



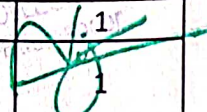
( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**CERTIFICATE PROGRAMS- ACADEMIC YEAR 2018-2019**

SI No	Name of Program	Date & Duration	Agency Conducted	No of students enrolled (without repeating)	No of Times held in an year
1	Project Management using Primavera P6	04-02-2019, 30 hours	MLMCE	60	1
2	Total Station - Surveying	11-02-2019, 30 hours	MLMCE	40	1
3	GIS Applications and Uses	03-03-2019, 30 hours	MLMCE	40	1
4	Healthier and Safe Sustainable buildings	10-12-2018, 30 hours	MLMCE	40	1
5	Training on Revit Arch	04-08-2018, 30 hours	MLMCE	120	2
6	Structural drawings using AUTO CADD	18-08-2018, 30 hours	MLMCE	120	2
7	Certification of Java	1/3/2019, 30hrs	MLMCE	70	1
8	Certification of PHP	04/08/2018, 30 hrs	MLMCE	68	1
9	PC Hardware and networking	06/10/2018, 30hrs	MLMCE	50	1
10	Certification on Python	1/6/2019, 30 hrs	MLMCE	68	1
11	Certification on Android app devolopment	2/2/2019, 30hrs	MLMCE	66	1
12	Certification on Robotic Automation	1/9/2018, 30 hrs	MLMCE	57	1
13	Certification on IoT	3/11/2018, 30hrs	MLMCE	55	1
14	Certification on Data Science and Machine Learning	2/3/2019, 30 hrs	MLMCE	66	1
15	HDL Design	30-01-2019 & 30 HRS	MLMCE	69	1
16	Financial independence at 40	08-02-2019 & 30 HRS	MLMCE	65	1
17	How to write an effective research paper	05-11-2018 & 30 HRS	MLMCE	38	1
18	2D to 3D IC-change in trends in semiconductor IC design	11-03-2019 & 30 HRS	MLMCE		
19	Applications in BioMEMS using COMSOL	19-03-2019 & 30 HRS	MLMCE	43	1
20	Layout Design using Proteus	18-10-2018 & 30	MLMCE	31	1

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
ETTUMANOOR

21	Mobile app design for Virtual Lab	03-09-2018 & 30 HRS	MLMCE	41	1
22	Introduction to open source tools for electronics lab- SCI Lab. Falstad, GNU Octave	13-04-2019 & 30 HRS	MLMCE	32	1
23	E-TAP	02/02/2019 & 30 hours	MLMCE	26	1
24	E-CAD	8/9/2018 & 30 hours	MLMCE	26	1
25	Proteus PCB Designing	8/9/2018 & 30 hours	MLMCE	43	1
26	Latex for beginners	8/9/2018 & 30 hours	MLMCE	35	1
27	Solar Power Plant Designing	16/03/2019 & 20 hours	MLMCE	26	1
28	Energy management	02/02/2019 & 30 hours	MLMCE	22	1
29	Controller design using Raspberry Pi and Arduino	16/03/2019 & 20 hours	MLMCE	43	1
30	Research paper writing	13/04/2019 & 20 hours	MLMCE	26	1
31	Foundation In Mechanical CAD	19/11/2018,30 Hours	MLMCE	62	1
32	HVAC	15/03/2019,30 Hours	MLMCE	75	1
33	NDT	21/01/2019,30 Hours	MLMCE	51	1
34	Supplychain management	07/01/2019,30 Hours	MLMCE	48	1
35	3D Printing Technology	01/09/2018,30 Hours	MLMCE	53	1
36	Solidworks	22/08/2018,30 Hours	MLMCE	44	1
37	Piping and pipeline Engineering	04/02/2019,30 Hours	MLMCE	49	1
38	MEP	11/01/2019,30 Hours	MLMCE	52	1
39	MS Excel	6/8/2018'30 hour	MLMCE	54	1
40	spss	5/2/201930 hour,	MLMCE	54	1
41	Social Media Marketing	26/11/2018,30 hour	MLMCE	32	1
42	Basics of Stock Market Trading	15/3/201930 hour	MLMCE	25	1
43	Digital Marketing	1/2/201930 hour	MLMCE	46	1
44	Corporate Training	1/20/2019,30 Hour	MLMCE	38	1
45	six Sigma	26/11/2018,30 hour	MLMCE	56	1

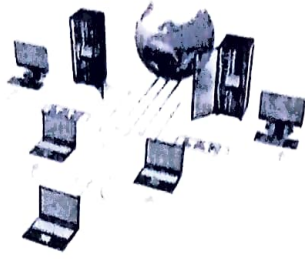
  
 PPR  
 AN CU  
 ENGINEERING



46	Supply chain Management	7/3/201930 hour	MLMCE	40	1
47	Student Professional Development Program	05/1/2019-02/02/2019 30hours	MLMCE	26	1
48	Latex	20/10/2018-17/11/2018 30hours	MLMCE	26	1
49	Soil Analysis	20/10/2018-17/11/2018 30hours	MLMCE	30	1
50	Chemical Parameters of Water	20/10/2018-17/11/2018 30hours	MLMCE	22	1
51	Multiplexing	20/10/2018-17/11/2018 30hours	MLMCE	20	1
52	Different types of information loses in fiber	05/1/2019-02/02/2019 30hours	MLMCE	20	1
53	Hyperbolic Functions	20/10/2018-17/11/2018 30hours	MLMCE	25	1

PRINCIPAL  
WINGALAM COLLEGE OF ENGINEERING  
ERODE





# CERTIFICATION ON PC HARDWARE & NETWORKING

## 30 Hour Course

- ✓ Trusted by Recruiters of Software Industry
- ✓ Includes detailed PC Hardware & Networking
- ✓ Available with updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

## Resource Person

Ms.Simy Mary Kurian, AP, CSE DEPT

Ms.Jinu P Sainudeen, AP, CSE DEPT

Ms.Neethu Mana John, AP, CSE DEPT

Date: 06-10-18 to 29-10-18



Coordinator: Ms. Simy Mary Kurian, AP, CSE DEPT

**30 Hours Course  
(Certificate)**

**Gain Knowledge  
on PC Hardware &  
Networking**

**Learn the  
fundamentals of  
Hardware &  
Networking**

**Become 1 among  
the trained  
Engineer**

**MANGALAM COLLEGE  
OF ENGINEERING**

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM  
(5 Days)





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

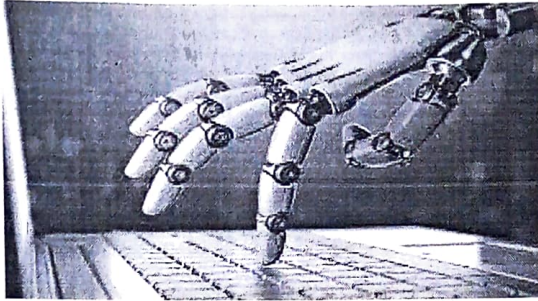
*Academic year 2019-20*  
**DETAILED SYLLABUS**

