Lecture	F2F	SQL Statements. Data model documentation. (Part 2 of 2)	3	Kan Hwa Heng	15-Feb-25	Saturday	9:00 am	to	12:00 pm	Lecture and Group Work
24	Wk 5	Shaping data with SQL	Check-in	Asynchronous	Access to Materials, Self-Learning.	1	Kan Hwa Heng	17-Feb-25	Monday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
25			Check-in	Asynchronous	Access to Materials, Self-Learning.	1	Kan Hwa Heng	18-Feb-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
26			Lecture	Synchronous	Shaping Data with SQL.	3	Kan Hwa Heng	19-Feb-25	Wednesday	7:00 pm	to	10:00 pm	Lecture and Group Work
27			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	1	Kan Hwa Heng	20-Feb-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
28			Assignment/Quiz	Asynchronous	Group Assignment Submission	2	Kan Hwa Heng	21-Feb-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
			Lecture	F2F	Career Pathfinder Series - Module 2 - Career Marketplace - Labour Market Research and Career Planning	3	Justus Teo	22-Feb-25	Saturday	10:00 am	to	1.00 pm	Lecture and Group Work

#	Wk	Topic	Type	Mode	Details / Learning Objectives	Hrs	Instructor	Date	Day	Start		End	Notes
		Communicating Insights, Dashboarding and Data Storytelling		Synchronous and Asynchronous	**LEARNING OBJECTIVES**: **Week 6**: Introduction to Data Visualization and Data Storytelling; Basic chart creation in Tableau **Week 7**: Manage and Manipulate Data within Tableau; Exploring data using charts **Week 8**: Creating Dashboards and Telling Story **Week 9**: Basic Predictive Analytics	63	Khoo Seok Teng						Participants will be required to download FREE version of TABLEAU Public 2022 at https://public.tableau.com/en-us/s/download. Recommended System Requirements: • OS: Windows PC – Windows 8 or later, MacOS 10.14 or later. • RAM: Minimum 2 GB • Hard Disk Space: 2 GB Tableau Public Account Required: • Register link: https://public.tableau.com/en-us/s/ • Use "Sign up" button on top right of page
29	Wk 6	Introduction to Data Visualization and Data Storytelling. Basic chart creation in Tableau.	Lecture	Synchronous	Introduction to Module. Introduction to Data Visualization and Data Storytelling with Tableau. Familiarise with Tableau Interface and Basic Chart Creation.	3	Khoo Seok Teng	24-Feb-25	Monday	7:00 pm	to	10:00 pm	Lecture and Group Work
30			Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Khoo Seok Teng	25-Feb-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
31			Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Khoo Seok Teng	26-Feb-25	Wednesday	10:00 am	to	10:00 pm	Midweek recorded lecture with assignment
32			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	2	Khoo Seok Teng	27-Feb-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
33			Assignment/Quiz	Asynchronous	Assignment/Quiz	2	Khoo Seok Teng	28-Feb-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
34	Wk 7	Manage and Manipulate data within Tableau; Exploring data using charts	Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Khoo Seok Teng	3-Mar-25	Monday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
35			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Khoo Seok Teng	4-Mar-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
36			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Khoo Seok Teng	5-Mar-25	Wednesday	10:00 am	to	10:00 pm	Midweek recorded lecture with assignment
37			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Khoo Seok Teng	6-Mar-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
38			Assignment/Quiz	Asynchronous	Assignment/Quiz	2	Khoo Seok Teng	7-Mar-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
39			Lecture	F2F	Data Manipulation in Tableau; Creating charts to explore data using charts	3	Khoo Seok Teng	8-Mar-25	Saturday	9:00 am	to	12:00 pm	Lecture and Group Work
			Lecture	F2F	Career Pathfinder Series - Module 3 - Career Readiness Prep - Personal Branding & Resume	3	Justus	8-Mar-25	Saturday	1.30 pm	to	4.30 pm	Lecture and Group Work
