

# Course Handout

Date: 25/04/2013

**Course Title:** Python and Application development using PyQt

**Instructors:** Ankit Arora, M S Suraj, Anant Kamath

**Note:** 2hrs/lecture

## Scope and Objective of Course:

The goal of the course is to first introduce students to the in depth fundamentals of Python from the basics, with an aim to introduce multiple programming paradigms, including object-oriented, imperative and functional programming styles.

We then introduce them to Qt, which is a cross-platform application and UI framework. It is by far the most used non-native framework for Windows and also for Linux/Mac application development.

**Prerequisites:** Laptop

**References:** -T1: Dive Into Python (2009), Mark Pilgrim  
-T2: Learn Python the Hard Way (2011), Zed Shaw

## Course Plan:

Serial No	Topic	Lectures
1	Introduction to Python Setup Working in a Python shell	1
2	Lists, Tuples, Dictionaries Mutable Immutable objects Basic I/O	1
3	String methods Iterators Conditionals, Loops	1
4	Object-Oriented Techniques (Modules, Classes and Objects)	1
5	Standard library – <i>os, itertools, copy, math, re, requests</i>	1

6	Using external APIs like twitter, facebook, flickr	2
7	Multiprocessing and threading	1
8	Introduction to Qt architecture and Qt Designer	1
9	Create a GUI for your console application in lect-6	1
10	Model-View-Controller architecture	2
11	Qt Phonon (media framework) and applications	2
12	Qt Markup Language and applications	2
13	Deployment of Qt Application	1

**Final Project:** Design and development of one fully functional cross-platform application

**Evaluation scheme:**

Assignments	30%
Mid Term	30%
Comprehensive	40%