1. Basic networking concepts,
  - 1.1 Network topologies:
    - 1.1.1 LAN, WAN, MAN, PAN, CAN.
  - 1.2 Networking Model
    - 1.2.1. The OSI model
    - 1.2.2. TCP/ IP Model
  - 2.3 Network adapters.
  - 2.4 Introducing protocols.
  - 2.5 Cabling and troubleshooting.
2. Introduction to various networking devices:
  - 2.1. Routers.
  - 2.2. Switches.
  - 2.3. Modems.
  - 2.4. Hubs etc.
  - 2.5. Wired and Wireless technology.
3. Inside the PC:
  - 3.1. Opening the PC and identification.
  - 3.2. Study of different blocks,
  - 3.3. Assembling and disassembling.
4. Network basic and configuration:
  - 4.1. Setting IP addresses,
  - 4.2. Sharing files and folders.
  - 4.3. Network troubleshooting.
  - 4.4. PING test, ipconfig etc.
5. Introduction to servers and network security
  - 5.1. Types of servers:
    - 5.1.1. Files servers,
    - 5.1.2. Email Servers,
    - 5.1.3. Proxy servers etc.
  - 5.2. Basics of Internet and Intranet:
  - 5.3. Types of Internet connections:
    - 5.3.1 Dialup, Broadband, Leased Line, Wi-Fi, Wi-Max, 2G, 3G, 4G, WWW, E-mails, Search Engines, Social Networking.
    - 5.3.2 Cloud application.
    - 5.3.3 Audio-video Conferencing.
    - 5.3.4 Voice over Internet Protocol (VOIP).
  - 5.4. Recovery and backup.
  - 5.5. Essential security measures.

Prepared By

Ms Simy Mary Kurlan

Approved by



# CERTIFICATION ON ROBOTICS AND AUTOMATION

## 30 Hour Course

- ✓ Trusted by Recruiters of Semiconductor Industry
- ✓ Includes detailed notes on R&A
- ✓ Available with updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

### Resource Person

Ms Merlin Mary James, AP, CSE DEPT

Ms Tinu Thomas, AP, CSE DEPT

Ms Gayathri R Krishna, AP, CSE DEPT

Date: 01-09-2018 to 29-09-2018



विश्वं शास्त्रे प्रतिष्ठितम्।

Coordinator: Ms Merlin Mary James, AP, CSE

30 Hours Course  
(Certificate)

Needed to become  
certified robotics  
engineer

Learn the  
fundamentals of  
robotics and  
automation

Become 1 among  
the trained  
Engineer

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

MANGALAM COLLEGE  
OF ENGINEERING

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM  
(5 Days)





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Ref: MLM/CSE/CC/2018-2019 /02

Date: 28/8/18

**Submitted to the Principal approval**

We have proposed to conduct the certificate course on "Certification on Robotics & Automation" for our UG CSE students during this semester (2018-19). Tentative timings and course fees details are mentioned below. Hence, we kindly request you to give approval for the same.


**Course Explanation:**

The Robotic & Automation Certification program provides a comprehensive set of knowledge and skills in Robotics & Automation. As an immersive training program it covers all the key technologies, techniques, principles and practices you need understand to play a key role on your Robotics & Automation , and to distinguish them professionally. This program also covers the Computational Geometry , Computer-aided Manufacturing , Industrial Robotics & Sensors.

Course Schedule: - 1.09.18 to 29.09.18

S.No.	Name of the course	Course instructors	Course duration	Approx. Course fee	Target students (year/branch)
1	Certification on Robotic Automation	Ms.Merlin Mary James	30 hrs	Free	III&IV CSE Dept.
2		Ms.Tinu Thomas			
3		Ms.Gayathri R Krishna			

Thanking You,

  
Value Added Course I/C  
Ms.Merlin Mary James

  
HoD/CSE

  
Principal

Copy to:

1. CSE Department faculty members
2. Department notice board
3. IQAC Coordinator



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

*Academic year 2018-19*  
**18OCSC1-Certification on Robotic Automation**  
**Detailed Syllabus**

1. Computational Geometry 6
  - 1.1 Introduction
  - 1.2 Static problems
  - 1.3 Geometric Query problems
  - 1.4 Dynamic Problems
  - 1.5 Variations
  - 1.6 Numerical Computational Geometry
2. Computer-aided Manufacturing 6
  - 2.1 Overview
  - 2.2 Machining process
  - 2.3 Computer Integrated Manufacturing
  - 2.4 Digital Modelling Fabrication
  - 2.5 Flexible manufacturing system
  - 2.6 Integrated Computer Aided Manufacturing
3. Industrial Robotics 4
  - 3.1 Types and features
  - 3.2 Parallel Architecture
  - 3.3 Serial manipulators
  - 3.4 Robot Programming & Interface
4. Sensors 5
  - 4.1 Sensor: Contact and Proximity, Position, Velocity, Force, Tactile
  - 4.2 Introduction to Cameras, Camera calibration
  - 4.3 Geometry of Image formation
  - 4.4 Vision applications in robotics.
  - 4.5 Robot Actuation Systems
5. Robot Motion Planning 9
  - 5.1 Configuration space
  - 5.2 Free space
  - 5.3 Target space
  - 5.4 Obstacle space
  - 5.5 Algorithms
  - 5.6 Problem variants
  - 5.7 Applications

Prepared By  
Ms. Merlin Mary James

  
28/8/18

Approved by

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING

  
28/8/18





# CERTIFICATION ON PHP

## 30 Hour Course

- ✓ Trusted by Recruiters of Software Industry
- ✓ Includes detailed PHP Programming
- ✓ Available with Updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

## Resource Person

Ms. Neema George, AP, CSE DEPT  
Ms. Simy Mary Kurian, AP, CSE DEPT  
Ms. Divya S.B, AP, CSE DEPT

Date: 04-08-2018 to 25-08-2018



Coordinator: Ms. Neema George, AP, CSE DEPT


**30 Hours Course  
(Certificate)**

**Needed to become  
a PHP Programmer**

**Learn the  
fundamentals of  
PHP Programming**

**Become 1 among  
the PHP  
Programmers**

**MANGALAM COLLEGE  
OF ENGINEERING**

  
Mangalam Hills,  
Vettimukul P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM  
(5 Days)



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Ref: MLM/CSE/CC/2018-2019/01

Date:23.07.2018

**Submitted to the Principal approval**

We have proposed to conduct the certificate course on "PHP" for our UG CSE students during this semester (2018-19). Tentative timings and course fees details are mentioned below. Hence, we kindly request you to give approval for the same.

