AI KNOWLEDGE CHATBOT

Course Overview

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1. Course Overview

Headings	Details
Course Code	CCP-AIE
Product Title (Internal)	CCP – AI Engineer
Course Title (External)	NA
Learning Mode	Full-time/ Part-time
Delivery Mode	Synchronous & Asynchronous E-learning
Target Persona	• Enterprises who would like to send their employees for reskill/ re-deploy them into AI Engineer job roles. • Enterprises who would like to hire fresh candidates and send them for training to acquire AI Engineer skills.
Entry-Prerequisites	• Academic: Minimum O Level credit in Maths or Minimum one credit in Nitech in STEM • English Proficiency – Minimum IELTS 5.5 or its equivalent • Age – Minimum 21 years • Work Experience – Currently Employed
SSG Course Reference No	NA
Course Validity Date	NA
Course Developer	Lithan Academy
Relevant Job roles after completion of the course	A I Engineer

2. Course Brief

Career Conversion Programs (CCPs) facilitate the skilling and placement of mid-career professionals by providing skills conversion training and employment opportunities with good prospects for progression. With funding support from WSG, employers can participate in CCPs, which can be stacked with the Jobs Growth incentive, benefiting both employers and mid-career individuals seeking career transitions.

The "CCP - AI Engineer" course is a specialized Career Conversion Program designed for individuals seeking to transition into the role of an AI Engineer. This comprehensive course offers a skills conversion pathway, equipping learners with the necessary expertise to thrive in this in-demand job role. Through this Career Conversion Program, learners undergo a transformative journey, acquiring the knowledge and skills required to excel as AI Engineers. By completing this reskilling and redeployment AI Engineer course, learners gain access to an array of opportunities for progression in the field of AI Engineering. They are well-prepared to tackle the challenges of designing and implementing AI chatbot in their company.

The course consists of two modules that cover essential topics in Generative AI and Capstone Project -Data Analytics. The first module, "Generative AI," delves into the world of AI models, focusing on the introduction to Generative AI Models and OpenAI. Participants will explore the versatile applications of ChatGPT, analyzing its use cases for research, content generation, and business productivity. Through practical exercises, they will gain expertise in building a ChatBot using Microsoft Power Virtual Agent, empowering them to create intelligent conversational agents with ease.

The second module, the "Capstone Project-data Analytics," serves as a culmination of their learning journey. In this project, students will apply their knowledge of Generative AI to develop an engaging chatbot using Power Virtual Agents. The objective is to leverage advanced features like topics, entities, and proactive messaging, while seamlessly integrating external systems to enhance the chatbot's functionality. Through this hands-on experience, learners will strengthen their problem-solving and project management skills, honing their ability to create innovative AI-driven solutions tailored to real-world scenarios.

Throughout the course, learners will develop a deep understanding of Generative AI and its applications, enabling them to harness the power of AI for diverse purposes. They will learn to leverage OpenAI and ChatGPT effectively, uncovering opportunities to revolutionize research, content generation, and business processes. Moreover, the practical experience gained in building a Chatbot with Microsoft Power Virtual Agent will equip them with practical skills that are highly sought after in the job market.

In conclusion, the "CCP -AI Engineer" course offers an excellent opportunity for aspiring AI enthusiasts to unlock their potential and embark on a rewarding career journey. With a comprehensive curriculum covering Generative AI and hands-on projects, graduates will be well-prepared to meet the challenges of the AI industry head-on, driving innovation and creating transformative AI solutions for a wide range of industries.

3. Course KSA Summary

Knowledge Statements:

- Analyze the fundamentals and applications of generative AI models, including ChatGPT and Power Virtual Agents.
- Describe the process of building interactive chatbots using Power Virtual Agents and leveraging advanced features like topics, entities, and proactive messaging.
- Evaluate the use cases of generative AI models, such as content generation, research, business productivity, and customer support.
- Examine the integration of external systems to enhance the functionality and capabilities of chatbots.
- Assess the role and application of multimedia presentations in chatbot development and user engagement.

Skills Statements:

- Apply generative AI models, including ChatGPT and Power Virtual Agents, to generate content, facilitate research, and improve business productivity.
- Build interactive chatbots using Power Virtual Agents, incorporating advanced features like topics, entities, and proactive messaging.
- Integrate external systems and APIs to extend the functionality and capabilities of chatbots.
- Evaluate and optimize multimedia presentations within chatbot interactions to enhance user engagement.
- Collaborate and communicate effectively to design and develop intelligent chatbot solutions utilizing generative AI models.

Ability Statement:

Design, develop, and deploy interactive chatbots that leverage generative AI models and advanced features, transforming user experiences and enhancing business productivity.

