

# UTTARAKHAND TECHNICAL UNIVERSITY, DEHRADUN

## HAND ON TRAINING ON MATLAB SOFTWARE

The UTU and ICFAI University are jointly organizing short term training on **HAND ON TRAINING ON MATLAB SOFTWARE** on Sept 22 & 23, 2017 at University premises. The interested faculty, research scholars and students can join the training programme on payment of Rs 1000/-. Lunch and Tea between sessions will be provided by the University. Last date to apply is Sept 20, 2017. Please make your own travel and stay arrangement.

In case of any query, please contact Mr Arun Kumar 09719108860 or email to arunaec7271@gmail.com

22<sup>nd</sup> September (Day 1) – Session on MATLAB , Simulink & its applications

23<sup>rd</sup> September (Day 2) – Session on MATLAB

### **Day 1: 1<sup>st</sup> half**

Time	Topic
10:00 AM	<b>Signal Processing, Communication &amp; Computer Vision System Design with MATLAB &amp; Simulink</b> <ul style="list-style-type: none"><li>• Signal Analysis &amp; Filter Design</li><li>• Phased Array Signal Processing for Radar &amp; Sonar Systems</li><li>• Advanced wireless communications systems design (MIMO-OFDM, LTE/LTE-A,WLAN and 5G)</li><li>• Perform end-to-end simulations including RF front-ends</li><li>• Designing Antenna and Antenna Arrays</li><li>• Over-the-Air Testing with Software-Defined Radios</li><li>• Building IOT systems with MATLAB, Simulink &amp; ThinkSpeak</li><li>• Object Detection and Recognition using Machine learning and Deep learning</li></ul>
11:30 AM	Break
11:45 AM	<b>Enabling Project Based Learning with Target Hardware Boards</b> <ul style="list-style-type: none"><li>▪ Automatic C code generation</li><li>▪ Implementation and verification on low cost hardware boards such as Raspberry Pi and BeagleBone Black</li><li>▪ Automatic HDL code generation</li><li>▪ Cosimulation with Mentor's ModelSim HDL Simulator</li><li>▪ Verify HDL Implementation using FPGA-in-the-Loop workflow on Xilinx boards</li></ul>
12:30 PM	Lunch Break

## Day 1: 2<sup>nd</sup> half

Time	Topic
14:00 PM	<p>MATLAB Workshop</p> <ul style="list-style-type: none"><li>• Working with the MATLAB® User Interface</li><li>• Variables and Commands</li><li>• Analysis and Visualization with Vectors</li><li>• Analysis and Visualization</li></ul>
15:30 PM	Break
16:00 PM	<ul style="list-style-type: none"><li>▪ Basics for the Budding Engineer</li><li>▪ Experimentation and Modeling</li><li>▪ Design and Implementation</li></ul>
17:00 PM	End

## Day 2: 1<sup>st</sup> half

Time	Topic
10:00 AM	<p>Simulink Workshop</p> <ul style="list-style-type: none"><li>• Working with the Simulink® User Interface</li><li>• Building Models from Equations</li><li>• Plotting and visualization</li><li>• Analysis and Visualization</li></ul>
11:30 AM	Break
11:45 AM	<ul style="list-style-type: none"><li>▪ Modeling Multi-domain Systems using Physical Modeling Tools</li><li>▪ System Identification &amp; Neural Network Based System Modeling Techniques</li><li>▪ Control System Design and Analysis</li></ul>
12:30 PM	End