| **Session Plan (Data Science Methodology) - (Offline)** | | | | |
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| **Topics** | **Objectives** | **Methodology**  **& ROPES model** | **Description** | **Duration** |

| **Introduction** | Overview of the course and session objectives. Quiz from the previous session | Slides 1-2 | Introducing the topic “Data Science Methodology”. Discuss the importance of thinking and working like a data scientist. | 10 mins |
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| **Problem Formulation** | Understand the process of defining problems and objectives. | Slides 3-4 | Explain the importance of business understanding, defining the problem, setting goals, and engaging stakeholders. | 20 mins |
| **From Problem to Approach** | Select an analytic approach based on the problem. | Slides 5-6 | Discuss different analytic approaches (predictive, descriptive, classification) and align them with business goals. | 25 mins |
| **Data Requirements and Collection** | Identify and collect necessary data. | Slide 7-8 | Explain data requirements, sourcing, collection, and preparation. Discuss assessing data quality using descriptive statistics and visualization. | 20 mins |
| **Break** | Rest and refresh. | — | A 20-minute break for participants to relax. | 20 mins |
| **Data Understanding and Preparation** | Assess and prepare data for modeling. | Slides 9-10 | Discuss constructing the dataset, data cleaning, preprocessing, and feature engineering. | 20 mins |
| **Modeling** | Develop and refine models. | Slide 11-12 | Describe different modeling techniques (predictive, descriptive) and the experimentation with various algorithms. | 25 mins |
| **Deployment and Feedback** | Deploy models and use feedback for improvement. | 13-14 | Discuss deployment strategies, collecting feedback, and the importance of continuous improvement. | 15 mins |
| **The Importance of Storytelling** | Highlight storytelling’s role in data science. | Slide 15-16 | Discuss elements of effective data storytelling, including objectives, relevant insights, and visual enhancements. | 15 mins |
| **Closure** | Summarize session content and evaluate understanding. | Activity (Q&A) | Conduct an interactive Q&A or quiz to evaluate participants' understanding of the session topics. Summarize key takeaways and next steps. | 10 mins |