

Database Design and Implementation

Session No#	Session mode	Session Details	Week-Day	Duration Hrs
1	Adaptive Knowledge KN-Async	<p>IU 1: Introduction to Database Design</p> <p>1. Instructional contents (text)</p> <ul style="list-style-type: none"> • Introduction to Database Design • Database Models and Database Life Cycle • What is Data and Information • What is a Database • What is a Database Management System (DBMS) • Importance of Databases in Organizations • Introduction to Database Design • Database Models • Database Life Cycle • Basic Concepts in Databases (Tables, Rows and Columns) • Understanding of Data types <p>2. Instructional contents converted to PPT Video/Podcast</p> <ul style="list-style-type: none"> • Database Design Principles • Database Concepts <p>3. Instructional contents curation from third party (eLearning videos/articles)</p> <p>Videos</p> <ul style="list-style-type: none"> • Database design fundamentals (LinkedIn Learning Course) <p>Supplementary Learning Materials</p> <ul style="list-style-type: none"> • Database foundations database management (LinkedIn Learning Course) <ul style="list-style-type: none"> • Learners are required to complete all e-content to develop a strong understanding of the concepts. • If clarification is required, learners should seek assistance from the AI Mentor. • Any unresolved questions related to concepts, case studies, or skills should be posted in the Teams channel for peer or mentor support. • Learners must complete formative assessments (e.g., MCQs, short-answer questions) and achieve minimum 70% score before progressing. • Auto-graded results and feedback will be provided. Learners are required to review the feedback and reattempt the assessments until minimum 70% is achieved. 	Week 1 - Before next Sync session	3
		<p>IU 1: Introduction to Database Design</p> <p>Concept and Demo</p>		

2	Adaptive Knowledge KN-Sync	<ul style="list-style-type: none"> Database Design Concepts Case Study <ol style="list-style-type: none"> Oakridge Public Library (Concept understanding and scenario walkthrough) GreenLeaf Community Health Clinic Assignment 1 <ul style="list-style-type: none"> BrightPath Training Institute <ul style="list-style-type: none"> This session will be delivered either as a live synchronous session conducted by the instructor or through a recorded instructor-led flipped class, which learners are required to attend. During this session, the instructor will explain the case study to reinforce learners' understanding of the concepts. An overview of the assignment will be provided, outlining the requirements that learners are expected to complete. This is a mandatory session, and attendance is required to meet the 75% attendance criteria. 	1-1	3
3	Adaptive Skills Practice SK-Async	<ul style="list-style-type: none"> Upon completing the adaptive knowledge (synchronous and asynchronous) sessions, learners will be able to work on the assignments. <ul style="list-style-type: none"> Assignment 01: BrightPath Training Institute <ul style="list-style-type: none"> If clarification is required, learners should seek assistance from the AI Mentor. If further support is needed, they may post queries in the Teams channel for peer or mentor support. After submission, learners are required to review the auto-grading results and feedback provided by the AI Mentor and iteratively refine their work until competency is achieved. 	Week 1- Before next Sync Session	3
4	Adaptive Mentoring Support MS-Sync (M)	<ul style="list-style-type: none"> This is a live synchronous session conducted by the mentor to support learner queries across all modules of the qualification. <p>The mentor will review During this session:</p> <ul style="list-style-type: none"> questions posted by learners and the corresponding responses from peers related to the assignments. The mentor will address queries from attending learners across all subjects within the qualification. The objective of this session is to ensure that learners complete all pending assignments within the stipulated deadlines and score minimum 70% in each assignment Attendance at this session is mandatory to meet the minimum 75% attendance requirement. 	1-2	3

