LabVIEW Express Fundamentals Course (Online)

Overview

The instructor-led, online LabVIEW Express Fundamentals course prepares you to develop basic test and measurement applications using LabVIEW. After this course (8 instruction hours), you can use LabVIEW Express VIs to create applications that acquire, process, display, and store real-world data. (Comparatively, the classroom-based LabVIEW Basics I course (24 instruction hours) is a comprehensive introduction to LabVIEW features, programming structures, and debugging techniques). Designed for users who cannot attend classroom based training, the online course combines interactive learning technology via the Internet with live instruction and hands-on exercises to deliver many of the benefits of an instructor-led classroom course while reducing your training and development costs.

Duration – 2 days (4 two-hour online sessions)

Audience

- New LabVIEW users needing an introduction to the LabVIEW environment and how to use Express VIs to develop basic applications
- Users who cannot attend classroom-based LabVIEW training
- Users and managers evaluating LabVIEW or NI Developer Suite in purchasing decisions

Prerequisites

- Experience with Microsoft Windows
- Recommended experience writing algorithms in the form of flowcharts or block diagrams

NI Products Used During the Course

- LabVIEW Professional Development System Version 8

REGISTRATION

Register online at ni.com/training or call (800) 890-2062 • Fax: (512) 683-9300 • info@ni.com

Outside North America, contact your local NI office. Worldwide Contact Info: ni.com/global

NI can also customize and hold this class to meet your training needs.

Ordering Information 910741-69

After attending this course you will be able to:

- Use the LabVIEW environment
- Use Express VIs to get started with your application quickly
- Create simple user interfaces with strip charts, graphs and buttons
- Use some programming structures (While Loop, For Loop and Case Structures)
- Use standard error checking and debugging techniques in LabVIEW
- Create and save your own VIs so you can use them as subVIs (subroutines)
- Use the Data Acquisition (DAQ) Assistant Express VI to create applications that use plug-in data acquisition boards

System Requirements for Online Courses

Windows (98se, 2000, XP)

- Internet Explorer 5.0, 5.5, 6.0
- Netscape Navigator 7.1
- AOL 9
- Mozilla Firefox 1.0.3

Speakers or headphones
Microphone

Suggested Next Courses

- LabVIEW Basics I and II
- LabVIEW Intermediate I and II
- Data Acquisition and Signal Conditioning
- LabVIEW Instrument Control

NATIONAL INSTRUMENTS

Course Outline - LabVIEW Express Fundamentals Online

Navigating LabVIEW
This lesson introduces you to the LabVIEW environment, including windows, menus, and tools. Topics include:

- Using LabVIEW tools such as the operating and wiring tools
- Searching for Controls, VIs and functions
- The LabVIEW front panel and block diagram
- Understanding the dataflow programming model of LabVIEW

Troubleshooting and Debugging VIs
This lesson introduces you to methods that will help you be successful with your LabVIEW programming after this course. You will learn how to debug a broken VI and troubleshoot a VI that is producing unexpected data. Topics include:

- LabVIEW help utilities including Context Help, LabVIEW Help and the NI Example Finder
- Using Execution Highlighting and single stepping to identify problems

Building a Simple VI
In this lesson, you build a simple VI that acquires, analyzes, and presents date. The following topics are covered to help you in this process:

- Designing front panel windows (user interfaces)
- LabVIEW data types including dynamic, numeric, and Boolean.
- Documenting your code
- Using Express VIs effectively
- Understanding file I/O
- Plotting data on charts and graphs

Using Loops
This lesson teaches you to use While Loops and For Loops to execute repetitive code. Topics include:

- Using While Loops and For Loops
- Timing your loops
- Using shift registers to pass data between iterations of a loop

Case Structures
This lesson teaches you to use Case structures to make decisions in your code.

Creating SubVIs
In LabVIEW, when a VI is used within another VI, it is called a subVI. You will learn how to build the icon and connector pane of a VI so that it can be used as a subVI.