CENTRAL UNIVERSITY OF KERALA
DEPARTMENT OF COMPUTER SCIENCE
M.Sc. COMPUTER SCIENCE

OPEN ELECTIVE COURSE				
COURSE CODE	**COURSE TITLE**	**CONTACT HRS/WEEK**		**CREDITS**
		LEC	**LAB**	**TUT**	
CSC5073	MATLAB	2	2	1	4

Lec = Lecture, Tut = Tutorial, Lab = Practical

This is a practical and **skill development course**.

Course Objective:
The main objective of this course is to impart knowledge on the basic principles of programming using MATLAB.

By completing this course, students will obtain the following course/learning outcomes:
1. Knowledge gained:
    (i)   State of art of programming techniques using MATLAB
2. Skill gained:
    (ii)   Designing algorithms using MATLAB
3. Competency gained:
    (iii)   Development of real life applications using MATLAB.

Prerequisites: Nil

Grading:
Lab implementation	– 25%
Participatory based group Project	– 25%
Assignment/Quiz/presentation	– 25%
Individual project	- 25%

CSC5073 – MATLAB

Module 1
The MATLAB environment and getting touch/help, MATLAB search path, advantages and disadvantages of MATLAB, applications.

Module 2
MATLAB basics: variables and arrays, initializing variables in MATLAB, multidimensional arrays, sub arrays, end function, disp function, fprintf function, load and save commands, scalar operations, array and matrix operations, built-in MATLAB functions, Introduction to plotting, 2-D plots and 3-D plots.

Module 3
Program design techniques: logical data type, relational operators, logic operators, logical functions. Branching statements: if...else, switch, Loops: while, for, break, continue, nesting loops, complex data, string functions, user defined functions, case study

Text Books/References:
1. Stephen J. Chapman, Essentials of MATLAB Programming, Wadsworth Publisher, 2008
2. Stormy Attaway, A Practical Introduction to Programming and Problem Solving, 4th edition, Elsevier, 2016
3. Ram N. Patel, Ankush Mittal, Programming in MATLAB a Problem Solving Approach, Person Publication, 2014.
4. Manoj Khanna, Geeta Bhatt, Pawan Kumar. MATLAB Essentials for Problem Solving, PHI Learning Publisher, 2016.