Course Schedule :- 04.08.18 to 25.08.18

S.No.	Name of the course	Course instructors	Course duration	Approx. Course fee	Target students (year/branch)
1	PHP	Ms. Neema George	30 hrs	Free	II&III CSE Dept.
2		Ms. Simy Mary Kurian			
3		Ms. Divya SB			

Thanking You,

Course I/C

HoD/CSE

Principal

Ms. Neema George

Copy to:

1. CSE Department File
2. Department Notice board
3. IQAC

MANGALAM COLLEGE OF ENGINEERING





# MANGALAM COLLEGE OF ENGINEERING

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Department of Computer Science and Engineering

Academic year 2018-19

### DETAILED SYLLABUS

1. Introduction to PHP
  - 1.1 PHP Intro
  - 1.2 PHP Install
  - 1.3 PHP Syntax
  - 1.4 PHP Variables
  - 1.5 PHP Echo / Print
  - 1.6 PHP Data Types
  - 1.7 PHP Strings
  - 1.8 PHP Constants & Operators
2. Handling Html Form with PHP
  - 2.1 PHP Form Handling
  - 2.2 PHP Form Validation
  - 2.3 PHP Form Required
  - 2.4 PHP Form URL/E-mail
  - 2.5 PHP Form Complete
3. Decisions and loop
  - 3.1 Making Decisions
  - 3.2 Doing Repetitive task with looping
  - 3.3 Mixing Decisions and looping with Html
  - 3.4 PHP If...Else...Elseif
  - 3.5 PHP Switch
  - 3.6 PHP While Loop and For Loops
4. Array
  - 4.1 Creating index based and Associative array
  - 4.2 Accessing array Element
  - 4.3 Looping with Index based array
  - 4.4 Looping with associative array using each() and foreach()
  - 4.5 Some useful Library function
5. Database Connectivity with MySql
  - 5.1 Introduction to RDBMS
  - 5.2 Connection with MySql Database
  - 5.3 Performing basic database operation(DML) (Insert, Delete, Update, Select)
  - 5.4 Join (Cross joins, Inner joins, Outer Joins, Self joins.)Framework- CodeIgniter.

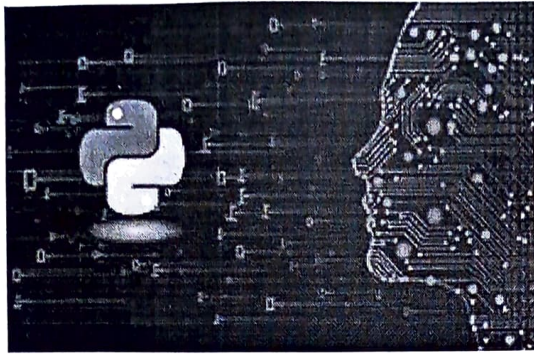
MANGALAM COLLEGE OF ENGINEERING

Prepared By  
Ms. Neema George

28/7/18

Approved by

28/7/18



# CERTIFICATION ON PYTHON

## 30 Hour Course

- ✓ Trusted by Recruiters of Software Industry
- ✓ Includes detailed Python Programming
- ✓ Available with Updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

## Resource Person

Ms.Nimymol Manuel, AP, CSE DEPT  
Ms.Sruthy Emmanuel, AP, CSE DEPT  
Ms.Sujitha M, AP, CSE DEPT

Date: 01-06-2019 to 29-06-2019



Coordinator: Ms.Nimymol Manuel

30 Hours Course  
(Certificate)

Needed to become  
a Python  
programmer

Learn the  
fundamentals of  
Python

Become 1 among  
the trained Python  
programmer

MANGALAM COLLEGE  
OF ENGINEERING

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM  
(5 Days)

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor, Kottayam





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Ref: MLM/CSE/CC/2018-2019 /08

Date: 27/5/19

Submitted to the Principal approval

We have proposed to conduct the certificate course on "Certification on Python" for our UG students during this semester (2018-19). Tentative timings and course fees details are mentioned below. Hence, we kindly request you to give approval for the same.

**Course Explanation:**

The course is designed to provide Basic knowledge of Python. The course focus on improving the basic programming skills of students using python Programming Language

Course Schedule :- 1.06.19 to 29.06.19

S.No.	Name of the course	Course instructors	Course duration	Approx. Course fee	Target students (year/branch)
1.	Certification on Python	Ms Nimmymol Manuel Ms Sruthy Emmanuel Ms Sujitha M	30hrs	Free	UG students

Thanking You,  
Course I/C

*[Signature]*  
27/5/19

*[Signature]*  
27/5/19  
HoD/CSE

*[Signature]*  
27/5/19  
Principal

**Copy to:**

1. CSE Department file
2. Department Notice board
3. IQAC

*[Signature]*  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
ERUMANGUDI



# MANGALAM COLLEGE OF ENGINEERING

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Department of Computer Science and Engineering


Academic year 2018-19

### DETAILED SYLLABUS

1. **Introduction to Python** – variables, expressions and statements, evaluation of expressions, precedence Conditional Statements, Looping, Control Statements
2. **Functions** -calling functions, type conversion and coercion, composition of functions, mathematical functions, user-defined functions, parameters and arguments.
3. **Strings** – string traversal and comparison with examples. List -operations with examples
4. **Dictionaries**- operations with examples Tuples- operations with examples
5. **Classes**-objects, attributes **Files**- text files, directories

  
Prepared By  
Ms Nimmymol Manuel

  
Approved by

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





# CERTIFICATION ON JAVA

## 30 Hour Course

- ✓ Trusted by Recruiters of software Industry
- ✓ Includes detailed Java Programming
- ✓ Available with Updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

## Resource Person

Ms.Divya S.B AP, CSE DEPT

Ms.Jinu P Sainudeen, AP, CSE DEPT

Ms.Neema George, AP, CSE DEPT

Date: 01-03-19 to 30-03-19



Coordinator: Ms.Divya S.B, AP, CSE DEPT

**30 Hours  
Course  
(Certificate)**

**Needed to  
become a  
Verified Java  
Programmer**

**Learn the  
fundamentals  
of Java**

**Become 1  
among the  
trained  
Engineer**

**MANGALAM COLLEGE  
OF ENGINEERING**

Mangalam Hills,  
Vettimukul P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM  
(5 Days)

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Ref: MLM/CSE/.C.C/2018-2019 /09

Date: 25/2/19

**Submitted to the Principal approval**

We have proposed to conduct the certificate course on "Certification on Basics of java" for our UG CSE students during this semester (2018-19). Tentative timings and course fees details are mentioned below. Hence, we kindly request you to give approval for the same.

**Course Explanation:**

Course Schedule :- 1.3.19 to 30.3.19

S.No.	Name of the course	Course instructors	Course duration	Approx. Course fee	Target students (year/branch)
1	Certification on Basics of java	Ms Divya SB Ms Jinu P Sainudeen Ms Neema George	30 hrs	Free	Ug Students

Thanking You,

Course I/C

*[Signature]*  
25/2/19

HoD/CSE

*[Signature]*  
25/2/19

Principal

*[Signature]*  
25/2/19

Copy to:

1. CSE Department faculty members
2. Placement Officer
3. IQAC Coordinator

*[Signature]*  
MANGALAM COLLEGE OF ENGINEERING  
25/2/19





# MANGALAM COLLEGE OF ENGINEERING

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

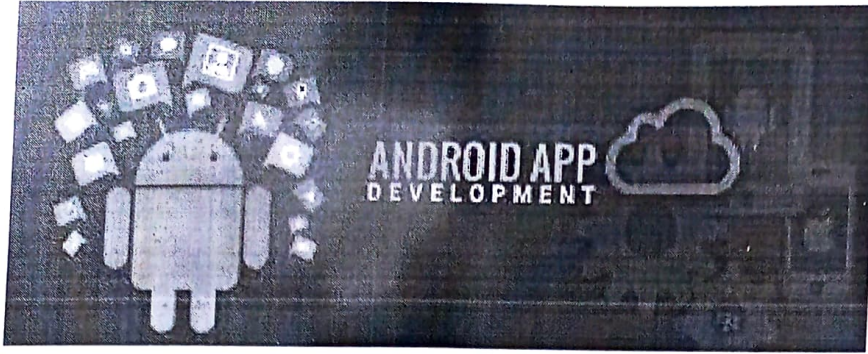
Department of Computer Science and Engineering

