

Schedule for (SCTP) Advanced Professional Certificate in Data Science and Artificial Intelligence - Cohort 2 (Part Time)

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

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MON	18 Aug-25					
TUE	19 Aug-25	2.5	Data Warehouse	19:00	22:00	Online Zoom
WED	20 Aug-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
THU	21 Aug-25	2.6	Data Pipelines and Orchestration	19:00	22:00	Online Zoom
FRI	22 Aug-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
SAT	23 Aug-25	CO	Coaching	09:00	12:00	NTU@One-North
SUN	24 Aug-25					
MON	25 Aug-25					
TUE	26 Aug-25	2.7	Data Orchestration and Testing	19:00	22:00	Online Zoom
WED	27 Aug-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
THU	28 Aug-25	2.8	Out of Core/Memory Processing	19:00	22:00	Online Zoom
FRI	29 Aug-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
SAT	30 Aug-25	CO	Coaching	09:00	12:00	NTU@One-North
SUN	31 Aug-25					
MON	1 Sep-25	CW	Career Workshop #3 - Connecting with Purpose: Networking for Career Transitions	19:00	22:00	Online Zoom
TUE	2 Sep-25	2.9	Distributed Batch Processing and Transformation	19:00	22:00	Online Zoom
WED	3 Sep-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
THU	4 Sep-25	2.10	Stream Processing and Analytics	19:00	22:00	Online Zoom
FRI	5 Sep-25		Assignment + Module Quiz + Self Study	19:00	22:00	Self study
SAT	6 Sep-25	CO	Coaching	09:00	12:00	NTU@One-North
SUN	7 Sep-25					
MON	8 Sep-25		Project			
TUE	9 Sep-25		Project			
WED	10 Sep-25		Project			
THU	11 Sep-25		Project			
FRI	12 Sep-25		Project			
SAT	13 Sep-25	PP	Project Presentation	09:00	12:00	NTU@One-North
SUN	14 Sep-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	15 Sep-25					
TUE	16 Sep-25	3.1	Probability and Statistics for ML	19:00	22:00	Online Zoom
WED	17 Sep-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
THU	18 Sep-25	3.2	Introduction to Machine Learning + Capstone Briefing	19:00	22:00	Online Zoom
FRI	19 Sep-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
SAT	20 Sep-25	CO	Coaching	09:00	12:00	NTU@One-North
SUN	21 Sep-25					
MON	22 Sep-25					
TUE	23 Sep-25	3.3	Supervised Learning	19:00	22:00	Online Zoom
WED	24 Sep-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
THU	25 Sep-25	3.4	Supervised Learning - Advanced	19:00	22:00	Online Zoom
FRI	26 Sep-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
SAT	27 Sep-25	CO	Coaching	09:00	12:00	NTU@One-North
SUN	28 Sep-25					
MON	29 Sep-25					
TUE	30 Sep-25	3.5	Unsupervised Learning	19:00	22:00	Online Zoom
WED	1 Oct-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
THU	2 Oct-25	3.6	Time Series Data and Forecasting	19:00	22:00	Online Zoom
FRI	3 Oct-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
SAT	4 Oct-25	CO	Coaching	09:00	12:00	NTU@One-North
SUN	5 Oct-25					
MON	6 Oct-25	CW	Career Workshop #4 - Crafting the Perfect Resume: Telling Your Unique Story	19:00	22:00	Online Zoom
TUE	7 Oct-25	3.7	Neural Network & Deep Learning	19:00	22:00	Online Zoom
WED	8 Oct-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
THU	9 Oct-25	3.8	Computer Vision (CV)	19:00	22:00	Online Zoom



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FRI	10 Oct-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
SAT	11 Oct-25	CO	Coaching	09:00	12:00	NTU@One-North
SUN	12 Oct-25					
MON	13 Oct-25					
TUE	14 Oct-25	3.9	Natural Language Processing (NLP)	19:00	22:00	Online Zoom
WED	15 Oct-25		Assignment + Quiz + Self Study	19:00	22:00	Self study
THU	16 Oct-25	3.10	NLP - Advanced	19:00	22:00	Online Zoom
FRI	17 Oct-25		Assignment + Module Quiz + Self Study	19:00	22:00	Self study
SAT	18 Oct-25	CO	Coaching	09:00	12:00	NTU@One-North
SUN	19 Oct-25					
C4: AWS CERTIFIED AI PRACTITIONER				Start	End	Mode of Delivery
MON	20 Oct-25	PH	Deepavali			
TUE	21 Oct-25		AWS Certified AI Practitioner	19:00	22:00	Online Zoom
WED	22 Oct-25		AWS Certified AI Practitioner	19:00	22:00	Online Zoom
THU	23 Oct-25		AWS Certified AI Practitioner	19:00	22:00	Online Zoom
FRI	24 Oct-25					
SAT	25 Oct-25		AWS Certified AI Practitioner	09:00	16:00	NTU@One-North
SUN	26 Oct-25					
C5: TRANSFORMING BUSINESS WITH GPT: HANDS-ON GENERATIVE AI APPLICATIONS				Start	End	Mode of Delivery
MON	27 Oct-25					
TUE	28 Oct-25		Generative AI	19:00	22:00	Online Zoom
WED	29 Oct-25		Generative AI	19:00	22:00	Online Zoom
THU	30 Oct-25					
FRI	31 Oct-25		Generative AI	19:00	22:00	Online Zoom
SAT	1 Nov-25					
SUN	2 Nov-25					
MON	3 Nov-25	CW	Career Workshop #5 - Ace the Interview and Beyond: From Preparation to Next Steps	19:00	22:00	Online Zoom
TUE	4 Nov-25					
WED	5 Nov-25					
THU	6 Nov-25					
FRI	7 Nov-25					
SAT	8 Nov-25		Genrative AI	09:00	16:00	NTU@One-North
SUN	9 Nov-25					
C6: FULL STACK PROGRAMMING AND DEPLOYMENT OF AI SOLUTIONS				Start	End	Mode of Delivery
MON	10 Nov-25					
TUE	11 Nov-25		Deployment I: Python Flask, SQLite and HTML, CSS	19:00	22:00	Online Zoom
WED	12 Nov-25		Deployment I: API Programming (replicate, google suite, openAI)	19:00	22:00	Online Zoom
THU	13 Nov-25					
FRI	14 Nov-25		Deployment I: Cloud AWS/Render/Google Clab/React/UI UX	19:00	22:00	Online Zoom
SAT	15 Nov-25		Deployment I: Project Management/Agile/Scrum/Monday.com + Web3 Solidity/Remix/Infura/Etherscan	09:00	16:00	NTU@One-North
SUN	16 Nov-25					
MON	17 Nov-25					
TUE	18 Nov-25		Deployment II: Python Flask, SQLite and HTML, CSS	19:00	22:00	Online Zoom
WED	19 Nov-25		Deployment II: API Programming (replicate, google suite, openAI)	19:00	22:00	Online Zoom
THU	20 Nov-25					
FRI	21 Nov-25		Deployment II: Cloud AWS/Render/Google Clab/React/UI UX	19:00	22:00	Online Zoom
SAT	22 Nov-25		Deployment II : Project Management/Agile/Scrum/Monday.com + Capstone	09:00	16:00	NTU@One-North
SUN	23 Nov-25					
• 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						