Modular Instruments Digital Multimeter Course (Online)

Overview

The instructor-led, online Modular Instruments Digital Multimeter course from National Instruments prepares you to set up the hardware, configure the device, and program your application using NI LabVIEW software. The course also introduces you to NI switches to help you extend the functionality of your application.

The online course combines interactive learning technology through the Internet with live instructor-led lectures and hands-on exercises to deliver many of the benefits of an instructor-led classroom course while reducing the cost of training and development.

Duration

Four (4) Hours

Audience

- New users and developers of NI digital multimeters (DMMs)
- Users and managers evaluating NI DMMs in purchasing decisions

Prerequisites

- LabVIEW Core 1 or equivalent experience
- Familiarity with benchtop or handheld DMMs
- Basics circuits theory (voltage, current, resistance)

NI Products Used in Course

- LabVIEW Professional Development System Version 8.5 or later
- NI-DMM
- NI-SWITCH

After attending this course, you will be able to:

- Configure and operate your DMM
- Understand DMM specifications (accuracy, resolution, sensitivity)
- Understand the DMM measurement cycle
- Set up signal connections to the hardware
- Use LabVIEW to program DMM applications
- Use the functions on the NI-DMM function palette
- Use the DMM to control a switch (scanning)
- Use the DMM/Switch Express VI
- Take basic measurements (voltage, current, resistance)
- Use the soft front panel of the device

Registration

Register online at ni.com/training or call (800) 433-3488, fax (512) 683-9300, or e-mail info@ni.com.

Outside North America, contact your local NI office. For worldwide contact information, visit ni.com/global.

Part Number

910773-69

System Requirements for Online Courses

- Windows XP/2000/98/NT
- Broadband Internet connection
- Internet Explorer 6.0 or greater
- Speakers or headphones
- Microphone

Suggested Next Courses

- LabVIEW Core 2
- LabVIEW Core 3
- LabVIEW Connectivity

NATIONAL INSTRUMENTS™

Modular Instruments Digital Multimeter Course Outline

Instrument Fundamentals

Explore the NI DMM and its different form factors and compare it with other data acquisition hardware.

- DMM instrumentation
- DMMs versus other data acquisition hardware
- DMM benefits
- Common measurements

DMM Terminology

Discuss important DMM terminology, ways to calculate device accuracy, and the effects of temperature on accuracy. Also learn how to specify resolution and sensitivity.

- Accuracy
- Resolution
- Sensitivity

DMM Specifications

Examine the DMM measurement cycle, discuss the effects of configuration, and explore the different DMM modes.

- High accuracy/low noise – How do DMMs do it?
- Measurement cycle
- Optional features

Using the DMM

Learn how to make hardware connections to the DMM for different types of measurements and how to use the DMM Soft Front Panel. Examine the details of DMM application programming (single-point, multipoint, waveform mode).

- DMM connections
- Soft Front Panel
- DMM programming flow

DMMs and Switches

Discover how to use a switch to expand the capability of the DMM and how to program a DMM and switch application. Learn about the hardware connections as well as the two different scan modes used between DMMs and switches.

- DMMs and switching
- Scanning mode – synchronous
- Scanning mode – handshaking
- DMM/switch connection
- DMM/Switch Express VI

NATIONAL INSTRUMENTS™