

Schedule for (SCTP) Advanced Professional Certificate in Data Science and Artificial Intelligence - Cohort 3 (Part Time) Updated: 22 Jul 25

Date	Unit	Lesson Title	Start	End	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	Start	End	Mode of Delivery
MON	6 Oct-25	Welcome + Introduction + Onboarding	19:00	22:00	Online Zoom
TUE	7 Oct-25	Self Study	19:00	22:00	Self study
WED	8 Oct-25	1.1 Intro to Data Science	19:00	22:00	Online Zoom
THU	9 Oct-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	10 Oct-25				
SAT	11 Oct-25	1.2 Introduction to Database	09:00	12:00	NTU@One-North
SUN	12 Oct-25				
MON	13 Oct-25	1.3 SQL Basic - DDL	19:00	22:00	Online Zoom
TUE	14 Oct-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	15 Oct-25	1.4 SQL Basic - DML	19:00	22:00	Online Zoom
THU	16 Oct-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	17 Oct-25	CO Coaching	19:00	22:00	Online Zoom
SAT	18 Oct-25	CW Career Workshop #1 - Uncover Your Next Path: Career Discovery for Mid-Career Changers	09:00	12:00	NTU@One-North
SUN	19 Oct-25				
MON	20 Oct-25	PH Deepavali			
TUE	21 Oct-25	1.5 SQL Advanced	19:00	22:00	Online Zoom
WED	22 Oct-25	1.6 Introduction to Numpy	19:00	22:00	Online Zoom
THU	23 Oct-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	24 Oct-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
SAT	25 Oct-25	CO Coaching	09:00	12:00	NTU@One-North
SUN	26 Oct-25				
MON	27 Oct-25	1.7 Introduction to Pandas	19:00	22:00	Online Zoom
TUE	28 Oct-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	29 Oct-25	1.8 Exploratory Data Analysis (EDA) Basic	19:00	22:00	Online Zoom
THU	30 Oct-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	31 Oct-25				
SAT	1 Nov-25	CO Coaching	09:00	12:00	NTU@One-North
SUN	2 Nov-25				
MON	3 Nov-25	1.9 EDA Advanced	19:00	22:00	Online Zoom
TUE	4 Nov-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	5 Nov-25	1.10 Data Visualization	19:00	22:00	Online Zoom
THU	6 Nov-25	CW Career Workshop #2 - Stand Out: Building a Powerful Professional Brand	19:00	22:00	Online Zoom
FRI	7 Nov-25	Assignment + Module Quiz + Self Study	19:00	22:00	Self study
SAT	8 Nov-25	CO Coaching	09:00	12:00	NTU@One-North
SUN	9 Nov-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	Start	End	Mode of Delivery
MON	10 Nov-25	2.1 Introduction to Big Data and Data Engineering	19:00	22:00	Online Zoom
TUE	11 Nov-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	12 Nov-25	2.2 Data Architecture	19:00	22:00	Online Zoom
THU	13 Nov-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	14 Nov-25				
SAT	15 Nov-25	CO Coaching	09:00	12:00	NTU@One-North
SUN	16 Nov-25				
MON	17 Nov-25	2.3 Data Encoding and Data Flow	19:00	22:00	Online Zoom
TUE	18 Nov-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	19 Nov-25	2.4 Data Extraction and Web Scraping	19:00	22:00	Online Zoom
THU	20 Nov-25	Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	21 Nov-25				

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	Date	Unit	Lesson Title	Start	End	Mode of Delivery
SAT	22 Nov-25	CO	Coaching (Mini project + GitHub)	09:00	12:00	NTU@One-North
SUN	23 Nov-25					
MON	24 Nov-25	2.5	Data Warehouse (dbt)	19:00	22:00	Online Zoom
TUE	25 Nov-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	26 Nov-25	2.6	Data Pipelines and Orchestration (meltano, dagster)	19:00	22:00	Online Zoom
THU	27 Nov-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	28 Nov-25					
SAT	29 Nov-25	CO	Coaching (Mini project)	09:00	12:00	NTU@One-North
SUN	30 Nov-25					
MON	1 Dec-25	2.7	Data Orchestration and Testing	19:00	22:00	Online Zoom
TUE	2 Dec-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	3 Dec-25	2.8	Out of Core/Memory Processing	19:00	22:00	Online Zoom
THU	4 Dec-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	5 Dec-25					
SAT	6 Dec-25	CO	Coaching (Mini project presentation)	09:00	12:00	NTU@One-North
SUN	7 Dec-25					
MON	8 Dec-25	2.9	Distributed Batch Processing and Transformation	19:00	22:00	Online Zoom
TUE	9 Dec-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	10 Dec-25	2.10	Stream Processing and Analytics	19:00	22:00	Online Zoom
THU	11 Dec-25		Assignment + Module Quiz + Self Study	19:00	22:00	Self study
FRI	12 Dec-25					
SAT	13 Dec-25	CO	Coaching	09:00	12:00	NTU@One-North
SUN	14 Dec-25					
MON	15 Dec-25		Project	19:00	22:00	Self study
TUE	16 Dec-25		Project	19:00	22:00	Self study
WED	17 Dec-25		Project	19:00	22:00	Self study
THU	18 Dec-25		Project	19:00	22:00	Self study
FRI	19 Dec-25		Project	19:00	22:00	Self study
SAT	20 Dec-25	PP	Project Presentation	09:00	12:00	NTU@One-North
SUN	21 Dec-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	Start	End	Mode of Delivery
MON	5 Jan-26	3.1	Probability and Statistics for ML	19:00	22:00	Online Zoom
TUE	6 Jan-26		Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	7 Jan-26	3.2	Introduction to Machine Learning + Capstone Briefing	19:00	22:00	Online Zoom
THU	8 Jan-26	CW	Career Workshop #3 - Connecting with Purpose: Networking for Career Transitions	19:00	22:00	Online Zoom
FRI	9 Jan-26		Assignment + Quiz + Self Study	19:00	22:00	Self study
SAT	10 Jan-26	CO	Coaching	09:00	12:00	NTU@One-North
SUN	11 Jan-26					
MON	12 Jan-26	3.3	Supervised Learning	19:00	22:00	Online Zoom
TUE	13 Jan-26		Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	14 Jan-26	3.4	Supervised Learning - Advanced	19:00	22:00	Online Zoom
THU	15 Jan-26		Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	16 Jan-26					
SAT	17 Jan-26	CO	Coaching	09:00	12:00	NTU@One-North
SUN	18 Jan-26					
MON	19 Jan-26	3.5	Unsupervised Learning	19:00	22:00	Online Zoom
TUE	20 Jan-26		Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	21 Jan-26	3.6	Time Series Data and Forecasting	19:00	22:00	Online Zoom
THU	22 Jan-26		Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	23 Jan-26					
SAT	24 Jan-26	CO	Coaching	09:00	12:00	NTU@One-North
SUN	25 Jan-26					
MON	26 Jan-26	3.7	Neural Network & Deep Learning	19:00	22:00	Online Zoom
TUE	27 Jan-26		Assignment + Quiz + Self Study	19:00	22:00	Self study

