

Short Term Courses – NIELIT Delhi Centre

Certificate Course in Internet of Things

Objective of the Course:

This course focuses on the latest microcontrollers with application development, product design and prototyping. Ideally suited for engineering students and graduates with a basic understanding of electronics and microprocessors. The Internet of Things (IOT) is the next wave, world is going to witness. Today we live in an era of connected devices (mobile phones, computers etc.), the future is of connected things (Eg: home appliances, vehicles, lamp-posts, personal accessories, your pets, industrial equipments and everything which you use in day-to-day life). Internet of Things is a term given to the attempt of connecting objects to the internet and also to each other - allowing people and objects themselves to analyze data from various sources in real-time and take necessary actions in an intelligent fashion.

Learning Outcomes:

After the completion of the course, the students will be able design some IOT based prototypes

Duration of the Course : 60 hrs
(in hours)

Minimum Eligibility Criteria : Pursuing /Passed B.E. /B. Tech. in CS/Electronics/IT
and Prerequisite, if any

Outline of Course

S. No	Topic	Hours
1.	Introduction to IOT	2hrs
2.	ARM Cortex Architecture	4hrs
3.	STM 32xx GPIO and Peripherals	6hrs
4.	Overview of Embedded OS	5hrs
5.	Networking Basics and Socket Programming	5hrs
6.	IOT Architecture	3hrs
7.	Sensor and Actuators	4hrs
8.	IOT Communication model and protocols	4hrs
9.	IOT Gateways	8hrs
10.	Scripting Language for Embedded Systems	5hrs
11.	IOT Cloud platform	5hrs
12.	Connectivity, Identification and Localization for IOT	6hrs
13.	Mobile APP development for IOT	3hrs
Theory / Lecture Hours:		30 hrs
Practical / Project Hours:		30 hrs
Total Hours:		60 hrs

Books Recommended for Reading and Reference:

1. Internet of Things : A hands- on Approach by Arsheep Bahga (Author), Vijay Madiseti (Author)
2. IOT (Internet of Things) Programming: A Simple and Fast Way of Learning IOT by David Etter

