

Date	Unit	Lesson Title	F2F (NTU@one-North)	Online Zoom	Mode of Delivery
C1: FOUNDATIONS OF DATA SCIENCE: PYTHON AND SQL		Key Topics: Week 1: Intro to Data Science and Databases Week 2: SQL Basics Week 3: SQL Advanced, Intro to Numpy Week 4: Intro to Pandas, EDA Basics Week 5: EDA Advanced, Data Visualization			
MON	6 Jan-25	Welcome + Introduction		19:00 - 22:00	Virtual
TUE	7 Jan-25	Assignment + Quiz + Self Study			
WED	8 Jan-25	1.1 Intro to Data Science		19:00 - 22:00	Virtual
THU	9 Jan-25	Assignment + Quiz + Self Study			
FRI	10 Jan-25				
SAT	11 Jan-25	1.2 Introduction to Database	09:00 - 12:00		F2F
SUN	12 Jan-25				
MON	13 Jan-25	1.3 SQL Basic - DDL		19:00 - 22:00	Virtual
TUE	14 Jan-25	Assignment + Quiz + Self Study			
WED	15 Jan-25	1.4 SQL Basic - DML		19:00 - 22:00	Virtual
THU	16 Jan-25	Assignment + Quiz + Self Study			
FRI	17 Jan-25				
SAT	18 Jan-25	CO Coaching	09:00 - 12:00		F2F
SUN	19 Jan-25				
MON	20 Jan-25	1.5 SQL Advanced		19:00 - 22:00	Virtual
TUE	21 Jan-25	Assignment + Quiz + Self Study			
WED	22 Jan-25	1.6 Introduction to Numpy		19:00 - 22:00	Virtual
THU	23 Jan-25	Assignment + Quiz + Self Study			
FRI	24 Jan-25				
SAT	25 Jan-25	CW Career Workshop #1: Fundamentals of Career Discovery	09:00 - 12:00		F2F
SUN	26 Jan-25				
MON	27 Jan-25	CO Coaching		19:00 - 22:00	Virtual
TUE	28 Jan-25	PH Eve of CNY			
WED	29 Jan-25	PH Chinese New Year Day 1			
THU	30 Jan-25	PH Chinese New Year Day 2			
FRI	31 Jan-25	PH Chinese New Year Day 3			
SAT	1 Feb-25	PH BREAK			
SUN	2 Feb-25	PH BREAK			
MON	3 Feb-25	1.7 Introduction to Pandas		19:00 - 22:00	Virtual
TUE	4 Feb-25	Assignment + Quiz + Self Study			
WED	5 Feb-25	1.8 Exploratory Data Analysis (EDA) Basic		19:00 - 22:00	Virtual
THU	6 Feb-25	Assignment + Quiz + Self Study			
FRI	7 Feb-25				
SAT	8 Feb-25	CO Coaching	09:00 - 12:00		F2F
SUN	9 Feb-25				
MON	10 Feb-25	1.9 EDA Advanced		19:00 - 22:00	Virtual
TUE	11 Feb-25	Assignment + Quiz + Self Study			
WED	12 Feb-25	1.10 Data Visualization		19:00 - 22:00	Virtual
THU	13 Feb-25	Assignment + Module Quiz + Self Study			
FRI	14 Feb-25				
SAT	15 Feb-25	CO Coaching	09:00 - 12:00		F2F
SUN	16 Feb-25				
C2: SCALABLE DATA SOLUTIONS: BIG DATA ENGINEERING ESSENTIALS		Key Topics: Week 1: Introduction Big Data, Data Engineering and Data Architecture Week 2: Data Encoding, Data Flow, Data Extraction and Web Scraping Week 3: Data Warehouse, Data Pipelines and Orchestration Week 4: Data Orchestration and Testing, Memory Processing Week 5: Data Transformation, Stream Processing and Analytics Week 6: Project creation			
MON	17 Feb-25	2.1 Introduction to Big Data and Data Engineering		19:00 - 22:00	Virtual
TUE	18 Feb-25	Assignment + Quiz + Self Study			
WED	19 Feb-25	2.2 Data Architecture		19:00 - 22:00	Virtual
THU	20 Feb-25	Assignment + Quiz + Self Study			
FRI	21 Feb-25				

