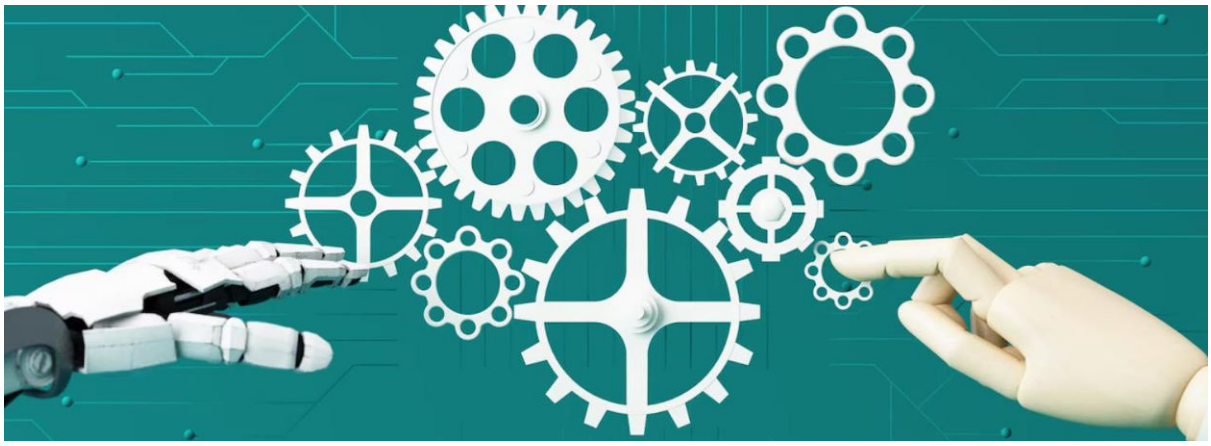

POWER AUTOMATE ESSENTIALS:

BUILDING EFFICIENT WORKFLOWS AND SPECIALIZED APPLICATIONS

Professional Certification: Advanced Workflow Automation with Power Automate

Course Code: M016/25

Duration: 32 Hours

Delivery Format: Hybrid

Target Audience:

- Engineers wanting to automate tasks
- Process improvement specialists
- Project managers handling approvals
- IT professionals supporting automation
- Business analysts optimizing processes
- Teams managing approval workflows (e.g., DCNs)

Program Outcomes:

Upon completion of this program, participants will be able to:

- Understand the fundamentals of Power Automate and its core components.
- Be proficient in navigating and utilizing the Power Automate interface.
- Understand and be able to implement core workflow building blocks.
- Be able to integrate Power Automate with key Microsoft applications.
- Be able to design complex workflows with conditional logic and branching.
- Be able to implement error handling and troubleshoot workflow issues.

Detailed Syllabus

Module 1: Introduction to Power Automate

Outcome: Participants will understand the fundamentals of Power Automate and its core components.

Topics:

- Overview of Power Automate and its use cases
- Benefits for engineers (Automation, efficiency, and integration)

Activities:

- Introduction to the Power Automate interface and key features.
- Hands-on exercises: Creating simple automated flows.

Assessments:

- Quiz on basic Power Automate terminology and concepts.

Module 2: Navigating the Power Automate Interface

Outcome: Participants will be proficient in navigating and utilizing the Power Automate interface.

Topics:

- Key components: Triggers, Actions, Connectors
- Exploring available templates

Activities:

- Guided exploration of the Power Automate designer.
- Practical exercises: Using templates and customizing basic flows.

Assessments:

- Practical task: Creating a flow using a template and modifying it.

Module 3: Core Workflow Building Blocks

Outcome: Participants will understand and be able to implement core workflow building blocks.

Topics:

- Understanding triggers (event-based, scheduled)
- Utilizing actions (notifications, data operations, approvals)

Activities:

- Hands-on labs: Building workflows using various triggers and actions.

- Group exercises: Designing workflows for specific scenarios.

Assessments:

- Practical task: Building a workflow with a specific trigger and set of actions.

Module 4: Connecting with Microsoft Applications

Outcome: Participants will be able to integrate Power Automate with key Microsoft applications.

Topics:

- Integrating with Outlook, SharePoint, Teams
- Building a workflow to notify a Teams channel
- Saving email attachments to SharePoint
- Extracting data from Excel sheet with form submissions

Activities:

- Hands-on labs: Building integrations with Outlook, SharePoint, and Teams.
- Practical exercises: Automating tasks involving Excel data.

Assessments:

- Practical task: Creating a workflow that integrates at least two Microsoft applications.

Module 5: Advanced Workflow Design

Outcome: Participants will be able to design complex workflows with conditional logic and branching.

