Cisco IoT Fundamentals and Beyond

cisco
Networking Academy

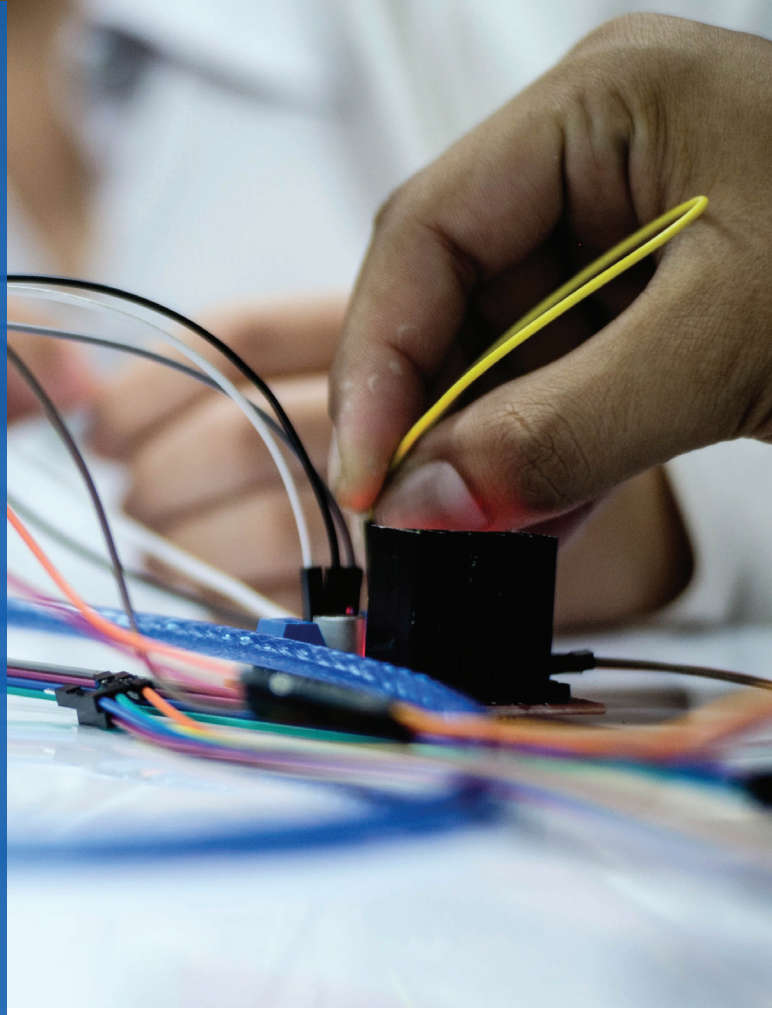
Strathmore University
@iLabAfrica Centre

Introduction

The 2020 training of Cisco Internet of Things (IoT) Fundamentals is going BEYOND! This course has been tailored to fit current existing situations around us cutting across the different verticals ranging from agriculture to energy, environment to manufacturing, homes and warehouses to transportation among others.

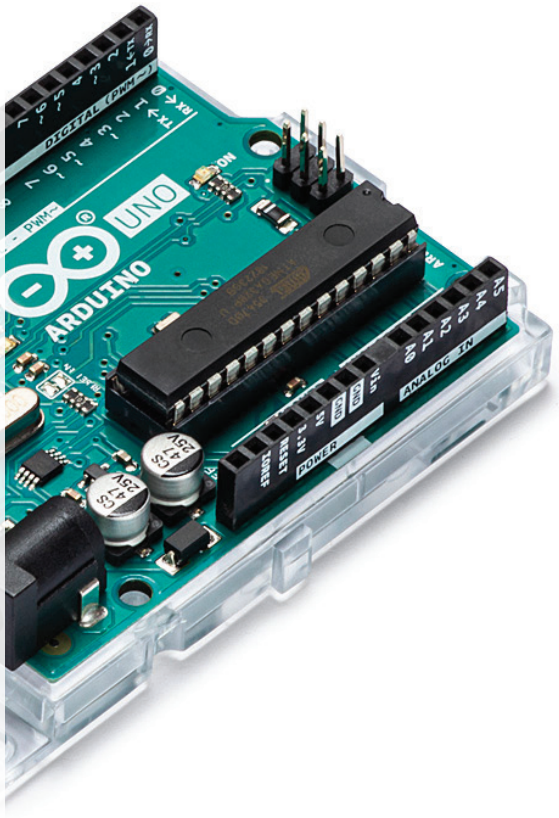
The 2020 curriculum will cover the theoretical aspects of IoT (Introduction to IoT, Connecting Things, Big Data and Analytics and Security) and the hands-on lab activities that exposes you to electronics, programming (an introduction to C and Python), networks, Data and Security. Additionally, the course will cover Packet Tracer (PT) simulations for IoT and will feature a guest Engineer from Cisco.

The goal of the course is to expose students to IoT technologies and sharpen their problem-solving skills through a practical approach that can ideate, design, prototype and present IoT solution for an identified problem.



Course Overview

- Overview of Internet of Things (IoT) – Machine-Type Communications (MTC), the IoT Architecture and surrounding concepts, IoT Applications and the IoT Building Blocks.
- Introduction to Microcontrollers and Hardware Programming: AVR, ARM and STM32 Microcontrollers, Programming using the Arduino/Visual Studio Code, Atmel platform and STM32 Cube platforms. The hardware programming languages to be covered: Arduino, C and C++.
- Introduction to System on Chip (SoC) and Programming-Concepts of RISCs and Embedded OS, Interfaces, GPIO Pins, Connecting sensors and Introduction to Python. Introduction to Raspberry Pis and Beaglebone Blacks (BBB).
- Communication technologies (Wi-Fi, BLE, GPRS/GSM, LPWANs), Protocols and Working with open-source Cloud Platforms for IoT. A telecommunications Lab demonstration using Software Defined Radios (SDRs) will also be provided.
- Introduction to Cisco Prototyping Lab and Packet Tracer IoT simulation environment.
- Implementation of simple IoT application data visualisation and IoT Security.



Value Addition to Participants

- Hands-on experience through practical sessions.
- Take away IoT Kit (Raspberry Pi, Connectors and sensors)
- Cisco IoT Certification.

Venue

Classes will be delivered both online and @iLabAfrica Research Centre, Strathmore University while adhering to the social distancing rules laid out by the government. It is recommended that all the students attend the theoretical and software classes online.

Program Prerequisite

- Basic knowledge of electronics.
- Knowledge in programming and networking will be an added advantage.
- A laptop running any operating system that is friendly to the student.

Program Format

The program combines interactive lectures, discussions and intense hands-on practice. It includes online guided classes and physical classes in a computer laboratory with a workstation (with required software tools installed) provided to each participant as well as a set of hardware equipment such as microcontrollers and sensors.

Program Duration

This is a 5-week course running from **9th November** from **4:30 pm to 6:30 pm**.

Program Cost

This course will run at a cost of **KES. 30, 000**

How to Apply & Contacts

Applications can be done online at: **www.ilabafrica.ac.ke**

For queries, please contact:

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