

Schedule for (SCTP) Advanced Professional Certificate in AI Engineering - Cohort 1F (Full Time)

Updated: 29 May 26

Date	Unit	Lesson Title	Start	End	Mode of Delivery
C1: AI AND SOFTWARE ENGINEERING FUNDAMENTALS		Key Topics: Welcome, AI Fundamentals Product Management, SQL Fundamentals	Start	End	Mode of Delivery
MON	31 Aug-26				
TUE	1 Sep-26	1.1 Welcome + Introduction & Setup	09:00	12:00	NTU@One-north
TUE	1 Sep-26	1.2 AI Fundamentals I	13:00	16:00	NTU@One-north
WED	2 Sep-26	1.3 AI Fundamentals II	09:00	12:00	Online Zoom
THU	3 Sep-26	1.4 Product Management in Tech and AI I	09:00	12:00	Online Zoom
THU	3 Sep-26	1.5 Product Management in Tech and AI II	13:00	16:00	Online Zoom
FRI	4 Sep-26	1.6 Relational Databases and SQL Fundamentals	09:00	11:30	Online Zoom
FRI	4 Sep-26	Module Quiz	13:30	14:00	Self-paced
SAT	5 Sep-26				
SUN	6 Sep-26				
C2: FRONT END DEVELOPMENT		Key Topics: Week 1: Foundation of ReactJS, Data Flow, States and Events Week 2: Lists, Routing, Hooks, Week 3: Forms, Intro to Next.js, Cross-Platform Mobile Development Week 4: Application Flow Control & Native Device Capability Integration	Start	End	Mode of Delivery
MON	7 Sep-26	2.1 Foundations of Component-Based UI Development with React	09:00	12:00	Online Zoom
MON	7 Sep-26	2.2 Unidirectional Data Flow and Conditional Rendering	13:00	16:00	Online Zoom
TUE	8 Sep-26	Assignment + Self Study	09:00	12:00	Self-paced
WED	9 Sep-26	2.3 State Management and Event Handling in React	09:00	12:00	NTU@One-north
WED	9 Sep-26	2.4 Coaching - Intro to Coding with GenAI	13:00	16:00	NTU@One-north
THU	10 Sep-26	Assignment + Self Study	09:00	12:00	Self-paced
FRI	11 Sep-26	CW Career Workshop #1 - Uncover Your Next Path: Career Discovery for Mid-Career Changers	09:00	12:00	NTU@One-north
SAT	12 Sep-26				
SUN	13 Sep-26				
MON	14 Sep-26	2.5 Lists, Asynchronous Programming, and Side Effects	09:00	12:00	Online Zoom
MON	14 Sep-26	2.6 Advanced State Management: Context API and Reducers	13:00	16:00	Online Zoom
TUE	15 Sep-26	Assignment + Self Study	09:00	12:00	Self-paced
WED	16 Sep-26	2.7 Coaching - Simple CRM + AI Tools	09:00	12:00	NTU@One-north
WED	16 Sep-26	2.8 Routing and Navigation with React Router	13:00	16:00	NTU@One-north
THU	17 Sep-26	2.9 Testing, Performance Optimization, and Custom Hooks	09:00	12:00	Online Zoom
FRI	18 Sep-26	Assignment + Self Study	09:00	12:00	Self-paced
SAT	19 Sep-26				
SUN	20 Sep-26				
MON	21 Sep-26	2.10 Coaching - Hooks practical	09:00	12:00	Online Zoom
MON	21 Sep-26	2.11 Form Handling, Validation, and Deployment	13:00	16:00	Online Zoom
TUE	22 Sep-26	Assignment + Self Study	09:00	12:00	Self-paced
WED	23 Sep-26	2.12 Introduction to Next.js	09:00	12:00	NTU@One-north
WED	23 Sep-26	2.13 Coaching - React router and Formik practicals	13:00	16:00	NTU@One-north
THU	24 Sep-26	2.14 Introduction to Cross-Platform Mobile Application Development	09:00	12:00	Online Zoom
FRI	25 Sep-26	2.15 UI Composition and Layout Management in Mobile Applications	09:00	12:00	Online Zoom
SAT	26 Sep-26				
SUN	27 Sep-26				
MON	28 Sep-26	2.16 Coaching - Building a Sample App I	09:00	12:00	Online Zoom
MON	28 Sep-26	2.17 Application Flow Control with Navigation Frameworks	13:00	16:00	Online Zoom
TUE	29 Sep-26	Assignment + Self Study	09:00	11:00	Self-paced
WED	30 Sep-26	2.18 Integration of Native Device Capabilities in Cross-Platform Applications	09:00	12:00	Online Zoom
WED	30 Sep-26	Assignment + Module Quiz + Self Study	14:00	15:00	Self-paced
THU	1 Oct-26	2.19 Coaching - Building a Sample App II	09:00	12:00	Online Zoom
FRI	2 Oct-26	CW Career Workshop #2 - Stand Out: Building a Powerful Professional Brand	09:00	12:00	NTU@One-north
SAT	3 Oct-26				
SUN	4 Oct-26				
C3: BACK END DEVELOPMENT: SERVER-SIDE PROGRAMMING		Key Topics: Week 1: Control Structures, Data Structures and Algorithms Week 2: OOP, Data pipelines, RESTful APIs development Week 3 & 4: API Design, Dependency Mgt, ORM, Persistent Data Mgt, Unit Testing	Start	End	Mode of Delivery