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SAT	22 Feb-25	CO	Coaching	09:00 - 12:00	F2F
SUN	23 Feb-25				
MON	24 Feb-25	2.3	Data Encoding and Data Flow	19:00 - 22:00	Virtual
TUE	25 Feb-25		Assignment + Quiz + Self Study		
WED	26 Feb-25	2.4	Data Extraction and Web Scraping	19:00 - 22:00	Virtual
THU	27 Feb-25	CW	Career Workshop #2: Professional Branding & LinkedIn	19:00 - 22:00	Virtual
FRI	28 Feb-25		Assignment + Quiz + Self Study		
SAT	1 Mar-25	CO	Coaching	09:00 - 12:00	F2F
SUN	2 Mar-25				
MON	3 Mar-25	2.5	Data Warehouse	19:00 - 22:00	Virtual
TUE	4 Mar-25		Assignment + Quiz + Self Study		
WED	5 Mar-25	2.6	Data Pipelines and Orchestration	19:00 - 22:00	Virtual
THU	6 Mar-25		Assignment + Quiz + Self Study		
FRI	7 Mar-25				
SAT	8 Mar-25	CO	Coaching	09:00 - 12:00	F2F
SUN	9 Mar-25				
MON	10 Mar-25	2.7	Data Orchestration and Testing	19:00 - 22:00	Virtual
TUE	11 Mar-25		Assignment + Quiz + Self Study		
WED	12 Mar-25	2.8	Out of Core/Memory Processing	19:00 - 22:00	Virtual
THU	13 Mar-25		Assignment + Quiz + Self Study		
FRI	14 Mar-25				
SAT	15 Mar-25	CO	Coaching	09:00 - 12:00	F2F
SUN	16 Mar-25				
MON	17 Mar-25	2.9	Distributed Batch Processing and Transformation	19:00 - 22:00	Virtual
TUE	18 Mar-25		Assignment + Quiz + Self Study		
WED	19 Mar-25	2.10	Stream Processing and Analytics	19:00 - 22:00	Virtual
THU	20 Mar-25		Assignment + Module Quiz + Self Study		
FRI	21 Mar-25				
SAT	22 Mar-25	CO	Coaching	09:00 - 12:00	F2F
SUN	23 Mar-25				
MON	24 Mar-25		Project		
TUE	25 Mar-25		Project		
WED	26 Mar-25		Project		
THU	27 Mar-25	CW	Career Workshop #3: Craft an Interview-oriented Resume	19:00 - 22:00	Virtual
FRI	28 Mar-25		Project		
SAT	29 Mar-25	PP	Project Presentation	09:00 - 12:00	F2F
SUN	30 Mar-25				
C3: BUILDING INTELLIGENT SYSTEMS: MACHINE LEARNING AND GENERATIVE AI		Key Topics: Week 1: Introduction to Machine Learning Week 2: Supervised Learning Week 3: Unsupervised Learning Week 4: Neural Network, Deep Learning and Computer Vision Week 5: Natural Language Processing			
MON	31 Mar-25	PH	Hari Raya Puasa		
TUE	1 Apr-25	3.1	Probability and Statistics for ML	19:00 - 22:00	Virtual
WED	2 Apr-25	3.2	Introduction to Machine Learning	19:00 - 22:00	Virtual
THU	3 Apr-25		Assignment + Quiz + Self Study		
FRI	4 Apr-25		Assignment + Quiz + Self Study		
SAT	5 Apr-25	CO	Coaching	09:00 - 12:00	F2F
SUN	6 Apr-25				
MON	7 Apr-25	3.3	Supervised Learning	19:00 - 22:00	Virtual
TUE	8 Apr-25		Assignment + Quiz + Self Study		
WED	9 Apr-25	3.4	Supervised Learning - Advanced	19:00 - 22:00	Virtual
THU	10 Apr-25		Assignment + Quiz + Self Study		
FRI	11 Apr-25				
SAT	12 Apr-25	CO	Coaching	09:00 - 12:00	F2F
SUN	13 Apr-25				
MON	14 Apr-25	3.5	Unsupervised Learning	19:00 - 22:00	Virtual

