National Institute of Electronics & Information Technology Gorakhpur

(Under Ministry of Electronics and Information Technology, Govt. of India)

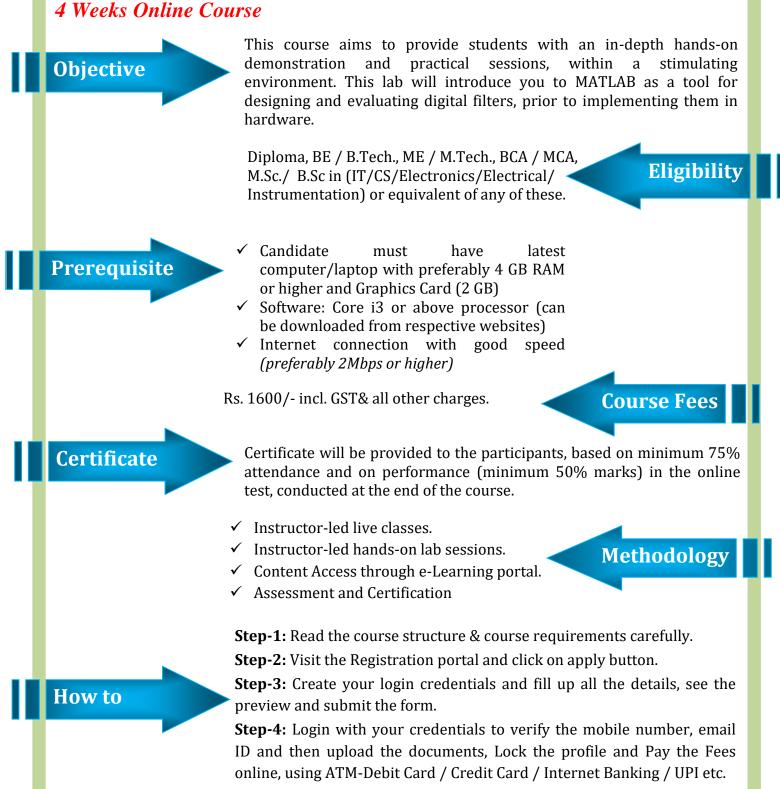MMMUT Campus, Deoria Road, Gorakhpur-273010

http://www.nielit.gov.in/gorakhpur/

NIELIT

Digital India
Power To Empower

DSP using MATLAB

Course in DSP using MATLAB
4 Weeks Online Course

4Weeks (2Hrs. per day)
Timing: - 03:00 PM to 05:00 PM

Objective

This course aims to provide students with an in-depth hands-on demonstration and practical sessions, within a stimulating environment. This lab will introduce you to MATLAB as a tool for designing and evaluating digital filters, prior to implementing them in hardware.

Eligibility

Diploma, BE / B.Tech., ME / M.Tech., BCA / MCA, M.Sc./ B.Sc in (IT/CS/Electronics/Electrical/ Instrumentation) or equivalent of any of these.

Prerequisite

✓ Candidate must have latest computer/laptop with preferably 4 GB RAM or higher and Graphics Card (2 GB)
✓ Software: Core i3 or above processor (can be downloaded from respective websites)
✓ Internet connection with good speed *(preferably 2Mbps or higher)*

Course Fees

Rs. 1600/- incl. GST& all other charges.

Certificate

Certificate will be provided to the participants, based on minimum 75% attendance and on performance (minimum 50% marks) in the online test, conducted at the end of the course.

Methodology

✓ Instructor-led live classes.
✓ Instructor-led hands-on lab sessions.
✓ Content Access through e-Learning portal.
✓ Assessment and Certification

How to

Step-1: Read the course structure & course requirements carefully.

Step-2: Visit the Registration portal and click on apply button.

Step-3: Create your login credentials and fill up all the details, see the preview and submit the form.

Step-4: Login with your credentials to verify the mobile number, email ID and then upload the documents, Lock the profile and Pay the Fees online, using ATM-Debit Card / Credit Card / Internet Banking / UPI etc.

Course Content

Day	Topic	Day	Topic	Day	Topic
Day #01	Introduction to MATLAB, Features and uses of MATLAB	Day #02	Matrices and Array, Operations, Row, column vectors operations, Vector operations- Addition, Subtraction, multiplications	Day #03	Transpose, conjugate, determinant and inverse of a Matrix, Various operations on Matrices
Day #04	Plotting and Graphics. Adding Title, Labels, Grid Lines, and Scaling on the Graph, Drawing Multiple Functions and sub plotting	Day #05	Setting Colors, Axis Scales Drawing Bar Charts, contours and 3D plots'	Day #06	Plotting of Unit sample, unit-step, unit-ramp, exponentials
Day #07	Basics of Engineering Mathematics operations in MATLAB	Day #08	Calculus	Day #09	Polynomials Algebra
Day #10	Z-Transform, Basics of Z-Transform	Day #11	Properties of Z-transform	Day #12	Basics of Fourier Transform.
Day #13	Properties of Fourier Transform, Frequency Domain Representation	Day #14	Laplace Transform, Basics of Laplace Transform.	Day #15	Properties of Laplace - transform
Day #16	DFT & IDFT, DFT & IDFT Properties	Day #17	Basic concepts of IIR and FIR filters	Day #18	Design of IIR, FIR filters, Windows Technique.
Day #19	Introduction to image processing, Types of Images	Day #20	Basic image Operations, Image conversion, Noise in image		

Course Coordinator

Sh. Ravi Rastogi (Scientist 'C'), NIELIT Gorakhpur,
Email: ravirastogi@nielit.gov.in
Mobile Number: 8317093866

S.C. Agrawal, P.T.O,
NIELIT Gorakhpur
Email: scagrawal@nielit.gov.in
Mobile Number: 8317093881