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	Date	Unit	Lesson Title	Start	End	Mode of Delivery
MON	5 Oct-26	3.1	Programming Fundamentals and Control Structures I	09:00	12:00	Online Zoom
MON	5 Oct-26	3.2	Programming Fundamentals and Control Structures II	13:00	16:00	Online Zoom
TUE	6 Oct-26					
WED	7 Oct-26	3.3	Coaching : recap+ Boosting Productivity with GitHub Copilot in VS Code	09:00	12:00	NTU@One-north
WED	7 Oct-26	3.4	Data Structures and Algorithms I	13:00	16:00	NTU@One-north
THU	8 Oct-26	3.5	Data Structures and Algorithms II	09:00	12:00	Online Zoom
FRI	9 Oct-26		Assignment + Self Study	09:00	12:00	Self-paced
SAT	10 Oct-26					
SUN	11 Oct-26					
MON	12 Oct-26	3.6	Coaching - recap + Object-Oriented Design and Encapsulation	09:00	12:00	Online Zoom
MON	12 Oct-26	3.7	Principles of Object-Oriented Programming	13:00	16:00	Online Zoom
TUE	13 Oct-26	3.8	Functional programming, stream processing ,Data pipelines	09:00	12:00	Online Zoom
TUE	13 Oct-26		Assignment + Self Study	13:00	16:00	Self-paced
WED	14 Oct-26	3.9	Coaching - recap + Error Handling and Logging Practices	09:00	12:00	NTU@One-north
WED	14 Oct-26	3.10	Concurrent Programming Fundamentals	13:00	16:00	NTU@One-north
THU	15 Oct-26	3.11	Web Application Development with RESTful APIs	09:00	12:00	Online Zoom
THU	15 Oct-26		Assignment + Self Study	13:00	16:00	Self-paced
FRI	16 Oct-26	CW	Career Workshop #3 - Connecting with Purpose: Networking for Career Transitions	09:00	12:00	NTU@One-north
SAT	17 Oct-26					
SUN	18 Oct-26					
MON	19 Oct-26	3.12	Coaching: Recap + Intro to Spring AI	09:00	12:00	Online Zoom
MON	19 Oct-26	3.13	Web Service Development and API Design	13:00	16:00	Online Zoom
TUE	20 Oct-26	3.14	Frameworks, Dependency Management, and Application Layering	09:00	12:00	Online Zoom
TUE	20 Oct-26		Assignment + Self Study	13:00	16:00	Self-paced
WED	21 Oct-26	3.15	Coaching: Recap + Spring AI Part 2	09:00	12:00	NTU@One-north
WED	21 Oct-26	3.16	Object-Relational Mapping with JPA	13:00	16:00	NTU@One-north
THU	22 Oct-26	3.17	Persistent Data Management and Robust API Design	09:00	12:00	Online Zoom
FRI	23 Oct-26		Assignment + Self Study	09:00	12:00	Self-paced
SAT	24 Oct-26					
SUN	25 Oct-26					
MON	26 Oct-26	3.18	Coaching: Recap + Spring AI Part 3	09:00	12:00	Online Zoom
MON	26 Oct-26	3.19	Software Testing: Unit and Integration Testing	13:00	16:00	Online Zoom
TUE	27 Oct-26		Assignment + Module 3 Quiz + Self Study	09:00	12:00	Self-paced
C4: DEVOPS: AUTOMATING INTEGRATION AND DEPLOYMENT			Key Topics: Week 1: Security & Authentication, Intro to DevOps Week 2: Containerization, Continuous Integration Week 3: Continuous Deployment, Microservices Architecture	Start	End	Mode of Delivery
WED	28 Oct-26	4.1	Secure Software Development and Authentication I	09:00	12:00	NTU@One-north
WED	28 Oct-26	4.2	Coaching - recap + Secure Software Development and Authentication II	13:00	16:00	NTU@One-north
THU	29 Oct-26	4.3	Introduction to DevOps	09:00	12:00	Online Zoom
FRI	30 Oct-26	4.4	Cloud Native Application - Local Containerization	09:00	12:00	Online Zoom
SAT	31 Oct-26					
SUN	1 Nov-26					
MON	2 Nov-26	4.5	Coaching - recap + Cloud Native Application - Remote Containerization	09:00	12:00	Online Zoom
MON	2 Nov-26	4.6	Cloud Native Application - Docker Compose	13:00	16:00	Online Zoom
TUE	3 Nov-26	4.7	Continuous Integration	09:00	12:00	Online Zoom
TUE	3 Nov-26		Assignment + Self Study	09:00	12:00	Self-paced
WED	4 Nov-26	4.8	Coaching - recap + Container Practicals	09:00	12:00	NTU@One-north
WED	4 Nov-26	4.9	Tool Exploration	13:00	16:00	NTU@One-north
THU	5 Nov-26	4.10	Hosting	09:00	12:00	Online Zoom
THU	5 Nov-26	4.11	Coaching - recap + CI Practicals	13:00	16:00	Online Zoom
FRI	6 Nov-26	CW	Career Workshop #4 - Crafting the Perfect Resume: Telling Your Unique Story	09:00	12:00	NTU@One-north
FRI	6 Nov-26		Assignment + Self Study	13:00	16:00	Self-paced
SAT	7 Nov-26					
SUN	8 Nov-26	PH	Deepavali			
MON	9 Nov-26	PH	Deepavali PH			

