ANL555 Data Integration for Enterprise Automation

Level: 5

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JAN

Synopsis:

In ANL555 Data Integration for Enterprise Automation, students will learn how to use data integration and workflow automation techniques to drive enterprise transformation and achieve business results. The course begins by giving students an understanding of the roles that integration and automation play in digital transformation, as well as the various integration and automation platforms that have emerged in both Business and Technology environments. Students will learn how to evaluate and select suitable platforms based on business and technical requirements. Following which, students will learn essential concepts, skills and techniques in two common enterprise integration and automation pathways: User Interface-based (UI-based) Automation, like Robotic Process Automation (RPA), and Application Programming Interface-based (API-based) Automation, like Integration Platform-as-a-Service (iPaaS). Students will be guided and equipped with the skills to build their own API-based integration and automation workflows to solve real-life industry problems, and use Artificial Intelligence (AI) and Machine Learning (ML) to enhance their data integration and automation techniques. By the end of this course, students will be competent and proficient in using data integration and automation techniques to build a scalable enterprise integration and automation framework for their organizations.

Topics:

- The role of data integration and workflow automation in enterprise transformation
- Megatrends in data integration and automation
- Emergence of data integration and automation platforms (messaging, data integration, application integration, process automation, API management)
- Introduction to User Interface-based (UI-based) Automation
- Introduction to Application Programming Interface-based (API-based) Automation
- Use of UI-based Automation and API-based Automation in enterprises
- Essentials and best practices of API-based Automation
- Building API-based integration and automation workflows to solve industry challenges
- Leveraging Artificial Intelligence (AI) and Machine Learning (ML) to enhance API-based integration and automation workflows
- Operating models for data integration and automation in enterprises
- Designing a scalable enterprise integration and automation framework for organizations
- Communicating data integration and automation initiatives to key stakeholders

Learning Outcome:

- Assess and select data integration and workflow automation approaches, based on business and technology requirements
- Design UI-based Automation and API-based Automation solutions for enterprise environments
- Constructs API-based Automation workflows to solve business problems in enterprises, and enhance these workflows with Artificial Intelligence and Machine Learning
- Create a scalable enterprise automation framework to achieve digital transformation in enterprises, and evaluate its success
- Formulate data integration and automation workflows to drive digital transformations, with Application Programming Interface (API), Robotic Process Automation (RPA), Artificial Intelligence (AI) and Machine Learning (ML)
- Construct a scalable enterprise integration and automation practice to solve real-life business problems
- Evaluate the success and outcomes of enterprise integration and automation initiatives in enterprises

Assessment Strategies - Regular Semester (Evening Class):

Components	**Description**	**Weightage Allocation (%)**
Overall Continuous Assessment	PRE-CLASS QUIZ 1	10
	PARTICIPATION 1	10
	GROUP BASED ASSIGNMENT 1	30
Overall Examinable Components	ECA	50
Total		**100**

*The information listed is subject to review and change.