



*Training Course:
LabVIEW Fundamentals*

*26 - 30 July 2026
Cairo (Egypt)*

Training Course: LabVIEW Fundamentals

Training Course code: EN236570 From: 26 - 30 July 2026 Venue: Cairo (Egypt) - Training Course Fees: 4410 € Euro

Introduction

Welcome to the LabVIEW Fundamentals Training Program. This comprehensive 5-day course provides participants with the essential knowledge and practical skills required to develop measurement, test, and automation applications using National Instruments NI LabVIEW. Participants will learn the fundamentals of graphical programming, data acquisition, instrument control, data analysis, debugging, and application development through a combination of instructor-led sessions, demonstrations, and hands-on laboratory exercises. By the end of the program, participants will be able to build reliable and scalable LabVIEW applications for industrial, laboratory, and engineering environments.

Objectives

By the end of this training program, participants will:

- Understand the fundamentals of NI LabVIEW and graphical programming concepts.
- Navigate the LabVIEW development environment efficiently.
- Develop Virtual Instruments VIs using LabVIEW programming structures.
- Create user-friendly Front Panels and efficient Block Diagrams.
- Implement data types, arrays, clusters, loops, structures, and functions.
- Perform data acquisition DAQ and instrument communication.
- Analyze, process, and visualize engineering data.
- Develop modular applications using SubVIs.
- Apply debugging and error-handling techniques.
- Design complete LabVIEW applications for measurement, testing, and industrial automation.

Target Audience

This training program is ideal for:

- Automation Engineers
- Electrical Engineers
- Electronics Engineers
- Instrumentation & Control Engineers
- Mechatronics Engineers
- Test Engineers
- Design Engineers
- Manufacturing Engineers
- R&D Engineers
- Laboratory Engineers

- Technical Specialists
- Engineering Students seeking practical LabVIEW skills

Training Program Outline

Day 1: Introduction to LabVIEW

- Introduction to NI LabVIEW
- Applications of LabVIEW
- LabVIEW Development Environment
- Front Panel and Block Diagram
- Data Flow Programming Concept
- Creating Your First Virtual Instrument VI
- Basic Controls and Indicators
- Hands-on Exercises

Day 2: Programming Fundamentals

- Data Types
- Numeric, Boolean, and String Controls
- Arrays and Clusters
- Structures While Loop, For Loop, Case Structure
- Functions and Expressions
- Timing Functions
- Debugging Basics
- Practical Workshop

Day 3: Modular Programming & Data Acquisition

- Creating and Using SubVIs
- Modular Application Design
- File Input and Output
- Introduction to Data Acquisition DAQ
- DAQ Assistant
- Instrument Communication Basics
- Signal Acquisition
- Hands-on Lab

Day 4: Data Processing & Instrument Control

- Signal Processing Fundamentals
- Charts and Graphs
- Data Analysis Functions
- Error Handling Techniques
- VISA Communication
- Serial Communication
- GPIB and USB Instrument Control
- Practical Applications

Day 5: Application Development & Best Practices

- Application Architecture
- State Machine Concept
- Event-Driven Programming Basics
- Performance Optimization
- Coding Standards and Best Practices
- Building Standalone Applications
- Industrial Case Studies
- Final Project
- Course Review & Assessment

Registration form on the Training Course: LabVIEW Fundamentals

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