40	Wk 8	Creating Dashboards and Telling Story using Tableau	Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Khoo Seok Teng	10-Mar-25	Monday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
41			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Khoo Seok Teng	11-Mar-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
42			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Khoo Seok Teng	12-Mar-25	Wednesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
43			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	2	Khoo Seok Teng	13-Mar-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
44			Assignment/Quiz	Asynchronous	Assignment/Quiz	2	Khoo Seok Teng	14-Mar-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
45			Lecture	F2F	Creating dashboards with interactivity and telling story using Tableau	3	Khoo Seok Teng	15-Mar-25	Saturday	9:00 am	to	12:00 pm	Lecture and Group Work
46	Wk 9	Apply basic predictive analytics using Clusters and Forecasting	Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Khoo Seok Teng	17-Mar-25	Monday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
47			Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Khoo Seok Teng	18-Mar-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
48			Lecture	Synchronous	Basic Predictive Analytics using Clusters and Forecasting	3	Khoo Seok Teng	19-Mar-25	Wednesday	7:00 pm	to	10:00 pm	Lecture and Group Work
49			Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Khoo Seok Teng	20-Mar-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
50			Assignment/Quiz	Asynchronous	Assignment/Final Module Quiz	2	Khoo Seok Teng	21-Mar-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
		Analysing and Interpreting Data		Synchronous and Asynchronous	**LEARNING OBJECTIVES**: **Week 10**: Introduction to Business Analytics and Time Series Analysis **Week 11**: Time Series & Benchmarking **Week 12**: Project Week 1 **Week 13**: Forecasting and Scenarios **Week 14**: Correlation Analysis **Week 15**: Project Week 2 + Presentation	88	Francis Tay						Participants will be required to have Microsoft Excel installed in their PC or Macbook. Preference is for participants to have Excel 365, Excel 2016 or later. For this course, it is preferable to have Windows PC as many applications operated best on PC. For Mac users, please refer to notes on how to run Windows on Mac.
51	Wk 10	Introduction to Business Analytics and Forecasting	Check-in	Synchronous	Introduction to Module	1	Francis Tay	24-Mar-25	Monday	7:00 pm	to	8:00 pm	Introduction and the use of Excel for data analysis.
52			Check-in	Asynchronous	Access to Materials, Self-Learning.	2	Francis Tay	25-Mar-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
53			Lecture	Synchronous	Data Cleaning & Time Series Analysis	3	Francis Tay	26-Mar-25	Wednesday	7:00 pm	to	10:00 pm	Use of Excel and hand-on work.
54			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Francis Tay	27-Mar-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
55			Assignment/Quiz	Asynchronous	Assignment/Quiz	3	Francis Tay	28-Mar-25	Friday	12:00 am	to	12:00 am	Assignment/Quiz due date
56	Wk 11	Time Series, Benchmarking						31-Mar-25	Monday				Hari Raya Puasa Holiday
57			Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Francis Tay	1-Apr-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
58			Lecture	Synchronous	Benchmarking	3	Francis Tay	2-Apr-25	Wednesday	7:00 pm	to	10:00 pm	Use of Excel and hand-on work.
59			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Francis Tay	3-Apr-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
60			Assignment/Quiz	Asynchronous	Assignment/Quiz	3	Francis Tay	4-Apr-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
			Lecture	F2F	Career Pathfinder Series - Modules 4 & 5 - Career Readiness Prep - Interview prep + mock interviews	3	Justus Teo	5-Apr-25	Saturday	10.00 am	to	1.00 pm	Lecture and group work
61	Wk 12	Dashboarding and Data Storytelling	Check-in	Asynchronous	Work on Excel Dashboard Project	2	Francis Tay	7-Apr-25	Monday	9:00 am	to	9:00 pm	Use of Excel and Work on project.
