

**Open Course Title: NEURAL NETWORKS AND SIGNAL PROCESSING APPLICATION USING
MATLAB TOOL**

Target Students from Branches: ECE/TCE/EEE/CSE/Mech

Total duration of the course: 25 Hours.

No. of Lecture hours: 17

No. of hands on / Practical : 8

Abstract

The purpose of the five day's open course on "NEURAL NETWORKS AND SIGNAL PROCESSING APPLICATION USING MATLAB TOOL" is to train students on fundamentals of Signals and systems, Signal Processing, Artificial Neural Networks(ANN), Brain Computer Interface (BCI) and Hands on session using Matlab for Various applications of Image Processing, ANN and BCI.

Open Course Details

Course Outcomes: On completion the course, Students will be able to

COURSE OUTCOMES	POS
CO1: Understand the fundamentals of Signal processing and artificial neural networks.	
CO2: Apply the concepts of signal processing for various Engineering applications using Matlab.	PO1,5
CO3: Apply concepts of supervised learning based neural networks for classification problem in a team.	PO1,2,5,10,12
CO4: Analyse various case studies related to signal processing applications and implement using MATLAB .	PO1,2,5,10,12

Schedule

Timings	9.30am -12.30 pm	1-2 pm	2-4pm	CO-PO MAPPING
Date				
12 TH FEB	Introduction to Signals and systems	Lunch Break	Hands on Session1:Signal processing and Communication tool box usage in MATLAB	CO1,CO2 PO1,PO5
Day 1 speakers	Prof.Mamatha K R & Prof.Hamsavahini R Assistant Professor,Department of TCE		Prof.Mamatha K R & Prof.Hamsavahini R Assistant Professor,Department of TCE	
13 TH FEB	Artificial Neural networks for Engineering application		Hands on Session2: Neural network toolbox usage in MATLAB	CO3 PO1,2,510,12
Day 2 speakers	Dr. Seema Singh Professor&HoD, Department of TCE,BMSIT&M		Dr. Seema Singh Professor&HoD, Department of TCE,BMSIT&M	
14 TH FEB	Introduction to Image Processing		Introduction to Biosignals, Brain Computer Interface, Applications of BCI & hands on session	CO2,CO4 PO1,2,510,12
Day 3 speakers	Prof.Mamatha K R Assistant Professor,Department of TCE		Prof.Tejashwini S Assistant Professor,Department of TCE	
15 TH FEB	Retinex based Image Enhancement		Hands on Session 3-TMS320C6713 PROCESSOR	CO2,CO4 PO1,2,510,12
Day 4 speakers	Dr. Hanumantharaju M.C Professor, Department of ECE		Prof.Mamatha K R & Prof.Hamsavahini R Assistant Professor,Department of TCE	
16 TH FEB	Guidance on Project problem formulation, Execution and Article writing			
Day 5 speakers	Dr. Hanumantharaju M.C Professor, Department of ECE			