Topics:

- Conditional logic and branching
- Working with loops and parallel branches
- Utilizing variables and expressions
- Designing parallel flow for simultaneous tasks

Activities:

- Hands-on labs: Implementing conditional logic and loops in workflows.
- Group exercises: Designing complex workflows for engineering processes.

Assessments:

- Practical task: Building a workflow with conditional logic and looping.

Module 6: Error Handling and Troubleshooting

Outcome: Participants will be able to implement error handling and troubleshoot workflow issues.

Topics:

- Debugging workflows
- Implementing try-catch blocks and error scopes
- Add error-handling actions to a workflow

Activities:

- Workshops on identifying and handling common workflow errors.
- Hands-on labs: Implementing error handling in existing workflows.

Assessments:

- Practical task: Modifying a workflow to include error handling.

Module 7: Connecting to External Systems

Outcome: Participants will be able to connect Power Automate to external systems and data sources.

Topics:

- Integrating with APIs and external data sources
- Utilizing custom connectors (e.g., SQL Server)
- Connect to a file on a shared network drive
- Connect to a local database

Activities:

- Demonstrations of connecting to external systems.
- Hands-on labs: Building flows that interact with simple external data sources.

Assessments:

- Practical task: Creating a flow that connects to an external data source.

Module 8: Introduction to Approval Workflows

Outcome: Participants will understand the fundamentals of designing approval workflows.

Topics:

- Designing multi-level approval systems
- Configuring approval actions with options
- Build an approval workflow for project proposals

Activities:

- Workshops on designing different approval workflow scenarios.
- Hands-on labs: Building basic approval workflows.

Assessments:

- Practical task: Creating a basic approval workflow.

Module 9: Designing the DCN Workflow

Outcome: Participants will be able to design a comprehensive DCN (Design Change Notice) workflow.

Topics:

- Overview: Submission, approval, monitoring
- Utilizing SharePoint lists (e.g., SharePoint list for tracking)
- Utilizing Triggers, actions, and conditions

Activities:

- Group project: Designing the end-to-end DCN workflow.
- Hands-on labs: Setting up SharePoint lists for DCN tracking.

Assessments:

- Project deliverable: A detailed design document for the DCN workflow.

Module 10: Building the DCN Approval Process

Outcome: Participants will be able to build the DCN approval process in Power Automate.

Topics:

- Create a SharePoint-based Submission form
- Implement multi-level approvals (Engineer, Manager)
- Add conditional actions for rejection or escalation

Activities:

- Hands-on labs: Building the DCN approval flow with multi-level approvals.

- Practical exercises: Implementing conditional logic for different approval outcomes.

Assessments:

- Practical task: Building the DCN approval workflow in Power Automate.

Module 11: Monitoring DCN Progress

Outcome: Participants will be able to implement mechanisms for monitoring the progress of DCNs.

Topics:

- Automating status updates in SharePoint
- Sending Notifications via Teams and email
- Build a dashboard workflow for automated progress updates

Activities:

- Hands-on labs: Configuring notifications and status updates.
- Practical exercises: Building a basic dashboard workflow.

Assessments:

- Practical task: Implementing DCN progress monitoring features in the workflow.

Module 12: Integrating Reporting Tools (Power BI)

Outcome: Participants will understand how to integrate Power Automate with Power BI for reporting.

Topics:

- Basics of Power BI integration with Power Automate
- Creating real-time dashboards for DCN status
- Build a Power BI dashboard for automated workflow outcomes

Activities:

- Demonstrations of Power BI integration.
- Hands-on labs: Connecting Power Automate data to Power BI.

Assessments:

- Practical task: Creating a basic Power BI dashboard using data from the DCN workflow.

Module 13: Testing and Optimizing Workflows

Outcome: Participants will be able to test and optimize Power Automate workflows for efficiency.

Topics:

- Testing the end-to-end DCN system
- Identifying and resolving performance bottlenecks
- Apply best practices for workflow design
- Analyze and improve the DCN workflow efficiency

Activities:

- Workshops on testing strategies and performance optimization.
- Practical exercises: Testing and analyzing the DCN workflow.

Assessments:

- Practical task: Identifying and suggesting improvements to the DCN workflow.

Module 14: Exploring Broader Applications

Outcome: Participants will be able to identify and explore broader applications of Power Automate in engineering.

Topics:

- Expanding Power Automate use cases in engineering
- Automating data collection and reporting
- Brainstorming potential automation approaches

Activities:

- Brainstorming sessions: Identifying potential automation opportunities in various engineering domains.
- Group discussions: Sharing ideas and best practices for Power Automate adoption.

Assessments:

- Group project: Developing a proposal for a new Power Automate solution for an engineering challenge.