

Virtual Instrumentation

Virtual Instrumentation is combining hardware and software with industry standard computer technologies to create user-defined instrumentation solutions. Virtual Instrumentation empowers us to build our own instrumentation systems with standard computers and cost effective hardware. These software centered systems leverage off the computational, displays, and connectivity capabilities of popular and flexibility to build each of our instrumentation functions. We can mix and match our choice of data acquisition and instrument control hardware, including all of our existing instruments, to create virtual instrumentation systems that meet our needs.

LabVIEW

“LabVIEW” is an acronym for Laboratory Virtual Instrumentation Engineering Workbench, a proprietary platform for virtual instrumentation, provided by National Instruments, USA.

LabVIEW is the easiest, most powerful tool for acquiring, analyzing, and presenting real-world data. It is a platform for developing the graphical user panel and the code for virtual instruments.

LabVIEW is a multiplatform graphical programming language. The virtual instrument developed using LabVIEW is in short, called a VI.

Course goals

This course prepares you to:

- Develop your applications within the lab window.
- Create professional user interface with strip charts, graphs, and buttons.
- Acquire signals using data acquisition cards.
- Perform measurements, store the data in a file and retrieve it later.
- Analyze your data using the analysis function.
- Develop stand alone LabVIEW applications.

Course Contents

Day 1

10 am – 1 pm

- ❖ Introduction to Virtual Instrumentation
- ❖ Introduction to LabVIEW
- ❖ Editing and Debugging in LabVIEW
- ❖ Exercises using Editing and Debugging techniques

2 pm – 5 pm

- ❖ Creating Sub VIs
- ❖ For loops, While Loops and Charts
- ❖ Exercises on Loops

Day 2

10 am – 1 pm

- ❖ Arrays and Clusters
- ❖ Waveform graphs
- ❖ Case Structures
- ❖ Sequence structures

2 pm – 5 pm

- ❖ Formula Nodes
- ❖ Strings
- ❖ File operations
- ❖ Exercises on Case, Sequence structures and formula nodes

Day 3

10 am – 1 pm

- ❖ Introduction to Data acquisition
- ❖ Plug-in DAQ devices
- ❖ Data acquisition in LabVIEW
- ❖ Simulating a DAQ device

2 pm – 5 pm

- ❖ Performing analog input and output
- ❖ Performing digital input and output
- ❖ DAQ examples and exercises

Training on

LabVIEW and Data Acquisition

Registration Form

Name -----

Address -----

Phone -----

E-mail -----

Payment details

Draft No -----**dated**-----

Signature-----

Date -----

Eligibility for Registration

B.Tech ECE students presently in II, III and IV year.

Registration Details

Course Fee: Rs.500/- per participant
Payment mode: DD in favor of School of Electronics Engineering, VIT University, Vellore.

Last date for registration: 15th March 2010.

Duration of the Course

3 days from 26th March to 28th March 2010.

For Registration please contact:

Prof.G.Dharanibai
Prof.Melvin.P.Manuel
MEMS and Sensors Division
School of Electronics Engineering
VIT University, Vellore-632014
Tamil Nadu, India.
Tel: 0416 2202368
Mobile:9994798620
Email:melvinpmanuel@vit.ac.in

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**Organized
By**

**MEMS and Sensors Division
School of Electronics Engineering**

**VIT University
Vellore-632014, Tamil Nadu, India**

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