Academic year 2018-19

### DETAILED SYLLABUS

- 1. Java Fundamentals**
  - 1.1 Features of Java
  - 1.2 OOPs concepts
  - 1.3 Java virtual machine
  - 1.4 Reflection byte codes
  - 1.5 Byte code interpretation
  - 1.6 Data types, variable, arrays, expressions, operators, and control structures
  - 1.7 Objects and classes
- 2. Java Classes**
  - 2.1 Abstract classes
  - 2.2 Static classes
  - 2.3 Inner classes
  - 2.4 Packages
  - 2.5 Wrapper classes
  - 2.6 Interfaces
  - 2.7 This
  - 2.8 Super
  - 2.9 Access control
- 3. Exception handling**
  - 3.1 Exception as objects
  - 3.2 Exception hierarchy
  - 3.3 Try catch finally
  - 3.4 Throw, throws
- 4. IO package & Multi threading**
  - 4.1 Input streams
  - 4.2 Output streams
  - 4.3 Object serialization
  - 4.4 Deserialization
  - 4.5 Sample programs on IO files
  - 4.6 Filter and pipe streams
  - 4.7 Thread Life cycle
  - 4.8 Multi threading advantages and issues
  - 4.9 Simple thread program
  - 4.10 Thread synchronization
- 5. GUI & Database Connectivity**
  - 5.1 Introduction to AWT programming
  - 5.2 Layout and component managers
  - 5.3 Event handling
  - 5.4 Applet class Applet life-cycle
  - 5.5 Swing components – JApplet, JButton, JFrame, etc
  - 5.6 JDBC architecture

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
E.C.E.



# CERTIFICATION ON ANDROID APP DEVELOPMENT

## 30 Hour Course

- ✓ Trusted by Recruiters of software Industry
- ✓ Includes detailed Android App Development programme
- ✓ Available with Updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

## Resource Person

Ms. Sruthy Emmanuel, AP, CSE DEPT

Ms. Simy Mary Kurian, AP, CSE DEPT

Ms. Jenu P Sainudeen, AP, CSE DEPT

Date: 02-02-2019 to 23-02-2019



Coordinator: Ms. Sruthy Emmanuel

30 Hours Course  
(Certificate)

Needed to become  
a Android App  
Developer

Learn the  
fundamentals of  
Android App  
Development

Become 1 among  
the trained  
Android App  
Developer

MANGALAM COLLEGE  
OF ENGINEERING

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM

(5 Days)

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
KOTTAYAM





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Ref: MLM/CSE/CC/2018-2019 /05

Date: 30/1/19

**Submitted to the Principal approval**

We have proposed to conduct the certificate course on “**Android App Development**” for our UG CSE students during this semester (2018-19). Tentative timings and course fees details are mentioned below. Hence, we kindly request you to give approval for the same.

**Course Explanation:**

The Android App Development Certification program provides a comprehensive set of knowledge and skills in Android App Development. As an immersive training program it covers all the key technologies, techniques, principles and practices you need understand to play a key role on Android App Development and to distinguish them professionally. This program also covers the

Course Schedule: - 2.02.19 to 23.02.19

S.No.	Name of the course	Course instructors	Course duration	Approx. Course fee	Target students (year/branch)
1	Certification on Android Development App	Ms.Sruthy Emmanuel	30 hrs	Free	CSE Dept UG students.
2		Ms.Simy Mary Kurian			
3		Ms.Jinu P Sainudeen			

Thanking You,


  
Value Added Course I/C  
Ms.Sruthy Emmanuel

  
HoD/CSE

  
Principal

**Copy to:**

1. CSE Department File
2. Department Notice Board
3. IQAC

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
E.L.M. 2019



# MANGALAM COLLEGE OF ENGINEERING

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Department of Computer Science and Engineering

Academic year 2018-19  
Detailed Syllabus

### Certification on Android Application Development

- Introduction to Android** 6
- What is Android?
  - Setting up development environment
  - Dalvik Virtual Machine & .apk file extension
  - Fundamentals:
    - Basic Building blocks - Activities, Services, Broadcast Receivers & Content providers
    - UI Components - Views & notifications
    - Components for communication - Intents & Intent Filters
    - Android API levels (versions & version names)
- Application Structure (in detail)** 5
- AndroidManifest.xml
  - uses-permission & uses-sdk
  - Resources & R.java
  - Assets
  - Layouts & Drawable Resources
  - Activities and Activity lifecycle
  - First sample Application
- Emulator-Android Virtual Device** 6
- Launching emulator
  - Editing emulator settings
  - Emulator shortcuts
  - Logcat usage
  - Introduction to DDMS
  - Second App:- (switching between activities) - Develop an app for demonstrating the communication between Intents
- Basic UI design** 5
- Form widgets
  - Text Fields
  - Layouts
  - [dip, dp, sip, sp] versus px
  - Examples
- Preferences** 4
- SharedPreferences
  - Preferences from xml
  - Examples

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Erumanoor



## Menu

- Option menu
- Context menu
- Sub menu
- menu from xml
- menu via code
- Examples

4

Prepared By  
Ms. Sruthy Emmanuel

  
30/11/19

Approved by

  
30/11/19



# CERTIFICATION ON DATA SCIENCE & MACHINE LEARNING

## 30 Hour Course

- ✓ Trusted by Recruiters of software Industry
- ✓ Includes detailed Data Science & Machine Learning Programme
- ✓ Available with Updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert


## Resource Person

Ms. Neethu Maria John, AP, CSE DEPT  
Ms. Simy Mary Kurian, AP, CSE DEPT  
Ms. Sreenimol K.R, AP, CSE DEPT

Date: 02-03-2019 to 30-03-2019



Coordinator: Ms. Neethu Maria John, AP, CSE DEPT

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

30 Hours Course  
(Certificate)

Needed to become  
a data Science  
Analyst

Learn the  
fundamentals of  
Data Science  
& Machine  
Learning

Become 1 among  
the trained Data  
Science & Machine  
Learning Analyst

MANGALAM COLLEGE  
OF ENGINEERING

Mangalam Hills,  
Vettimukul P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM  
(5 Days)





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Ref: MLM/CSE/CC/2018-2019 /07

Date: 26/2/2019

**Submitted to the Principal approval**

We have proposed to conduct the certificate course on "**Certification on Data Science and Machine Learning**" for our UG CSE students during this semester (2018-19). Tentative timings and course fees details are mentioned below. Hence, we kindly request you to give approval for the same.