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Date	Unit	Lesson Title	Start	End	Mode of Delivery		
TUE	10 Nov-26	4.12	Continuous Deployment		09:00	12:00	Online Zoom
TUE	10 Nov-26	4.13	DevSecOps Foundations		13:00	16:00	Online Zoom
WED	11 Nov-26	4.14	Coaching - recap + DevSecOps Practicals		09:00	12:00	Online Zoom
WED	11 Nov-26	4.15	Microservices Architecture		13:00	16:00	Online Zoom
THU	12 Nov-26	4.16	Microservices Architecture		09:00	12:00	Online Zoom
THU	12 Nov-26		Assignment + Self Study		13:00	16:00	Self-paced
FRI	13 Nov-26	CW	Career Workshop #5 - Ace the Interview and Beyond: From Preparation to Next Steps		09:00	12:00	NTU@One-north
FRI	13 Nov-26		Assignment + Module 4 Quiz + Self Study		13:00	16:00	Self-paced
SAT	14 Nov-26						
SUN	15 Nov-26						
C5: GENAI DEPLOYMENT AND CAPSTONE			Key Topics: Week 1: RAG Systems Fundamentals, Agentic AI Week 2: AI Frameworks, Capstone Project Final Sprint		Start	End	Mode of Delivery
MON	16 Nov-26	5.1	LLMs, RAG Basics & Spring AI Setup Capstone Briefing + Project Planning		09:00	12:00	Online Zoom
MON	16 Nov-26	5.2	RAG Systems Fundamentals I		13:00	16:00	Online Zoom
TUE	17 Nov-26	5.3	RAG Systems Fundamentals II		09:00	12:00	Online Zoom
TUE	17 Nov-26		Project Sprint		13:00	16:00	Self-paced
WED	18 Nov-26	5.4	Guest speaker - SW and AI in Industry topics		09:00	12:00	NTU@One-north
WED	18 Nov-26	5.5	Agentic AI		13:00	16:00	NTU@One-north
THU	19 Nov-26		Project Consult		10:00	11:00	Online Zoom
THU	19 Nov-26		Project Sprint		13:00	16:00	Self-paced
FRI	20 Nov-26		Project Consult		10:00	11:00	Online Zoom
SAT	21 Nov-26						
SUN	22 Nov-26						
MON	23 Nov-26	5.6	AI Frameworks I		09:00	12:00	Online Zoom
MON	23 Nov-26		Project Consult		13:00	14:00	Online Zoom
TUE	24 Nov-26		Project Consult		10:00	11:00	Online Zoom
TUE	25 Nov-26		Project Sprint		13:00	16:00	Self-paced
WED	25 Nov-26	5.7	AI Frameworks II		09:00	12:00	NTU@One-north
THU	26 Nov-26		Project Sprint		09:00	12:00	Self-paced
THU	27 Nov-26		Assignment + Module Quiz + Self Study		15:00	16:00	Self-paced
FRI	27 Nov-26	PP	Project Presentation		09:00	13:00	NTU@One-north
SAT	28 Nov-26						
SUN	29 Nov-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 modify the date, revise the content, change the trainer, adjust the mode or venue of lessons, or cancel the class should unforeseen circumstances arise