

SYLLABUS

Introduction to LabVIEW. Project Explorer. Parts of a VI. Front Panel. Block Diagram.
Searching for Controls, VIs, and Functions. Dataflow. LabVIEW Data Types. Tools for Programming, Cleaning and Organizing Your VI. Building a Basic VI. Correcting Broken VIs. Debugging Techniques. Error Handling.
Loops Review. While Loops. For Loops. Timing a VI. Data Feedback in Loops. Plotting Data.
Arrays. Common Array Functions. Multimedia: Common Array Functions. Polymorphism. Auto-Indexing. Clusters. Type Definitions.
Case Structures. Event-Driven Programming. Multimedia: Event-Driven Programming. Understanding Modularity Icon. Connector Pane. Documentation. Using SubVIs
Measurement Fundamentals with NI DAQ Hardware. Multimedia: Measurement Fundamentals with DAQ
Accessing Files from LabVIEW. High-Level and Low-Level File I/O Functions. Comparing File Formats.
Using Sequential Programming. Using State Programming. State Machines. Multimedia: Building State Machine

Variables. Multimedia: Using Variables. Using Variables Appropriately. Race Conditions. Introduction
Queues. Multimedia: Queues. Notifiers. Why Use Design Patterns. Simple Design Patterns. Multiple Loop Design Patterns. Functional Global Variable Design Pattern. Multimedia: Functional Global Variable. Error Handlers. Generating Error Codes and Messages. Timing a Design Pattern.
VI Server Architecture. Property Nodes. Multimedia: Using Property Nodes. Invoke Nodes. Control References. Multimedia: Creating Control References. File Formats
Creating File and Folder Paths. Multimedia: Creating File and Folder Paths. Write and Read Binary Files
Work with Multichannel Text Files with Headers. Access TDMS Files in LabVIEW and Excel

REFERENCES AND TEXTBOOKS

- Labview Manual
- Class notes