DEPARTMENT OF MATHEMATICS
CERTIFICATE COURSE DETAILS

NAME OF THE COURSE

Programming in Matlab

COURSE CODE

CPCC18

COURSE DETAILS

Eligibility: Plus Two   Duration: 3 months   Total hours: 50   Fees: 5300/-

COURSE COORDINATOR

Dr. Seena V

PARTNERSHIP WITH

Network systems, Thrissur

ABOUT COLLEGE

Chirst College (Autonomous), Irinjalakuda established in the year 1956 by CMI fathers has always been aplace where young generations are moulded towards a bright future. College has excellent infrastructure, with state of the art laboratories, seminar rooms and lecture halls. The campus is Wi-Fi enabled. Presently Collge is house for 4500+ students, 200 teaching staff and 45 supporting staff. The strength of the College lies in its hardworking and tech savvy teachers who are eager to involve in all matters of students. The lush green campus with gardens and open gym is moving towards the next phase on education both offline and online.

WHAT IS THE COURSE?

MATLAB is a high-performance language for technical computing. It integrates computation, visualization, and programming in an easy-to-use environment where problems and solutions are expressed in familiar mathematical notation. With its extensive libraries of mathematical and graphical routines, Matlab is widely used in areas such as signal and image processing, communications, control design, test and measurement, financial modelling and analysis, and computational biology. It allows   matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other languages. It is an interactive system whose basic data element is an array that does not require dimensioning. This allows you to solve many technical computing problems, especially those with matrix and vector formulations, in a fraction of the time it would take to write a program in a scalar noninteractive language such as C or Fortran.

SCOPE OF THE COURSE

- It is not just a programming language - it's also an interactive environment for carrying data analysis, visualisation, modelling and simulation
- Any simulation in the field of engineering involves solving a set of linear equations or matrices or arrays. MATLAB is used for such purposes.
- Rotational matrices are very common in the field of robotics. MATLAB is primarily used to solve rotational or any matrix problem involved.
- Software companies like Google and Facebook hire Mechanical/Thermal engineers to ensure efficient and safe thermal management of their database and cluster computers in their respective companies. These engineers use programming languages like MATLAB to write scripts and then import them to CFD software to test numerous

LEARNING OUTCOMES

- Able to use Matlab for interactive computations.
- Familiar with memory and file management in Matlab.
- Able to generate plots and export this for use in reports and presentations.
- Able to program scripts and functions using the Matlab development environment.
- Able to use basic flow controls (if-else, for, while).
- Familiar with strings and matrices and their use.
- Use the MATLAB GUI effectively

COURSE OUTLINE

The course provides a gentle introduction to the MATLAB computing environment, and is intended for beginning users. It is designed to give students a basic understanding of MATLAB, including popular toolboxes. The course consists of interactive lectures and sample MATLAB problems given as assignments and discussed in class. No prior programming experience or knowledge of MATLAB is assumed. The course gives 50+ lectures together with practical sessions

Concepts covered include

- Basic use, graphical representations
- Discuss about functions in Matlab
- Selection Structures
- Toolboxes- signal and image processing

COURSE MODULES

Module 1- Introduction to Matlab
Module 2- Functions in Matlab
Module 3- Structures in Matlab

Contact : seenavclt@gmail.com