**Course Explanation:**

The Data Science & Machine Learning Developer Certification program provides a comprehensive set of knowledge and skills in data science, machine learning, and deep learning. As an immersive training program it covers all the key technologies, techniques, principles and practices you need understand to play a key role on your data science development team, and to distinguish them professionally. This program also covers the significant development of deep learning methods that enable state-of-the-art performance for many tasks, including image classification, time series (such as audio) classification and natural language processing.

Course Schedule: - 2.03.19 to 30.03.19

S.No.	Name of the course	Course instructors	Course duration	Approx. Course fee	Target students (year/branch)
1	<b>Certification on Data Science and Machine Learning</b>	Ms Neethu Maria John	30 hrs	Free	Ug students
Ms Simy Mary Kurian					
Ms Sreenimol KR					

Thanking You,

Course I/C

HoD/CSE

Principal

MANGALAM COLLEGE OF ENGINEERING

Copy to:

1. CSE Department file
2. Notice Board
3. IQAC

Internal Quality Assurance Cell (IQAC)  
Mangalam College of Engineering  
Kottayam, India - 686 631



# MANGALAM COLLEGE OF ENGINEERING

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Department of Computer Science and Engineering

Academic year 2018-19

### 18ECSC1-Certification on Data Science and Machine Learning

#### Detailed Syllabus

#### 1. Foundations of Data Science 7

In the first, we will cover the foundational concepts for data science that form the building blocks of the course and will help you sail through the rest of the journey with ease. With guidance from mentors, get up to speed with the statistics and python foundations that will make you ready for the program.

1.1 Python for Data Science - Numpy -Pandas - Data Visualization

1.2 Statistics for Data Science

Learn Descriptive and Inferential Statistics, which are used for data analysis and estimation. Descriptive Statistics - data analysis by describing and summarising ,Inferential Statistics - data for estimation and assess theories using Python.

#### 2. Making Sense of Unstructured Data 12

Bootstrapping data to make it AI/ML ready, along with the practical applications of the techniques utilized.

2.1 Introduction - Unsupervised Learning and its examples.

What is unsupervised learning, and why is it challenging? - Unsupervised learning algorithms - analyze and cluster unlabelled data sets, challenges.

#### 2.2 Clustering

Introduction of clustering and its various applications. What is clustering? - Basic intuition behind clustering and why it is extremely prevalent. When to use clustering? - K-means preliminaries - preliminaries before we begin with K-means clustering.-The K-means algorithm - K-means clustering unsupervised learning in Data Science or Machine Learning.- How to evaluate clustering?.- Beyond K-means: What really makes a cluster? techniques that make a cluster.- Beyond K-means: Other notions of distance - types of distance methods in clustering and discuss the use cases for the same. - Beyond K-means: Data and pre-processing - Data pre-processing as time-taking process. necessity and steps involved.- Beyond K-means: Big data and nonparametric Bayes determining large and complex data sets both structured and unstructured. Fraud Protection, Product Development, Machine Learning, Bayesian nonparametric model.

#### 2.3 Spectral Clustering, Components, and Embeddings

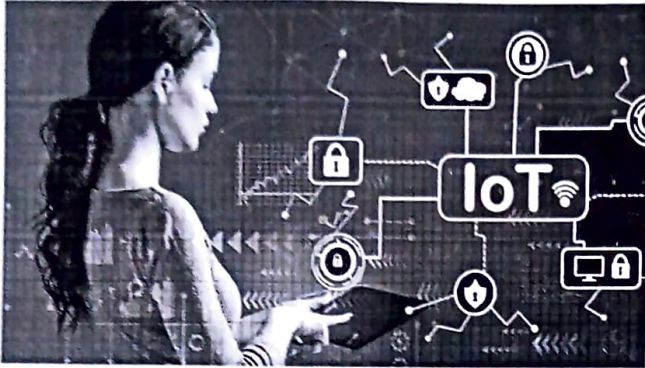
The last module for this week will focus on various spectral clustering techniques, components, and embeddings.

What if we do not have features to describe the data or not all are meaningful? -.Finding the principal components in data and applications - Reducing the complexity of an unsupervised machine learning model to avoid overfitting. -The magic of eigenvectors I - implement eigenvectors in a matrix.- Clustering in graphs and networks - clustering in graphs and networks.- Features from graphs: The magic of eigenvectors II - implement eigenvectors in a matrix using features from graphs. - Spectral clustering - reduce complex in multidimensional datasets -Modularity Clustering (G) the measure of the



Internal Quality Assurance Body (IQAB)  
Mangalam College of Engineering  
Kottayam, India - 686 631





# CERTIFICATION ON IOT

## 30 Hour Course

- ✓ Trusted by Recruiters of Software Industry
- ✓ Includes detailed iot concepts
- ✓ Available with Updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

## Resource Person

Ms Sreenimol KR, AP, CSE DEPT

Ms Nimmy Mol Manuel, AP, CSE DEPT

Ms Neena Joseph, AP, CSE DEPT

Date: 03-11-2018 to 01-12-2018



*(Signature)*  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
ETTUMANOOR, KOTTAYAM

Coordinator: Ms Sreenimol KR, AP, CSE

30 Hours Course  
(Certificate)

Needed to know  
what is IOT?

Learn the  
fundamentals of  
internet of things

Become 1 among  
the trained  
Engineer

**MANGALAM COLLEGE  
OF ENGINEERING**

Mangalam Hills,  
Vettimukul P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM  
(5 Days)



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Ref: MLM/CSE/CC/2018 2019 /03

Date: 29/8/2018

**Submitted to the Principal approval**

We have proposed to conduct the certificate course on "Certification on IoT" for our UG CSE students during this semester (2018-19). Tentative timings and course fees details are mentioned below. Hence, we kindly request you to give approval for the same.

**Course Explanation:**

The Internet of Things is transforming our physical world into a complex and dynamic system of connected devices on an unprecedented scale. The IoT brings the power of the internet, data processing, and analytics to the real world of physical objects. IoT is about connecting machines or, as we refer to them, 'things' that were previously 'dumb objects'. Advances in technology are making possible a more widespread adoption of IoT, from pill-shaped micro-cameras that can pinpoint thousands of images within the body, to smart sensors that can assess crop conditions on a farm, to the smart home devices that are becoming increasingly popular.

Course Schedule :- 1.09.18 to 29.09.18

S.No.	Name of the course	Course instructors	Course duration	Approx. Course fee	Target students (year/branch)
1	Certification on IoT	Ms Sreenimol Kr	30 hrs	Free	UG students
		Ms Nimmymol Manuel			
		Ms Neena Joseph			

Thanking You,



Course I/C  
 Ms Sreenimol Kr



HoD/CSE




Principal

PRINCIPAL  
 MANGALAM COLLEGE OF ENGINEERING

Copy to:

1. Department File
2. Notice board
3. IQAC



Internal Quality Assurance Cell (IQAC)  
 Mangalam College of Engineering  
 Kottayam, Kerala - 686 631





# MANGALAM COLLEGE OF ENGINEERING

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Department of Computer Science and Engineering

Academic year 2018-19

### 190CSC Certification on IoT

1. **Introduction to IoT**-Course Introduction 3

2 - **Origin and Impact** 6

IoT Revolution in Industries-Use Case: Fleet Management Using IoT- Benefits of IoT in Fleet Management- Use Case: IoT for Financial Services- Benefits of IoT for Financial Services- IoT in Dairy Farming.