5	Adaptive Mentoring Support MS-Sync (M)	<ul style="list-style-type: none"> This is a live synchronous session conducted by the mentor to support learner queries across all modules of the qualification. <p>During this session:</p> <ul style="list-style-type: none"> The mentor will review questions posted by learners and the corresponding responses from peers related to the assignments. The mentor will address queries from attending learners across all subjects within the qualification. The objective of this session is to ensure that learners complete all pending assignments within the stipulated deadlines and score minimum 70% in each assignment Attendance at this session is mandatory to meet the minimum 75% attendance requirement. 	1-3	3
6	Adaptive Knowledge KN-Async	<p>IU2: ENTITY-RELATIONSHIP MODELLING AND NORMALIZATION</p> <p>1. Instructional contents (text)</p> <ul style="list-style-type: none"> Introduction to ER Modelling Introduction to Normalization ER Modelling, Normalization and Relational Schema What is anomalies? Understanding of ERDPlus Tool <p>2. Instructional contents converted to PPT video/Podcast</p> <ul style="list-style-type: none"> ER Modelling Normalization <p>3. Instructional contents curation from third party (eLearning videos/articles)</p> <p>Videos</p> <ul style="list-style-type: none"> Database design fundamentals (LinkedIn Learning Course) <p>Supplementary Learning Materials</p> <ul style="list-style-type: none"> Database foundations database management (LinkedIn Learning Course) <ul style="list-style-type: none"> Learners are required to complete all e-content to develop a strong understanding of the concepts. If clarification is required, learners should seek assistance from the AI Mentor. Any unresolved questions related to concepts, case studies, or skills should be posted in the Teams channel for peer or mentor support. Learners must complete formative assessments (e.g., MCQs, short-answer questions) and achieve minimum 70% score before progressing. Auto-graded results and feedback will be provided. Learners are required to review the feedback and reattempt the assessments until minimum 70% is achieved. 	Week 1 - Before next Sync session	3

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7	Adaptive Knowledge KN-Sync	<p>IU2: ENTITY-RELATIONSHIP MODELLING AND NORMALIZATION</p> <p>Concept and Demo</p> <ul style="list-style-type: none"> Develop ER modelling and normalization <p>Case Study</p> <ol style="list-style-type: none"> Oakridge Public Library Coffee Shop chain <p>Assignment 2</p> <ul style="list-style-type: none"> City Fitness Center <p>This session will be delivered either as a synchronous session conducted by the instructor or through a recorded instructor-led flipped class, which learners are required to attend.</p> <p>During this session, the instructor will explain the case study to reinforce the learners' understanding of the concepts.</p> <p>An overview of Assignment will also be provided, outlining the requirements that learners are expected to complete.</p> <p>This is a mandatory session, and attendance is required to meet the 75% attendance criteria.</p>	1-4	3
8	Adaptive Skills Practice SK-Async	<ul style="list-style-type: none"> Upon completing the adaptive knowledge (synchronous and asynchronous) sessions, learners will be able to work on the assignments. Assignment 02: City Fitness Center If clarification is required, learners should seek assistance from the AI Mentor. If further support is needed, they may post queries in the Teams channel for peer or mentor support. After submission, learners are required to review the auto-grading results and feedback provided by the AI Mentor and iteratively refine their work until competency is achieved. 	Week 1- Before next Sync Session	3
9	Adaptive Mentoring Support MS-Sync (M)	<ul style="list-style-type: none"> This is a live synchronous session conducted by the mentor to support learner queries across all modules of the qualification. <p>During this session:</p> <ul style="list-style-type: none"> The mentor will review questions posted by learners and the corresponding responses from peers related to the assignments. The mentor will address queries from attending learners across all subjects within the qualification. 	1-5	3