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TUE	15 Apr-25	Assignment + Quiz + Self Study			
WED	16 Apr-25	3.6 Time Series Data and Forecasting		19:00 - 22:00	Virtual
THU	17 Apr-25	Assignment + Quiz + Self Study			
FRI	18 Apr-25	PH Good Friday			
SAT	19 Apr-25	CO Coaching	09:00 - 12:00		F2F
SUN	20 Apr-25				
MON	21 Apr-25	3.7 Neural Network & Deep Learning		19:00 - 22:00	Virtual
TUE	22 Apr-25	Assignment + Quiz + Self Study			
WED	23 Apr-25	3.8 Computer Vision (CV)		19:00 - 22:00	Virtual
THU	24 Apr-25	CW Career Workshop #4: Winning Job Interviews		19:00 - 22:00	Virtual
FRI	25 Apr-25	Assignment + Quiz + Self Study			
SAT	26 Apr-25	CO Coaching	09:00 - 12:00		F2F
SUN	27 Apr-25				
MON	28 Apr-25	3.9 Natural Language Processing (NLP)		19:00 - 22:00	Virtual
TUE	29 Apr-25	Assignment + Quiz + Self Study			
WED	30 Apr-25	3.10 NLP - Advanced		19:00 - 22:00	Virtual
THU	1 May-25	PH Labour Day			
FRI	2 May-25	Assignment + Module Quiz + Self Study			
SAT	3 May-25	CO Coaching	09:00 - 12:00		F2F
SUN	4 May-25				
C4: AWS CERTIFIED AI PRACTITIONER					
MON	5 May-25	AWS Certified AI Practitioner		19:00 - 22:00	Virtual
TUE	6 May-25	AWS Certified AI Practitioner		19:00 - 22:00	Virtual
WED	7 May-25	AWS Certified AI Practitioner		19:00 - 22:00	Virtual
THU	8 May-25				
FRI	9 May-25				
SAT	10 May-25	AWS Certified AI Practitioner	09:00 - 16:00		F2F
SUN	11 May-25				
C5: TRANSFORMING BUSINESS WITH GPT: HANDS-ON GENERATIVE AI APPLICATIONS					
MON	12 May-25	PH Vesak Day			
TUE	13 May-25	Generative AI		19:00 - 22:00	Virtual
WED	14 May-25	Generative AI		19:00 - 22:00	Virtual
THU	15 May-25	Generative AI		19:00 - 22:00	Virtual
FRI	16 May-25				
SAT	17 May-25	Generative AI	09:00 - 16:00		F2F
SUN	18 May-25				
C6: FULL STACK PROGRAMMING AND DEPLOYMENT OF AI SOLUTIONS					
MON	19 May-25	Deployment I: Python Flask, SQLite and HTML, CSS		19:00 - 22:00	Virtual
TUE	20 May-25	Deployment I: API Programming (replicate, google suite, openAI)		19:00 - 22:00	Virtual
WED	21 May-25	Deployment I: Cloud AWS/Render/Google Clab/React/UI UX		19:00 - 22:00	Virtual
THU	22 May-25	CW Career Workshop #5: Resume / Interview Clinics		19:00 - 22:00	Virtual
FRI	23 May-25				
SAT	24 May-25	Deployment I: Project Management/Agile/Scrum/Monday.com + Web3 Solidity/Remix/Infura/Etherscan	09:00 - 16:00		F2F
SUN	25 May-25				
MON	26 May-25	Deployment II: Python Flask, SQLite and HTML, CSS		19:00 - 22:00	Virtual
TUE	27 May-25	Deployment II: API Programming (replicate, google suite, openAI)		19:00 - 22:00	Virtual
WED	28 May-25	Deployment II: Cloud AWS/Render/Google Clab/React/UI UX		19:00 - 22:00	Virtual
THU	29 May-25				
FRI	30 May-25				
SAT	31 May-25	Deployment II : Project Management/Agile/Scrum/Monday.com + Capstone	09:00 - 16:00		F2F
SUN	1 Jun-25				

Schedule for (SCTP) Advanced Professional Certificate in Data Science and Artificial Intelligence - Cohort 1 (Part Time)

Updated: 11 Oct 24

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<ul style="list-style-type: none">• All lecture will be facilitated Virtually unless otherwise stated• F2F lecture will be held at NTU@one-north campus (off North Buona Vista Road)• NTU reserves the right to change the date, mode/venue of lesson or cancel class due to unforeseen circumstances					