3. **Overview of IoT** 5

Evolution of IoT- Transforming Digital World- Differences between M2M and IoT- Use Case: M2M vs IoT-Use Case: IoT in Autonomous Vehicles.


4 - **Building Blocks of IoT** 8

Building Blocks of IoT-Hardware for IoT-Connectivity Blocks and Communication Protocols-Platforms Supporting IoT-Cloud Computing for IoT-Data Management for IoT-Mobile Applications for IoT-Use Case: LoRa Communication Protocol-Use Case: Smart Home Using Arduino.


5 - **IoT Design and Development Considerations**-IoT Design and Development Considerations-IoT Device Architecture-IoT Reference Architecture-IoT Standardization and Design Considerations-IoT Device Architecture: Network and Cloud-IoT in Smart Farming.

6 - **Security Considerations Using IoT** 8

Security Considerations Using IoT-IoT Security Standards and Best Practices-IoT Attack and Vulnerabilities-IoT Hardware Solutions-IoT Software Solutions-IoT's Open Source Solutions-IoT Use Case: Utility Companies-IoT Security in Utilities Challenges-Use Case: IoT Security in Manufacturing Industry.

  
Prepared By  
Ms Sreenimol Kr

  
Approved by

  
Internal Quality Assurance Cell (IQAC)  
Mangalam College of Engineering  
Kottayam, India - 686 631



# TRAINING ON REVIT ARCH

## 30 Hour Course

- ✓ Trusted by expert from building design
- ✓ Includes detailed lectures on software tools
- ✓ Available with updated course hand out
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

### Resource Person

**Mr. Joby John**

**Faculty**

**SolidCAD**

Date: 04-08-2018 to 08-08-2018



Coordinator: Mr. Sreerench Raghav, AP/CE



A handwritten signature in green ink, likely of the Principal, is written over the stamp.

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettiluvuor





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF CIVIL ENGINEERING**

**Department of Civil Engineering**

1.	Academic Year	: 2018-19
2.	Title of the Course	Training on Revit Arch
3.	Objective of the Course	The main objective of the course was to provide the students with a concrete foundation in structural designing and its optimization along with the application of structural analysis subjects in practical layout of a structure.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	:04-08-2018to 08/08/2018
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Sreerench Raghav (CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB

  
**COURSE COORDINATOR**

  
**HOD**

  
**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
Etumaneer





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF CIVIL ENGINEERING**

**REVIT ARCH SYLLABUS**

Sessions	Topics	L Hrs
1	Structural modelling: Familiarization of user Revit platform, introduction of basic tools and components-walls, stair, ceiling roof, beam, column etc.	10
2	Component designing: Basic principles of each tool and components, modelling of components	8
3	Visual styling and levelling: Projecting different views, rendering the plan and model in different levels	6
4	3D rendering and optimization: 3D rendering of the model, photographic view of the structure, placing of interior elements, videoing the inside the structure, export of files to other drawing and designing formats.	6



# HEALTHIER AND SAFE SUSTAINABLE BUILDINGS

## 30 Hour Course

- ✓ Trusted by expert from Construction Industry
- ✓ Includes detailed rules and regulations to be followed in the site
- ✓ Available with updated course hand out
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

### Resource Person

Mr. Reni Kuruvila  
Asst. Professor  
MLMCE

Date: 10-12-2018 to 14-12-2018



Coordinator: Ms. Reni Kuruvila, AP/CE



30 Hours Course  
(Certificate)

Needed to be  
a responsible  
Engineer

Practical  
sustainable  
construction

Green  
sustainable  
green

Second  
the  
Engineer

MANGALAM  
COLLEGE OF  
ENGINEERING  
Mangalam  
Vetomala  
Ettumanoor, K  
686631  
Time 9:00 AM

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF CIVIL ENGINEERING**

**Department of Civil Engineering**

1.	Academic Year	: 2018-19
2.	Title of the Course	Healthier and Safe Sustainable buildings
3.	Objective of the Course	The main objective of the course is to provide the students a knowledge on sustainable construction methods and materials.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	: 10/12/2018 to 14/12/2018
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms Reni Kuruvila(CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB

**COURSE COORDINATOR**

**HOD**

**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
Ettumanoor







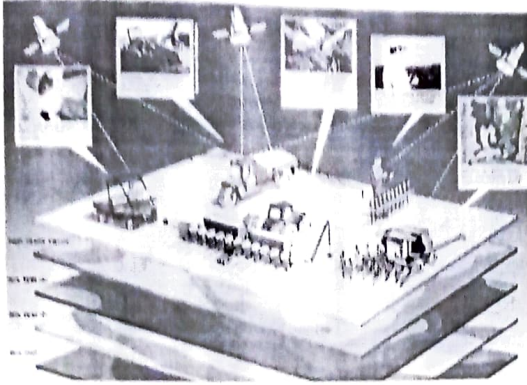
MANGALAM COLLEGE OF ENGINEERING  
DEPARTMENT OF CIVIL ENGINEERING  
Healthier and Safe Sustainable Buildings

Syllabus

Module	Topics	L Hrs
1	Basic building elements, site selection for buildings, Principles of planning. Relevant building bylaws National Building Code (NBC) & Municipal, orientation of buildings. Provision of rainwater harvesting, provision for physically handicapped facilities.  Concept of Green building, Principles of green buildings , Eco-friendly materials, Certification systems – Green Rating for Integrated Habitat Assessment (GRIHA) and Leadership in Energy and Environmental Design (LEED).	10
2	1. Sustainable Sites. <ul style="list-style-type: none"><li>• Soil erosion &amp; pollution control measures.</li><li>• Alternate transportation strategies.</li><li>• Storm water management.</li><li>• Reduction of heat island effect.</li><li>• Minimizing night sky pollution.</li></ul>	10
3	High-Performance Building Assemblies.  Ensuring Durable and Energy-Efficient Buildings.  Making Existing Buildings More Airtight.  Design Strategies for Occupant.  Six Ways Existing Buildings Can Save the Planet.	10

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





# GIS APPLICATIONS AND USES

## 30 Hour Course

- ✓ Trusted by Recruiters of geospatial Industry
- ✓ Includes detailed lectures of software tools
- ✓ **Available with Updated course handout**
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

### Resource Person

**MrRijin Anand**  
GIS Analyst

Date:

03-03-2019 to 07-03-2019



Coordinator: Mr. Sreerench Raghav, AP-CE



**30 Hours Course  
(Certificate)**

- Apply geospatial technologies in the various fields
- optimizes management off resources.