		<ul style="list-style-type: none"> The objective of this session is to ensure that learners complete all pending assignments within the stipulated deadlines and score minimum 70% in each assignment Attendance at this session is mandatory to meet the minimum 75% attendance requirement. 		
10	Adaptive Mentoring Support MS-Sync (M)	<ul style="list-style-type: none"> This is a live synchronous session conducted by the mentor to support learner queries across all modules of the qualification. <p>During this session:</p> <ul style="list-style-type: none"> The mentor will review questions posted by learners and the corresponding responses from peers related to the assignments. The mentor will address queries from attending learners across all subjects within the qualification. The objective of this session is to ensure that learners complete all pending assignments within the stipulated deadlines and score minimum 70% in each assignment Attendance at this session is mandatory to meet the minimum 75% attendance requirement. 	2-6	3
11	Adaptive Knowledge KN-Async	<p>IU3: Data Manipulation and Query Optimization</p> <p>1. Instructional contents (text)</p> <ul style="list-style-type: none"> Introduction to MySQL Installation of MySQL Workbench Explanation on Constraints Introduction to MySQL Queries(DDL, DML, DCL and TCL) SQL for Data Manipulation and Query Performance <p>2. Instructional contents converted to PPT video/Podcast</p> <ul style="list-style-type: none"> Constraints and Queries <p>3. Instructional contents curation from third party (eLearning videos/articles)</p> <p>Videos</p> <ul style="list-style-type: none"> MySQL essential training (LinkedIn Learning Course) <p>Supplementary Learning Materials</p> <ul style="list-style-type: none"> SQL for data analysis (LinkedIn Learning Course) <ul style="list-style-type: none"> Learners are required to complete all e-content to develop a strong understanding of the concepts. If clarification is required, learners should seek assistance from the AI Mentor. Any unresolved questions related to concepts, case studies, or skills should be posted in the Teams channel for peer or mentor support. 	Week 2 - Before next Sync session	3

		<ul style="list-style-type: none"> Learners must complete formative assessments (e.g., MCQs, short-answer questions) and achieve minimum 70% score before progressing. Auto-graded results and feedback will be provided. Learners are required to review the feedback and reattempt the assessments until minimum 70% is achieved. 		
12	Adaptive Knowledge KN-Sync	<p>IU3: Data Manipulation and Query Optimization</p> <p>Concept and Demo</p> <ul style="list-style-type: none"> SQL Queries (DDL, DML, DCL and TCL) <p>Case Study</p> <ol style="list-style-type: none"> Oakridge Public Library CityCare Health Clinic <p>Assignment 3</p> <ul style="list-style-type: none"> Metro City College <p>This session will be delivered either as a synchronous session conducted by the instructor or through a recorded instructor-led flipped class, which learners are required to attend.</p> <p>During this session, the instructor will explain the case study to reinforce the learners’ understanding of the concepts.</p> <p>An overview of Assignment will also be provided, outlining the requirements that learners are expected to complete.</p> <p>This is a mandatory session, and attendance is required to meet the 75% attendance criteria.</p>	2-7	3
13	Adaptive Skills Practice SK-Async	<ul style="list-style-type: none"> Upon completing the adaptive knowledge (synchronous and asynchronous) sessions, learners will be able to work on the assignments. Assignment 03: Metro City College If clarification is required, learners should seek assistance from the AI Mentor. If further support is needed, they may post queries in the Teams channel for peer or mentor support. After submission, learners are required to review the auto-grading results and feedback provided by the AI Mentor and iteratively refine their work until competency is achieved. 	Week 1- Before next Sync Session	3
		<ul style="list-style-type: none"> This is a live synchronous session conducted by the mentor to support learner queries across all modules of the qualification. <p>During this session:</p>		

14	Adaptive Mentoring Support MS -Sync (M)	<ul style="list-style-type: none"> The mentor will review questions posted by learners and the corresponding responses from peers related to the assignments. The mentor will address queries from attending learners across all subjects within the qualification. The objective of this session is to ensure that learners complete all pending assignments within the stipulated deadlines and score minimum 70% in each assignment Attendance at this session is mandatory to meet the minimum 75% attendance requirement. 	2-8	3
15	Adaptive Mentoring Support MS -Sync (M)	<ul style="list-style-type: none"> This is a live synchronous session conducted by the mentor to support learner queries across all modules of the qualification. <p>During this session:</p> <ul style="list-style-type: none"> The mentor will review questions posted by learners and the corresponding responses from peers related to the assignments. The mentor will address queries from attending learners across all subjects within the qualification. The objective of this session is to ensure that learners complete all pending assignments within the stipulated deadlines and score minimum 70% in each assignment Attendance at this session is mandatory to meet the minimum 75% attendance requirement. 	2-9	3
16	Adaptive Knowledge KN-Async	<p>IU4: Database Maintenance and Testing</p> <p>1. Instructional contents (text)</p> <ul style="list-style-type: none"> Database Maintenance and Testing <p>2. Instructional contents converted to PPT video/Podcast</p> <ul style="list-style-type: none"> Database Maintenance and Testing Query Optimization <p>Supplementary Learning Materials</p> <ul style="list-style-type: none"> SQL for testers (LinkedIn Learning Course) <p>IU5: Database Documentation and Collaboration</p> <p>1. Instructional contents (text)</p> <ul style="list-style-type: none"> Database Collaboration Database Documentation <p>2. Instructional contents converted to PPT video/Podcast</p> <ul style="list-style-type: none"> Database documentation and Security <ul style="list-style-type: none"> Learners are required to complete all e-content to develop a strong understanding of the concepts. If clarification is required, learners should seek assistance from the AI Mentor. 	Week 2 - Before next Sync session	3