4. Course Summary

4.1 Module-Session Details

Sl No	Module Names	Module Code	E-Learning (Async)	Flipped Class (Sync)	Mentoring Support			Assessment (Sync)	Total Hours
					Assignment Sync	Project Planning Sync	Project Imple Async		
1	WSQ Generative AI (SF)	CCP-GA2	12	12	12	12	12	0.5	60.5
2	WSQ Capstone Project -Data Analytics (SF)	CCP-DSC	0	12	0	24	24	0.5	60.5
	TOTAL		**12**	**24**	**12**	**36**	**36**	**1**	**121**

4.2 Learning Mode & Duration

Learning Mode	Course Duration	Guided Learning Hours	Hours/Week	days/Week	Hours/Day
Full-time	4 weeks	120 hours	30 hours/week	4 days/week	8 hours/day
Part-time	16 weeks (6 weeks, 10 weeks)	120 hours	8 hours/week	4 days/week	2 hours/day

5. Module Details – Generative AI

5.1 Module Brief

In the module "Generative AI," learners will acquire a comprehensive understanding of various AI models and their applications. They will be introduced to the fundamentals of Generative AI Models, gaining insights into their functionalities and capabilities. Additionally, participants will explore OpenAI and its practical implementation, particularly focusing on the application of ChatGPT – a powerful language generation model. This knowledge will enable learners to harness the potential of ChatGPT for diverse purposes, including research and content generation.

Throughout the module, learners will delve into ChatGPT's real-world applications, uncovering its use cases in areas such as research, content generation, business productivity, and customer support. They will gain hands-on experience in leveraging Generative AI tools like ChatGPT and Microsoft Power Virtual Agent (VA) to create engaging and interactive content. Moreover, the module will empower learners to build functional ChatBots using Microsoft Power VA, enabling seamless interactions with users.

By the end of the "Generative AI" module, participants will possess a solid foundation in AI models and OpenAI, along with the practical expertise to utilize ChatGPT effectively for content generation, multimedia presentations, business productivity, and customer support. They will be equipped to apply their acquired knowledge to real-world scenarios, enhancing their problem-solving abilities and opening up numerous opportunities for innovative AI-driven solutions in various domains.

Instructional Units:
1. Introduction to Generative AI Models
2. Introduction to OpenAI & Application of ChatGPT
3. ChatGPT Use Cases for Research & Content Generation
4. ChatGPT Use Cases for Business Productivity
5. Building a ChatBot using Microsoft Power Virtual Agent

Module Project:

Project Objective: Utilize Generative AI tools (ChatGPT, Microsoft Power VA) for content generation, multimedia presentations, business productivity, and customer support.

Project Tasks
1. Implement a research project utilizing ChatGPT for content generation.
2. Create a multimedia presentation showcasing the possibilities of Generative AI.
3. Develop a business productivity solution using ChatGPT to optimize processes.
4. Conduct a market analysis on the impact of Generative AI models and opportunities.
5. Construct a ChatBot plan using Microsoft VA for interactive customer support.

5.2 Module Session Plan

Session No#	Session Type	Day no#	Duration Hrs
1	E-Learning on IU 1	1	2
2	Flipped Class on IU 1	1	2
3	Mentoring Support - Assignment on IU 1	2	2
4	E-Learning on IU 2	3	2
5	Flipped Class on IU 2	3	2
6	Mentoring Support - Assignment on IU 2	4	2
7	E-Learning on IU 3	5	2
8	Flipped Class on IU 3	5	2
9	Mentoring Support - Assignment on IU 3	6	2
10	E-Learning on IU 4	7	2
11	Flipped Class on IU 4	7	2
12	Mentoring Support - Assignment on IU 4	8	2
13	E-Learning on IU 5	9	2
14	Flipped Class on IU 5	9	2
15	Mentoring Support - Assignment on IU 5	10	2
16	E-Learning on IU 5	11	2
17	Flipped Class on IU 5	11	2
18	Mentoring Support - Assignment on IU 5	12	2
19	Mentoring Support – Project Planning -1	13	2
20	Mentoring Support – Projects Implementation 1	14	2
21	Mentoring Support – Project Planning -2	15	2
22	Mentoring Support – Projects Implementation 2	16	2
23	Mentoring Support – Project Planning -3	17	2
24	Mentoring Support – Projects Implementation 3	18	2
25	Mentoring Support – Project Planning -4	19	2
26	Mentoring Support – Projects Implementation 4	20	2
27	Mentoring Support – Project Planning -5	21	2
28	Mentoring Support – Projects Implementation 5	22	2
29	Mentoring Support – Project Planning -6	23	2
30	Mentoring Support – Projects Implementation 6	24	2
31	Summative Assessment (per learner)	25	30 min

6. Module Details – Capstone Project -Data Analytics

6.1 Module Brief

The "Capstone Project-Data Analytics" module equips learners with essential knowledge and skills required to undertake a comprehensive chatbot development project using Power Virtual Agents. Through a series of project tasks, participants will gain hands-on experience and proficiency in various aspects of chatbot creation and management.

