

## About the course

Intelligent and hand held systems which are real time systems have become a part of our day-to-day life. This course knowledge and hands on experience will be highly useful for Electronic, Instrumentation, Computer, Electrical and Mechanical engineers to go ahead in their career. ARM cores for applications up to Machine Learning are designed. In today's world, ARM hands on and knowledge is desirable to meet challenges in Industry for Industry 4.0 , Cyber physical Systems. Dr.(Mrs) Neelima Iyer, Sr. Principal Scientist at NCL having more than 25 years experience in Embedded, R&D and teaching is the mentor and along with industry experts is faculty for this course. Hands on : theory - 90% : 10%

### Course includes

WHY ARM based development ? ARM core and RISC concept, PC hyper terminal concept, ARM7 LPC2148 architecture, hands on using Embedded C for on chip GPIO, LCD, keys, timer, ADC, PLL, RTC, SPI, VIC, serial RS232 programming between ARM hardware and PC hyper terminal, CAN bus protocols and programming for ARM7 LPC2129 and CORTEX, LPC1768. real time systems and problems, Embedded "C" programming, compilation using TRITON IDE and down loading using FLASH MAGIC utility, System On Chip (SOC)

**Pre requisite - basic logic development by hands on using assembly programming / embedded C for 8 bit microcontroller.**

### Eligibility:

**M.Sc (Electronics// Instrumentation)**

**Diploma / BE in (E&TC / Instrumentation / Computer / Electrical / Mechanical / IT) Under Graduate (Third/ / fourth year ), Post Graduate Students Faculty and Professionals**

### Course Fees:

Students: Rs. 15,000

Faculty / Professionals: Rs. 40,000

(Fee includes breakfast,, tea,and lunch)

**Accommodation Charges ( course duration plus two days)**

Students- Rs.500/-

Faculty / Professionals- Rs.1000/-

**On line application: Please visit**  
<http://nclsdpc.ncl.res.in>

**Or can reach from NCL web site**  
[www.ncl-india.org](http://www.ncl-india.org)

**Please apply for suitable batch**

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Council of Scientific and Industrial Research  
National Chemical Laboratory

**CSIR –Integrated Skill Initiative**



**Skill development Course in**

**Advance Training on ARM  
Controllers**

**Course Code –SDP-NCL05 A**

Batch 1: June 3 - June 21, 2019

Batch 2: June 26 - July 16, 2019

Batch 3: July 22 - August 9 , 2019

Batch 4: Dec. 12, 2019 – Jan. 1, 2020

**( Monday – Saturday – 180 hours)**

**No. of participants per batch - 8**

**Selection: First come first serve basis**