		<ul style="list-style-type: none"> Any unresolved questions related to concepts, case studies, or skills should be posted in the Teams channel for peer or mentor support. Learners must complete formative assessments (e.g., MCQs, short-answer questions) and achieve minimum 70% score before progressing. Auto-graded results and feedback will be provided. Learners are required to review the feedback and reattempt the assessments until minimum 70% is achieved. 		
17	Adaptive Knowledge KN-Sync	<p>IU4: Database Maintenance and Testing IU5: Database Documentation and Collaboration</p> <p>Concept and Demo</p> <ul style="list-style-type: none"> Testing and Documenting Databases <p>Case Study</p> <ol style="list-style-type: none"> Oakridge Public Library (Testing and Maintenance) Documentation and Collaboration of Oakridge Public Library Database System Maintaining Medical Records Database School Sports Club Database <p>Assignments</p> <ul style="list-style-type: none"> Assignment 04 - Campus Event Management System Assignment 05 - Hospital Management System <p>This session will be delivered either as a synchronous session conducted by the instructor or through a recorded instructor-led flipped class, which learners are required to attend.</p> <p>During this session, the instructor will explain the case study to reinforce the learners' understanding of the concepts.</p> <p>An overview of Assignment will also be provided, outlining the requirements that learners are expected to complete.</p> <p>This is a mandatory session, and attendance is required to meet the 75% attendance criteria.</p>	2-10	3
18	Adaptive Skills Practice SK-Async	<ul style="list-style-type: none"> Upon completing the adaptive knowledge (synchronous and asynchronous) sessions, learners will be able to work on the assignments. Assignment 04 - Campus Event Management System Assignment 05 - Hospital Management System If clarification is required, learners should seek assistance from the AI Mentor. If further support is needed, they may 	Week 3- Before next Sync Session	3

		<p>post queries in the Teams channel for peer or mentor support.</p> <ul style="list-style-type: none"> After submission, learners are required to review the auto-grading results and feedback provided by the AI Mentor and iteratively refine their work until competency is achieved. 		
19	<p>Adaptive Mentoring Support MS -Sync (M)</p>	<ul style="list-style-type: none"> This is a live synchronous session conducted by the mentor to support learner queries across all modules of the qualification. <p>During this session:</p> <ul style="list-style-type: none"> The mentor will review questions posted by learners and the corresponding responses from peers related to the assignments. The mentor will address queries from attending learners across all subjects within the qualification. The objective of this session is to ensure that learners complete all pending assignments within the stipulated deadlines and score minimum 70% in each assignment Attendance at this session is mandatory to meet the minimum 75% attendance requirement. 	3-11	3
20	<p>Adaptive Mentoring Support MS -Sync (M)</p>	<ul style="list-style-type: none"> This is a live synchronous session conducted by the mentor to support learners in completing the project and submitting the project report. The objective of this session is to ensure that learners complete and submit the project report prior to the summative assessment. <p>Attendance at this session is mandatory to meet the minimum 75% attendance requirement.</p>	3-12	3
21	<p>SA-Sync</p>	<p>Learners who have submitted the project report will attend this session.</p> <p>Summative Assessment (Individual learner)</p> <ul style="list-style-type: none"> Presentation Oral Questioning 	3-13	30 min

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