

## COURSE PROSPECTUS

**Name of the Group:** *Embedded System Group*

**Name of the Course:** Certificate Course on Python Programming with Raspberry Pi

**Course Code:** ED761

**Starting Date:** 7<sup>th</sup> January 2019

**Duration:** 2 Weeks (70 Hours)

**Course Coordinator:** *Ankit Kumar, 8303759005*

**Preamble:** One of the most innovative things that happened in embedded computing in recent times has been the invention of the Raspberry Pi. Raspberry Pi is a low-cost computing platform of which the latest version comes with a 1.2GHz 64-bit quad-core ARMv8 CPU, built-in wireless/Bluetooth support and much more. This amount of computing power is more than sufficient to run the applications and to program them using a variety of programming tools/environments.

Python is one of the most popular languages in the world and has been around for more than two decades. It is heavily used in academic environments and is a widely supported platform in modern applications. Python is highly recommended as a language that is easy for newcomers to program.

This course deals with developing applications using Python and implementing them with Raspberry Pi.

**Objective of the Course:** The objective of the course is to introduce the Python Language to the participants and to enhance their problem solving abilities. Students can use Python programming to implement various Embedded/ IoT applications on Raspberry Pi.

**Outcome of the Course:** Student will be able to program in python for a specific application.

After successful completion of this module, students should be able to:

- Develop application programs in Python
- Implement applications on Raspberry Pi
- Develop and implement Embedded/IoT applications using Python and Rpi

**Course Structure:** *This course contains two modules each of one week duration.*

<b>ED761</b>	<b>Module Name</b>	<b>Weeks</b>
<i>ED761A</i>	Python Programming	<i>1</i>
<i>ED761B</i>	Raspberry Pi and IoT	<i>1</i>
	<b>Total</b>	<b>2</b>

### *Other Contents*

a. **Course Fees :**

**General Candidates:** Course fee is **Rs 8,000** + GST (18%)

For students fee is **Rs5,000** + GST (18%) (\* On production of valid college ID card)

**SC/ST Candidates:** Tuition fees are waived for SC/ST students admitted under SCSP/TSP.

**Modular wise Course Fee:** Not Applicable for this course

- b. **Registration Fee:** Not applicable for this course
- c. **Course Fee Installment Structure:** Not applicable for this course
- d. **Eligibility:** M.E./M.Tech or B.E./B.Tech in Electronics/ Electronics & Communication/ Electrical/ Electrical and Electronics/Instrumentation/ Biomedical /Computer Science/Information Technology or MSc in Electronics/ Instrumentation/ Computer Science/Information Technology or Diploma in Electronics/CS/IT/EEE/EI, MCA/BCA.

Candidates who have appeared in the qualifying examination and awaiting results may also apply

- e. **Number of Seats :** 20
- f. **How to Apply :**  
Students are advised to apply online @<http://nielit.gov.in/content/online-registration>.  
The Institute will not be responsible for any mistakes done by either the bank concerned or by the depositor while remitting the amount into our account.
- g. **Selection of candidates :** Provisionally Selected Candidates will be intimated by 4<sup>th</sup> January 2019 through email.
- h. **Test/Interview (*if applicable*) :** Not Applicable
- i. **Counseling/Admission :** *All candidates provisionally selected will have to be present personally for counseling and admission on 7<sup>th</sup> January 2019 with all the necessary documents (originals and attested copies). Working days are from Monday to Friday. Admission timings are from 9.30 am to 4.00 pm.*
- j. **Spot Admission :** If spot admission is open, spot admission will close within 2 days of Counseling/Admission of this course. On spot admission students should provide an undertaking saying that he/she is fully aware that he/she missed so much days of class and will not ask for extra classes or further extension of course.
- k. **Admission Procedure :**  
Students who have been selected for test/interview/counseling/admission are required to report to the Institute on the prescribed day by 9:30 hrs along with the following

➤ **Original and attested Copies of Proof of Age, Qualifications, etc**

- **One passport size photograph and one stamp size photograph for identity card.**
- **SC/ST Certificate (Original and two attested copies, if applicable)**
- **Govt. issued photo id card (Aadhaar mandatory for SC/ST candidates. Original and one copy)**

**l. Discontinuing the course:** No fees (including the caution/security deposit) under any circumstances, shall be refunded in the event of a student discontinuing the course. No certificate shall be issued for the classes attended.

**m. Course Timings :** *This program is a practical oriented one and hence there shall be more lab than theory classes. The classes and labs are from 9.30 am to 12.30 pm and 1.30 pm to 4.30 pm Monday to Friday.*

**n. Location and how to reach :**

NIELIT Calicut is located very close to NIT campus and is about 22Kms from the Calicut (Kozhikode) city. A number of buses (Buses to NIT via Kunnamangalam) are available from "Palayam Bus Stand and KSRTC Bus Stand". The bus stop at our Institute is called "Panthrand" and is one stop before NIT. The bus fare is around Rs.20/- from Calicut City to NIELIT.

Calicut (Kozhikode) is well connected by Rail, Road and Air form different parts of the country. The maximum and minimum temperatures range between 35°C and 20°C.

**o. Course enquiries :**

Students can enquire about the various courses either on telephone or by personal contact between 9.15 A.M. to 5.15 P.M. (Lunch time 1.00 pm to 1.30 pm) Monday to Friday.

**p. Important Dates (if applicable) :**

Intimation of selection: 4<sup>th</sup> January 2019

Commencement of Classes: 7<sup>th</sup> January 2019

**q. Placement :** *not applicable*

**r. Hostel facilities :**

Hostel accommodation is available for boys and girls on monthly or daily chargeable basis. The hostel fee varies from Rs.1,400/- to Rs.1,500/- per month depending on the type of accommodation. However, students are required to pay the hostel fees for the entire duration of the course for which they are seeking admission at the time of joining the course itself.

**s. Boarding facilities :**

Canteen & Mess facility is available for both boys & girls, students, those who avail mess facility should pay monthly mess fee @Rs.130/\*- per day. An amount of Rs.1,000/- should be paid as mess advance to the Canteen Contractor

at the time of joining the mess which will be adjusted in the last month mess fee.

*\*as per the present rate of contract agreement*

An amount of Rs.3,000/- should be paid as caution deposit (hostel & mess) at the time of joining the hostel which will be refunded/adjusted at the end of the course. For students not availing hostel facility, Rs.1,000/- will be the caution deposit

**t. Lab Facilities :** *We have state-of-the-art lab facility in embedded systems which include,*

- *32-bit ARM Microcontroller Development Systems – ARM Cortex-M3/M4 STM32, ATMEL ARM9 EK & CIRRUS LOGIC EDB9315*
- *Friendly ARM, Rasberry PI , Intel Galileo and Arduino Boards*
- *VxWorks, RTLinux&ChibiOS/RT RTOS*
- *MATLAB, Simulink, TI 'C6000 target for MATLAB, LabView, Wireless LAN*
- *GSM/GPRS/GPS/Zigbee/Bluetooth/WiFi Modems.*
- *Wireless Simulators expertise in Glomosim, NS2, NS3, etc.*
- *Digital Storage & Mixed Signal Oscilloscopes (500, 350, 300, 100 MHz )*

**u. Course Contents :** please click [here](#) to see the syllabus