NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE | NTU Academy for Professional and Continuing Education

Schedule for (SCTP) Advanced Professional Certificate in AI Engineering - Cohort 2 (Part Time) Updated: 31 Jul 26

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

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	Date	Unit	Lesson Title	Start	End	Mode of Delivery
SAT	27 Feb-27	2.16	Coaching	09:00	12:00	NTU@One-north
SUN	28 Feb-27					
MON	1 Mar-27					
TUE	2 Mar-27	2.17	Application Flow Control with Navigation Frameworks	19:00	22:00	Online Zoom
WED	3 Mar-27					
THU	4 Mar-27	2.18	Integration of Native Device Capabilities in Cross-Platform Applications	19:00	22:00	Online Zoom
FRI	5 Mar-27		Assignment + Module Quiz + Self Study	19:00	22:00	Self-paced
SAT	6 Mar-27	2.19	Coaching	09:00	12:00	NTU@One-north
SUN	7 Mar-27					
C3: BACK END DEVELOPMENT: SERVER-SIDE PROGRAMMING			Key Topics: Week 1: Programming Fundamentals & Cotnrol Structures Week 2: Data Structures and Algorithms Week 3: OOP, Stream processing, Data pipelines Week 4: Concurrent Programming, RESTful APIs development Week 5: API Design, Dependency Mgt, Application layering Week 6:ORM, Persistent Data Mgt, Unit Testing	**Start**	**End**	**Mode of Delivery**
MON	8 Mar-27					
TUE	9 Mar-27	3.1	Programming Fundamentals and Control Structures I	19:00	22:00	Online Zoom
WED	10 Mar-27	PH	Hari Raya Puasa			
THU	11 Mar-27	3.2	Programming Fundamentals and Control Structures II	19:00	22:00	Online Zoom
FRI	12 Mar-27					
SAT	13 Mar-27	3.3	Coaching - Boosting Productivity with GitHub Copilot in VS Code	09:00	12:00	NTU@One-north
SUN	14 Mar-27					
MON	15 Mar-27					
TUE	16 Mar-27	3.4	Data Structures and Algorithms I	19:00	22:00	Online Zoom
WED	17 Mar-27		Assignment + Self Study	19:00	22:00	Self-paced
THU	18 Mar-27	3.5	Data Structures and Algorithms II	19:00	22:00	Online Zoom
FRI	19 Mar-27					
SAT	20 Mar-27	3.6	Coaching - Recap + Object-Oriented Design and Encapsulation	09:00	12:00	NTU@One-north
SUN	21 Mar-27					
MON	22 Mar-27					
TUE	23 Mar-27	3.7	Principles of Object-Oriented Programming	19:00	22:00	Online Zoom
WED	24 Mar-27		Assignment + Self Study	19:00	22:00	Self-paced
THU	25 Mar-27	3.8	Functional programming, stream processing ,Data pipelines	19:00	22:00	Online Zoom
FRI	26 Mar-27	PH	Good Friday			
SAT	27 Mar-27	3.9	Coaching : Recap + Error Handling and Logging Practices	09:00	12:00	NTU@One-north
SUN	28 Mar-27					
MON	29 Mar-27	CW	Career Workshop #3 - Connecting with Purpose: Networking for Career Transitions	19:00	22:00	Online Zoom
TUE	30 Mar-27	3.10	Concurrent Programming Fundamentals	19:00	22:00	Online Zoom
WED	31 Mar-27		Assignment + Self Study	19:00	22:00	Self-paced
THU	1 Apr-27	3.11	Web Application Development with RESTful APIs	19:00	22:00	Online Zoom
FRI	2 Apr-27					
SAT	3 Apr-27	3.12	Coaching: Recap + Intro to Spring AI	09:00	12:00	NTU@One-north
SUN	4 Apr-27					
MON	5 Apr-27					
TUE	6 Apr-27	3.13	Web Service Development and API Design	19:00	22:00	Online Zoom
WED	7 Apr-27		Assignment + Self Study	19:00	22:00	Self-paced
THU	8 Apr-27	3.14	Frameworks, Dependency Management, and Application Layering	19:00	22:00	Online Zoom
FRI	9 Apr-27					
SAT	10 Apr-27	3.15	Coaching: Recap + Spring AI Part 2	09:00	12:00	NTU@One-north
SUN	11 Apr-27					
MON	12 Apr-27					
TUE	13 Apr-27	3.16	Object-Relational Mapping with JPA	19:00	22:00	Online Zoom
WED	14 Apr-27		Assignment + Self Study	19:00	22:00	Self-paced
THU	15 Apr-27	3.17	Persistent Data Management and Robust API Design	19:00	22:00	Online Zoom
FRI	16 Apr-27					
SAT	17 Apr-27	3.18	Coaching Recap + Spring AI Part 3	09:00	12:00	NTU@One-north
SUN	18 Apr-27					
MON	19 Apr-27					
TUE	20 Apr-27	3.19	Software Testing: Unit and Integration Testing	19:00	22:00	Online Zoom