**Be 1 among  
thetrained  
Engineer**

**MANGALAM  
COLLEG OF  
ENGINEERING**

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam  
686631

Time 9:00 AM to 5 PM

**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF CIVIL ENGINEERING**

**Department of Civil Engineering**

1.	Academic Year	: 2018-19
2.	Title of the Course	GIS Applications and uses
3.	Objective of the Course	The main objective of the course was to provide the students with a solid foundation in advanced technologies in surveying especially remote sensing
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	:03-03-2019to 07/03/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Sreerench Raghav (CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB

**COURSE COORDINATOR**

**HOD**

MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor








MANGALAM COLLEGE OF ENGINEERING  
DEPARTMENT OF CIVIL ENGINEERING  
GIS Application and its Uses

Syllabus

Module	Topics	L Hrs
1	Remote Sensing and Digital Image Analysis: Basic Principles of Remote Sensing, Earth Observation Sensors and Platforms, Spectral Signature of different land cover features, Image interpretation, Thermal & Microwave Remote Sensing, Digital Image Processing: Basic Concepts of Rectification and Registration, Enhancement, Classification and accuracy assessment techniques.	10
2	Global Navigation Satellite System: Introduction to GPS and GNSS, receivers, processing methods, errors and accuracy.	8
3	Geographical Information System: GIS, databases, topology, spatial analysis and open source software.	6
4	RS and GIS Applications: Agriculture and Soil, Forestry and Ecology, Geoscience and Geo-hazards, Marine and Atmospheric Sciences, Urban and Regional Studies and Water Resources.	6

  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





# TOTAL STATION – SURVEYING

30 Hour Course

- ✓ Trusted by expert from Construction Industry
- ✓ Includes detailed rules and regulations to be followed in the site
- ✓ Available with updated course hand out
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

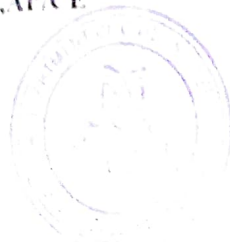
Resource Person

Mr. Reni Kuruville  
Asst. Professor  
MLMCE

Date: 11-02-2019 to 15-02-2019



Coordinator: Ms. Reni Kuruville, AP/CE



30 Hours Course  
(Certificate)

Needed to become  
a responsible Site  
Engineer

Describe the  
components of  
total station

Conduct field  
survey of vast land  
area

Become 1 among  
the trained  
Engineer

MANGALAM  
COLLEGE OF  
ENGINEERING

Mangalam Hills  
Vettimukal P.O.  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5: 00 PM

MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor, Kottayam  
686631



MANGALAM COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

Department of Civil Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	TOTAL STATION - SURVEYING
3.	Objective of the Course	The main objective of the course was to provide the students with a solid foundation in advanced technologies in surveying, especially the awareness regarding multiple surveys can be performed at one setup location.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S5 Students
7.	Date and Duration of the Course	:11-02-2019to 15/02/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms. Reni Kuruvila (CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB

COURSE COORDINATOR

HOD

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Eln.mentor



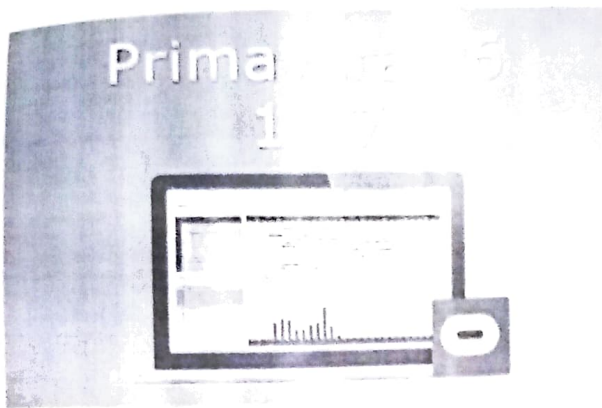


MANGALAM COLLEGE OF ENGINEERING  
DEPARTMENT OF CIVIL ENGINEERING  
Total Station - Surveying

Syllabus

Module	Topics	L Hrs
1	Methods of Measuring Distance, Basic Principles of Total Station, Historical Development, Classifications, applications and comparison with conventional surveying. Classification - applications of Electromagnetic waves, Propagation properties, wave propagation at lower and higher frequencies	10
2	Measuring principle, Working principle, Sources of Error, Infrared and Laser Total Station instruments. Microwave system: Measuring principle, working principle, Sources of Error, Microwave Total Station instruments. Comparison between Electro-optical and Microwave system. Care and maintenance of Total Station instruments	10
3	Reconnaissance – Route surveys for highways, railways and waterways – Hydrographic survey- Tides – MSL – Sounding methods – Three point problem – River surveys – Measurement of current and discharge	10

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



# PROJECT MANAGEMENT USING PRIMAVERA P6

30 Hour Course

- ✓ Trusted by Recruiters of Project Management Industry
- ✓ Includes detailed lectures of software tools
- ✓ Available with Updated course handout
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

Resource Person

MrAbin John  
Faculty  
SolidCADD

Date:

04-02-2019 to 08-02-2019



Coordinator: Mr. Sreerench Raghav, AP-CE



30 Hours Course  
(Certificate)

- Diminished risk along with cost connected with schedule overrun.
- optimizes management off resources.

Be 1 among  
thetrained  
Engineer

MANGALAM  
COLLEG OF  
ENGINEERING

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor




**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF CIVIL ENGINEERING**

**Department of Civil Engineering**

1.	Academic Year	: 2018-19
2.	Title of the Course	PROJECT MANAGEMENT USING PRIMAVERA P6
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in building the hierarchy of Organization and Enterprise, Scheduling the project in software, Assigning the resource and responsible to the activity.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	: 04-02-2019 to 08/02/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Sreerench Raghav (CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB

  
**COURSE COORDINATOR**

  
**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
Ettumanoor

  
**HOD**

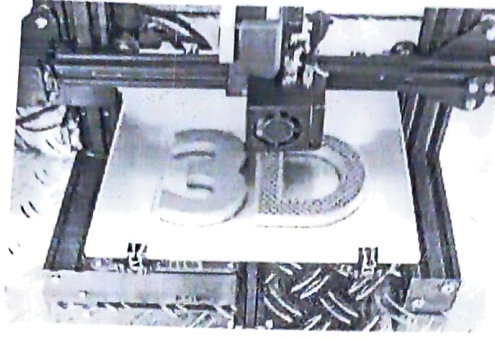




MANGALAM COLLEGE OF ENGINEERING  
DEPARTMENT OF CIVIL ENGINEERING

## Project Management using Primavera P6 Syllabus

Module	Topics	L Hrs
1	Introduction Topics: Introduction about Portfolio, Program and Projects. Introduction to Project Management. Introduction to Primavera. History of Planning. Skills required for Planning. Project Phases & Life Cycle.	7
2	Portfolio Program & Project Structure Creation - Setting up Enterprise Project Structure (EPS). Setting up Organizational Breakdown Structure (OBS). User Administration. User control & Limited Access Provisions. Setting User Preferences. Creating a Project. Defining Project Status. Setting up Project Dates. Setting up Project Codes. Project Parameters	7
3	Project Code and Calendars Project Codes. Calendar. Global Calendar. Project Calendar. Resource Calendar. Project Time Management, WBS & Activities	8
4	Project Scheduling and Constraints Exercise for all scheduling types during out of sequence. Applying different constraints in activities and understanding its behaviour. Project Resource management - creating resources and mapping resources to project activities effectively	8