62		and PROJECT WEEK 1	Check-in	Asynchronous	Work on Excel Dashboard Project	3	Francis Tay	8-Apr-25	Tuesday	10:00 am	to	10:00 pm	Use of Excel and Work on project.

No.	Week	Topic	Type	Mode	Activity	Hrs	Trainer	Date	Day	Start		End	Remarks
63			Check-in	Asynchronous	Work on Excel Dashboard Project	3	Francis Tay	9-Apr-25	Wednesday	10:00 am	to	10:00 pm	Use of Excel and Work on project.
64			Check-in	Asynchronous	Work on Excel Dashboard Project	3	Francis Tay	10-Apr-25	Thursday	10:00 am	to	10:00 pm	Use of Excel and Work on project.
65			Check-in	Asynchronous	Work on Excel Dashboard Project	3	Francis Tay	11-Apr-25	Friday	10:00 am	to	10:00 pm	Use of Excel and Work on project.
66	Wk 13	Forecasting Techniques	Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Francis Tay	14-Apr-25	Monday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
67			Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Francis Tay	15-Apr-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
68			Lecture	Synchronous	Forecasting	3	Francis Tay	16-Apr-25	Wednesday	7:00 pm	to	10:00 pm	Use of Excel and hand-on work.
69			Assignment/Quiz	Asynchronous	Assignment/Quiz	3	Francis Tay	17-Apr-25	Thursday	10:00 am	to	10:00 pm	Assignment/Quiz due date
70								18-Apr-25	Friday				Good Friday Holiday
71	Wk 14	Correlations Analysis	Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Francis Tay	21-Apr-25	Monday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
72			Check-in	Asynchronous	Access to Materials, Self-Learning.	3	Francis Tay	22-Apr-25	Tuesday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
73			Lecture	Synchronous	Correlations Analysis	3	Francis Tay	23-Apr-25	Wednesday	7:00 pm	to	10:00 pm	Use of Excel and hand-on work.
74			Check-in	Asynchronous	Access to Materials, Self-Learning. Work on Assignment.	3	Francis Tay	24-Apr-25	Thursday	10:00 am	to	10:00 pm	Check in anytime to get materials for self-learning in "Content" section.
75			Assignment/Quiz	Asynchronous	Assignment/Quiz	3	Francis Tay	25-Apr-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
76			Lecture	F2F	Work on Project	3	Francis Tay	26-Apr-25	Saturday	10:00 am	to	1:00 pm	Use of Excel and hand-on work.
			Lecture	F2F	Career Pathfinder Series - Module 6 - Career Transition and Stablization	2	Justus Teo	26-Apr-25	Saturday	2:00 pm	to	4:30 pm	Lecture and Group Work
77	Wk 15	PROJECT WEEK 2	Check-in	Asynchronous	Work on Excel Dashboard Project	3	Francis Tay	28-Apr-25	Monday	10:00 am	to	10:00 pm	Use of Excel and Work on project.
78			Check-in	Asynchronous	Work on Excel Dashboard Project	3	Francis Tay	29-Apr-25	Tuesday	10:00 am	to	10:00 pm	Use of Excel and Work on project.
79			Check-in	Asynchronous	Work on Excel Dashboard Project	3	Francis Tay	30-Apr-25	Wednesday	10:00 am	to	10:00 pm	Use of Excel and Work on project.
80								1-May-25	Thursday				Labour Day Holiday
81			Assignment/Quiz	Asynchronous	Assignment/Quiz	3	Francis Tay	2-May-25	Friday	10:00 am	to	10:00 pm	Assignment/Quiz due date
82			Lecture	F2F	Project Presentation	3	Francis Tay	3-May-25	Saturday	10:00 am	to	1:00 pm	Presentations

• All lectures will be facilitated virtually unless otherwise stated
• F2F lectures will be held at NTU@one-north campus (off North Buona Vista Road)
• NTU reserves the right to change the date, mode/venue of lessons or cancel them due to unforseen circumstances