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WED	21 Apr-27		Assignment + Module Quiz + Self Study	19:00	22:00	Self-paced
C4: DEVOPS: AUTOMATING INTEGRATION AND DEPLOYMENT			Key Topics: Week 1: Security & Authentication Week 2 & 3: Intro to DevOps, Containerization Week 4: Continous Integration Week 5: Continuous Deployment Week 6: Microservices Architecture	**Start**	**End**	**Mode of Delivery**
THU	22 Apr-27	4.1	Secure Software Development and Authentication I	19:00	22:00	Online Zoom
FRI	23 Apr-27					
SAT	24 Apr-27	4.2	Coaching - recap + Secure Software Development and Authentication II	09:00	12:00	NTU@One-north
SUN	25 Apr-27					
MON	26 Apr-27	CW	Career Workshop #4 - Crafting the Perfect Resume: Telling Your Unique Story	19:00	22:00	Online Zoom
TUE	27 Apr-27	4.3	Introduction to DevOps	19:00	22:00	Online Zoom
WED	28 Apr-27		Assignment + Self Study	19:00	22:00	Self-paced
THU	29 Apr-27	4.4	Cloud Native Application - Local Containerization	19:00	22:00	Online Zoom
FRI	30 Apr-27	4.5	Coaching- recap + Cloud Native Application - Remote Containerization	19:00	22:00	Online Zoom
SAT	1 May-27	PH	Labour Day			
SUN	2 May-27					
MON	3 May-27					
TUE	4 May-27	4.6	Cloud Native Application - Docker Compose	19:00	22:00	Online Zoom
WED	5 May-27					
THU	6 May-27	4.7	Continuous Integration	19:00	22:00	Online Zoom
FRI	7 May-27					
SAT	8 May-27	4.8	Coaching - recap + Container Practicals	09:00	12:00	NTU@One-north
SUN	9 May-27					
MON	10 May-27					
TUE	11 May-27	4.9	Tool Exploration	19:00	22:00	Online Zoom
WED	12 May-27		Assignment + Self Study	19:00	22:00	Self-paced
THU	13 May-27	4.10	Hosting	19:00	22:00	Online Zoom
FRI	14 May-27					
SAT	15 May-27	4.11	Coaching - recap + CI Practicals	09:00	12:00	NTU@One-north
SUN	16 May-27					
MON	17 May-27	PH	Hari Raya Haji			
TUE	18 May-27	4.12	Continuous Deployment	19:00	22:00	Online Zoom
WED	19 May-27		Assignment + Self Study	19:00	22:00	Self-paced
THU	20 May-27	PH	Hari Raya Haji			
FRI	21 May-27	4.13	DevSecOps Foundations	19:00	22:00	Online Zoom
SAT	22 May-27	CW	Career Workshop #5 - Ace the Interview and Beyond: From Preparation to Next Steps	09:00	12:00	NTU@One-north
SAT	22 May-27	4.14	Coaching - recap + DevSecOps Practicals	13:00	16:00	NTU@One-north
SUN	23 May-27					
MON	24 May-27					
TUE	25 May-27	4.15	Microservices Architecture I	19:00	22:00	Online Zoom
WED	26 May-27					
THU	27 May-27	4.16	Microservices Architecture II	19:00	22:00	Online Zoom
FRI	28 May-27		Assignment + Module Quiz + Self Study	19:00	22:00	Self-paced
C5: GENAI DEPLOYMENT AND CAPSTONE			Key Topics: Week 1: RAG Systems Fundamentals Week 2: Agentic AI & AI Frameworks Week 3: Capstone Project Final Sprint	**Start**	**End**	**Mode of Delivery**
SAT	29 May-27	5.1	LLMs, RAG Basics Capstone Briefing + Project Planning	09:00	12:00	NTU@One-north
SUN	30 May-27					
MON	31 May-27		Project Sprint	19:00	22:00	Self-paced
TUE	1 Jun-27	5.2	RAG Systems Fundamentals I	19:00	22:00	Online Zoom
WED	2 Jun-27		Project Sprint	19:00	22:00	Self-paced
THU	3 Jun-27	5.3	RAG Systems Fundamentals II	19:00	22:00	Online Zoom
FRI	4 Jun-27					
SAT	5 Jun-27	5.4	Guest speaker - SW and AI in Industry topics	09:00	12:00	NTU@One-north
SUN	6 Jun-27					
MON	7 Jun-27		Project Sprint	19:00	22:00	Self-paced

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TUE	8 Jun-27	5.5	Agentic AI	19:00	22:00	Online Zoom
WED	9 Jun-27					
THU	10 Jun-27	5.6	AI Frameworks I	19:00	22:00	Online Zoom
FRI	11 Jun-27		Assignment + Module Quiz + Self Study	20:00	21:00	Self-paced
SAT	12 Jun-27	5.7	AI Frameworks II	09:00	12:00	NTU@One-north
SUN	13 Jun-27					
MON	14 Jun-27		Project Consult	20:00	21:00	Online Zoom
TUE	15 Jun-27		Project Consult	20:00	21:00	Online Zoom
WED	16 Jun-27		Project Consult	20:00	21:00	Online Zoom
THU	17 Jun-27		Project Consult	20:00	21:00	Online Zoom
FRI	18 Jun-27		Final Project Sprint	19:00	22:00	Self-paced
SAT	19 Jun-27	PP	**Project Presentation**	09:00	13:00	NTU@One-north
SUN	20 Jun-27					

- 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