

**DeVry University
CEIS Dept. Ontario, CA**



Speaker: Dr. Alireza Kavianpour

Time: Tuesday September 14, 2021, 3:00 PM PT

Place: WEBEX online

Subject: LabVIEW: A Teaching Tool for the Engineering Courses

DeVry University Student,

I would like to invite you to attend a workshop on LabVIEW. LabVIEW is widely utilized in academia and many industries. It is used in data acquisition, machine control, instrument control, and in numerous courses.

I hope to see you at this workshop.

Summary

Computer programming languages such as: Visual Basic, C++, or JAVA follow a **control flow** model. In the control flow model, the sequential order of program elements determines the execution order. A program written in LabVIEW uses a slightly different approach compared to the conventional method and is known as **dataflow** programming.

LabVIEW stands for **L**aboratory **V**irtual **I**nstrument **E**ngineering **W**orkbench. This powerful graphical development system, developed by National Instruments (NI), is a widespread teaching tool and is used in many industries. LabVIEW can be used for data acquisition, machine control, instrument control, and a wide variety of other application needs. Programs written in LabVIEW are known as Virtual Instruments (VIs). A single VI consists of two parts: a **front panel** and a **block diagram**. The front panel consists of controls and indicators which include knobs, push buttons, graphs, and many other objects. The controls of the front panel are inputs into the VI while indicators are outputs from the VI. Away from the conventional programming model of line-by-line code execution, VI programs are based on data flow programming.

This workshop discusses the use of LabVIEW in the several engineering courses such as: microprocessors, data communication, signal processing, programming languages, and digital circuits. Most of the examples presented in this workshop were implemented on the microcontrollers Stellaris LM3S8962 based on ARM processor.