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	Date	Unit	Lesson Title	Start	End	Mode of Delivery
WED	28 Jan-26	3.8	Computer Vision (CV)	19:00	22:00	Online Zoom
THU	29 Jan-26		Assignment + Quiz + Self Study	19:00	22:00	Self study
FRI	30 Jan-26					
SAT	31 Jan-26	CO	Coaching	09:00	12:00	NTU@One-North
SUN	1 Feb-26					
MON	2 Feb-26	3.9	Natural Language Processing (NLP)	19:00	22:00	Online Zoom
TUE	3 Feb-26		Assignment + Quiz + Self Study	19:00	22:00	Self study
WED	4 Feb-26	3.10	NLP - Advanced	19:00	22:00	Online Zoom
THU	5 Feb-26		Assignment + Module Quiz + Self Study	19:00	22:00	Self study
FRI	6 Feb-26					
SAT	7 Feb-26	CO	Coaching	09:00	12:00	NTU@One-North
SUN	8 Feb-26					
C5: TRANSFORMING BUSINESS WITH GPT: HANDS-ON GENERATIVE AI APPLICATIONS				Start	End	Mode of Delivery
MON	9 Feb-26		Generative AI	19:00	22:00	Online Zoom
TUE	10 Feb-26		Generative AI	19:00	22:00	Online Zoom
WED	11 Feb-26		Generative AI	19:00	22:00	Online Zoom
THU	12 Feb-26	CW	Career Workshop #4 - Crafting the Perfect Resume: Telling Your Unique Story	19:00	22:00	Online Zoom
FRI	13 Feb-26					
SAT	14 Feb-26		Generative AI	09:00	16:00	NTU@One-North
SUN	15 Feb-26					
C4: AWS CERTIFIED AI PRACTITIONER				Start	End	Mode of Delivery
MON	23 Feb-26		AWS Certified AI Practitioner	19:00	22:00	Online Zoom
TUE	24 Feb-26		AWS Certified AI Practitioner	19:00	22:00	Online Zoom
WED	25 Feb-26		AWS Certified AI Practitioner	19:00	22:00	Online Zoom
THU	26 Feb-26					
FRI	27 Feb-26					
SAT	28 Feb-26		AWS Certified AI Practitioner	09:00	16:00	NTU@One-North
SUN	1 Mar-26					
C6: FULL STACK PROGRAMMING AND DEPLOYMENT OF AI SOLUTIONS				Start	End	Mode of Delivery
MON	2 Mar-26		Deployment I: Python Flask, SQLite and HTML, CSS	19:00	22:00	Online Zoom
TUE	3 Mar-26		Deployment I: API Programming (replicate, google suite, openAI)	19:00	22:00	Online Zoom
WED	4 Mar-26		Deployment I: Cloud AWS/Render/Google Clab/React/UI UX	19:00	22:00	Online Zoom
THU	5 Mar-26					
FRI	6 Mar-26					
SAT	7 Mar-26		Deployment I: Project Management/Agile/Scrum/Monday.com + Web3 Solidity/Remix/Infura/Etherscan	09:00	16:00	NTU@One-North
SUN	8 Mar-26					
MON	9 Mar-26		Deployment II: Python Flask, SQLite and HTML, CSS	19:00	22:00	Online Zoom
TUE	10 Mar-26		Deployment II: API Programming (replicate, google suite, openAI)	19:00	22:00	Online Zoom
WED	11 Mar-26		Deployment II: Cloud AWS/Render/Google Clab/React/UI UX	19:00	22:00	Online Zoom
THU	12 Mar-26	CW	Career Workshop #5 - Ace the Interview and Beyond: From Preparation to Next Steps	19:00	22:00	Online Zoom
FRI	13 Mar-26					
SAT	14 Mar-26		Deployment II : Project Management/Agile/Scrum/Monday.com + Capstone	09:00	16:00	NTU@One-North
SUN	15 Mar-26					
• 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						