In this module, learners will research Power Virtual Agents to understand its capabilities in building chatbots. They will learn to set up and configure the development environment, ensuring a smooth workflow. Creating and managing topics in Power Virtual Agents will enable effective conversation flows, while the utilization of entities and variables will enable dynamic responses, enhancing the bot's interactivity. Learners will also explore the integration of rich media and attachments for creating an engaging user experience.

Moreover, the module focuses on implementing proactive messaging to initiate conversations with users, providing a proactive and user-friendly chatbot. Learners will gain expertise in integrating external systems and APIs, extending the chatbot's functionality and usefulness. Testing and debugging the chatbot ensures accuracy, responsiveness, and functionality. Continuous monitoring and optimization based on user feedback and performance data will further enhance the chatbot's performance.

By the end of the "Capstone Project-Data Analytics" module, learners will have developed a fully functional and engaging chatbot using Power Virtual Agents. They will be adept at leveraging advanced features like topics, entities, and proactive messaging, while seamlessly integrating external systems for enhanced functionality. Additionally, they will have honed their skills in combining conversational design principles with advanced features, enabling them to build effective and user-centric chatbots tailored to specific needs and domains.

Instructional Units:
1. Identify product, User Persona
2. User stories, product backlog
3. Sprint planning
4. User requirements
5. **Project Design & Architecture**
6. **Project planning**

Module Project:

Project Objective: Build an engaging chatbot using Power Virtual Agents, leveraging advanced features like topics, entities, and proactive messaging, while integrating external systems for enhanced functionality for your company

.**Project Tasks**

1. Research Power Virtual Agents and explore its capabilities for building chatbots.
2. Set up Power Virtual Agents environment and configure the necessary development tools.
3. Create and manage topics in Power Virtual Agents for effective conversation flow.
4. Utilize entities and variables to enable dynamic responses in Power Virtual Agents bots.
5. Enhance bot interactions with rich media and attachments for an engaging user experience.
6. Implement proactive messaging in Power Virtual Agents for initiating conversations with users.
7. Integrate external systems and APIs to extend the functionality of Power Virtual Agents bots.
8. Test and debug the chatbot to ensure its accuracy, responsiveness, and functionality.
9. Continuously monitor and optimize the chatbot based on user feedback and performance data.
10. Build effective bots with Power Virtual Agents by combining conversational design principles and advanced features.

6.2 Module Session Plan

Session No#	Session Type	Day no#	Duration Hrs
1	Flipped Class on IU 1	1	2
2	Flipped Class on IU 2	2	2
3	Flipped Class on IU 3	3	2
4	Flipped Class on IU 4	4	2
5	Flipped Class on IU 5	5	2
6	Flipped Class on IU 6	6	2
7	Mentoring Support – Project Planning -1	7	2
8	Mentoring Support – Projects Implementation 1	8	2
9	Mentoring Support – Project Planning -2	9	2
10	Mentoring Support – Projects Implementation 2	10	2
11	Mentoring Support – Project Planning -3	11	2
12	Mentoring Support – Projects Implementation 3	12	2
13	Mentoring Support – Project Planning -4	13	2
14	Mentoring Support – Projects Implementation 4	14	2
15	Mentoring Support – Project Planning -5	15	2
16	Mentoring Support – Projects Implementation 5	16	2
17	Mentoring Support – Project Planning -6	17	2
18	Mentoring Support – Projects Implementation 6	18	2
19	Mentoring Support – Project Planning -7	19	2
20	Mentoring Support – Projects Implementation 7	20	2
21	Mentoring Support – Project Planning -8	21	2
22	Mentoring Support – Projects Implementation 8	22	2
23	Mentoring Support – Project Planning -9	23	2
24	Mentoring Support – Projects Implementation 9	24	2
25	Mentoring Support – Project Planning -10	25	2
26	Mentoring Support – Projects Implementation 10	26	2
27	Mentoring Support – Project Planning -11	27	2
28	Mentoring Support – Projects Implementation 11	28	2
29	Mentoring Support – Project Planning -12	29	2
30	Mentoring Support – Projects Implementation 12	30	2
31	Summative Assessment (per learner)	31	30 min

7. Credentials

Name of the Credentials	Details
Academic Qualification	NIL
EduCLaaS Job Role Certification	AI Engineer
Industry Skills Certification	NA
Statement of Attainment	WSQ Generative AI (SF) • ICT-DIT-4029-1.1: Text Analytics and Processing WSQ Capstone Project -Data Analytics (SF) • ICT-PMT-4001-1.1 Business Needs Analysis • ICT-OUS-3011-1.1 Problem Management