

About the FACULTY

Dr. D. N. Malkhede is a Professor in Mechanical Engineering at College of Engineering, Pune. He obtained doctorate in Mechanical Engineering from Indian Institute of Technology, Bombay. He took his undergraduate and post graduation degrees from Government College of Engineering Amravati.

He is teaching various subjects of thermal engineering at B. Tech. and M. Tech. level. He has 3 years of industrial and 17 years of teaching experience.

His teaching and research interests include:

- o Modelling, Simulation and Control of dynamical systems
- o Applications of Matlab, Simulink and Toolboxes
- o Internal Combustion Engines
- o Control System Designs
- o Engineering Thermodynamics

He had conducted interdisciplinary training programs on MATLAB, Simulink and Toolboxes for students, faculty of various engineering colleges and professionals from Industries. He also conducts short term training programs on "Application of MATLAB for Control System Applications"



About MATLAB and Simulink

The software package MATLAB is widely used around the world by engineers and scientists who need to make mathematical models that guide them in their work. These models may involve matrix calculations, either explicitly or hidden behind easy to use graphical interface.

MATLAB is used by many academicians from diverse areas such as electronics engineering, environmental science, finance, structural engineering, electricity generation and distribution, aerospace, control and embedded systems.

MATLAB is an essential tool for modeling and analysis for applications that require a robust platform for easier application development. MATLAB is easy to learn and can provide a platform for faster development, integration and deployment. MATLAB has several in-built functions and hence MATLAB programs are very short compared to any other platform. Professionals say MATLAB cuts their programming time by about 90%.

Benefits of using MATLAB

MATLAB is a software development environment that performs variety of functions such as, high performance numerical computation, data analysis, data & result visualization and application development tools.

You can write statements in MATLAB and have then calculated immediately so they are tested as you proceed.

MATLAB provides immediate access to thousands of fundamental and specific functions written by experts in addition to those written by yourself or your colleagues.

MATLAB's built-in graphing tools and GUI builder ensure you that you customize your data and models to help you interpret your data more easily for quicker decision-making.

Whom is this course intended for?

This training course in MATLAB is ideal for any person beginning to use MATLAB and/or would like to learn about finer points of the MATLAB environment.

The course would be particularly beneficial for individuals working in a team with other MATLAB -based designers who are required to get "up to speed" quickly.

The training course also provides an opportunity to evaluate the MATLAB product for future or more extensive use in your Organization or Institute.

If you are unsure about suitability of MATLAB for your applications you may contact Dr. D. N. Malkhede on his mobile or through Email.

Certificate will be issued on successful completion of training

COURSE OVERVIEW

The course covers basic topics such as MATLAB as an advanced calculator, matrices operations, utility commands and graphics, to advanced topics including MATLAB programming, curve fitting. The course is designed for beginner through to intermediate MATLAB users. This course is suitable even if you have never programmed before, although an exposure to programming languages or packages such as MS-Excel and C, C++, would be an advantage.

MATLAB BASICS

- o Capabilities of MATLAB and its Applications.
- o Arithmetic operations with scalars
- o Matrix calculations
- o Strings and file io
- o MATLAB built-in functions
- o Creating Script files
- o Data import from external sources
- o Arrays operation
- o Solving systems of linear equations
- o Mathematical and statistical operations

MATLAB GRAPHICS

- o Basic plots and with special graphics
- o Export graphics for use in other applications.
- o All 3D plots
- o Multidimensional data interpolation
- o Plotting multiple graphs and multiple plots

PROGRAMMING USING MATLAB

- o Creating own scripts and user defined function file
- o Program structure
- o Loops, Nested loops and nested conditional statements
- o Solving Ordinary differential equations: ODE commands
- o Improving code performance
- o Interacting with other software such as MS excel.

SIMULINK

- o Commonly Used Blocks Library
- o Creating Simulink Models
- o Handling complex models
- o Using Simulink from MATLAB command window.
- o Solving Differential Equations using Simulink.

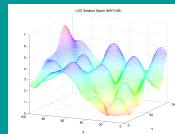
SYMBOLIC COMPUTATIONS USING SYMBOLIC TOOLBOX

- o Symbolic Computations Using Symbolic Toolbox
- o Solving algebraic equations
- o Differentiation, Integration
- o Solving an ordinary differential equation

POLYNOMIALS, CURVE FITTING, AND INTERPOLATION

- o Curve fitting
- o Interpolation
- o The basic fitting interface
- o Linear regression models
- o Nonlinear regression models

Hands on Practice Sheets
Guaranteed learning
Simple Course Material + Many Books



Admission Procedure

You may call to know the vacancy position from Prof. D. N. Malkhede. The you may go to the nearest branch of SBI and deposit the requisite amount of fees in our account .

Account Name: The Director, College of Engineering, Pune, IRG Account No. 11099464977.

Provisional Registration: Registration form in MS word format is available with this link itself on www.coep.org.in (upcoming events) be filled in after the payment is made and the form be emailed to dnm.mech@coep.ac.in.

Attending Training: You will be reporting to Mechanical Department on Day-1 of the training. Passport size photograph be submitted alongwith original bank counterfoil.

Fees to be paid:

Academics: Rs. 3500/-
Industry Professionals: Rs. 5000/-

An Interdisciplinary Training Programme
on

Applications of MATLAB and Simulink for Engineers and Professionals

Batch Timings Available

Evening batches	Mon. to Fri. for 2 Weeks	7 to 18th Jan., 2013
Weekend batch	Sat. and Sun. for 2 weeks	12, 13, 19 and 20 Jan., 2013

Organizing Committee Patrons

Prof. Dr. A. D. Sahasrabudhe
Director, College of Engineering, Pune

Co-ordinator
Prof. Dr. S. N. Sapali
Head, Mech. Engg. Dept.

Training Coordinator and Main Faculty

Prof. Dr. D. N. Malkhede
Professor,
(M) 09422918843

Email: dnm.mech@coep.ac.in
malkhede@gmail.com

Mechanical Engineering Department
College of Engineering, Pune