# CERTIFICATE COURSE IN 3D PRINTING TECHNOLOGY

30 Hour Course

- ✓ Available with Updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

Resource Person

Mr. Jishnu M

APME

MANGALAM COLLEGE OF ENGINEERING

Date: 01/09/2018 to 30/09/2018



30 Hours Course  
(Certificate)

Needed to become  
a Verification  
Engineer

Learn the  
fundamentals 3D  
PRINTING  
TECHNOLOGY

Become 1 among  
the trained  
Engineer

MANGALAM COLLEGE  
OF ENGINEERING

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam  
686631

MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

Course Code: MEExxx		3D Printing Technology	L	T	P	J	C
Pre-requisite: NIL			2	0	5	0	0
Module	Topics	L Hrs	P				
1	3D Printing (Additive Manufacturing) Introduction and Classification. Advantages and Applications. Additive Vs Conventional manufacturing process	5	1				
2	CAD for additive manufacturing. CAD data formats, data translation, data loss. STL format	5	1				
3	Additive manufacturing Techniques-FDM. Introduction to fusion deposition modelling process, process parameter, process selection for various applications	5	1				
4	Materials, Polymers, metal, non-metals, ceramics, various forms of raw materials and their desired properties	5	1				
5	Additive manufacturing equipment- design and process parameter	5	1				
6	Hands on session: 3D modelling of a single component, assembly of CAD modelled components, Exercise on CAD data exchange, generation of stl files, printing of product on an available AM machine.						
<b>Total Lecture Hours</b>			<b>30</b>				
= Mode: Flipped Class Room [Lecture to be videotaped], Industrial visit to see different types of equipment's, Lectures by Experts from Industry (two or more sessions)							
Mode of Evaluation							
Recommended by the Board of Studies on:							
Date of Approval by the Academic Council							
Syllabus Compiled by							

Internal Quality Assurance Cell (IQAC)  
Mangalam College of Engineering  
Kottayam, India - 686 631

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettimambur





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

**Department of Mechanical Engineering**

1	Academic Year	: 2018-19
2	Title of the Course	: 3D PRINTING TECHNOLOGY
3	Objective of the Course	To create understanding of the 3D Printing Technology; To understand the fundamentals of 3D Printing Technology
4	Prerequisite	: Nil
5	Requirement	: 3D Printing lab for practical class
6	Beneficiary	: S5 Students
7	Date and Duration of the Course	: 01.09.2018 to 30.09.2018 (30 Hours)
8	Proposed Timing	: 04.00 PM to 08.00 PM (4 hours on every Saturday & Sunday)
9	No of Hours Required	: 30 Hours
10	Internal Resources	: Mr Ishnu M AP (ME)
11	Course Registration Fees	: Nil
12	Contents of Courses	: Enclosed Separately
13	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14	Venue	: 3D Printing Lab

COURSE COORDINATOR

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

HOD



# HANDS ON SESSION ON NON-DESTRUCTIVE TESTING

## 30 Hour Course

- ✓ Includes detailed technologies in NON DESTRUCTIVE TESTING
- ✓ Available with updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

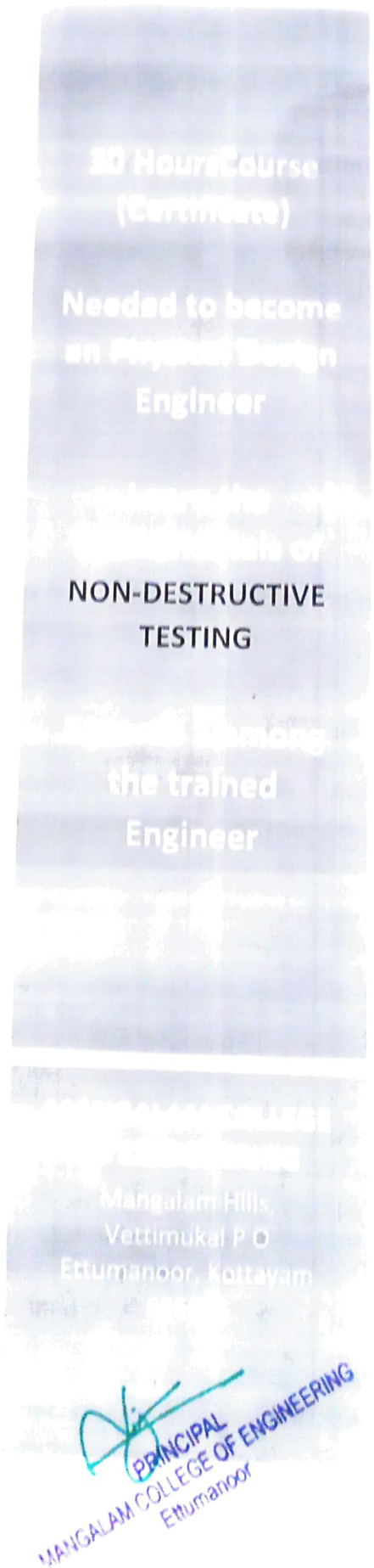
### Resource Person

Mr. Rajeeve K Mohan

APME

MANGALAM COLLEGE OF ENGINEERING

Date: 21/01/2019 to 25/01/2019





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

**Non-Destructive Testing**  
**Syllabus**

Module	Topics	L Hrs
1	Radiographic Testing: Principles, Origin of x ray, gamma rays & equipments, Development & film and processing, Radiographic techniques, Formation of image, Safety, Interpretation of radiographs, Codes and standards.	10
2	Ultrasonic Testing: Basic principles, equipment, Techniques, Conducting and Recording the Test, Calibrating testing units, Calibrating transducers, Codes and standards, Test Results	10
3	Magnetic Particle Testing: Basics of magnetism, Magnetic particle test equipment, Mediums and their preparation, Defects, Standards and Specifications. Magnetic particle application, Classification of discontinuities	5
4	Liquid Penetrant Testing: Basic Principles, Equipment and materials, Technologies, Assessment and Implementation of Control Tests, Suitable Testing Technique, Post Test Procedures, Quality control and selection of penetrant test materials. Safety precautions	5

Internal Quality Assurance Cell (IQAC)  
Mangalam College of Engineering  
Kottayam, India - 686 631

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

**Department of Mechanical Engineering**

1.	Academic Year	: 2018-19
2.	Title of the Course	: NDT
3.	Objective of the Course	: To provide graduates with a solid foundation in fundamental science, engineering, and technology in order for them to be effective innovators and entrepreneurs in the field of nondestructive testing.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S6 Students
7.	Date and Duration of the Course	: 21.01.2019 to 25.01.2019 (30 Hours)
8.	Proposed Timing	: 10.00 AM to 04.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Rajeeve K Mohan AP (ME)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Mechanical Seminar Hall

*Rajeev*

COURSE COORDINATOR

*Adhish*

MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

HOD



# CERTIFICATE COURSE IN PIPING AND PIPELINE

30 Hour Course

- ✓ Includes detailed technologies in piping and pipeline
- ✓ Available with updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

Resource Person

Mr. Aneesh K S

APME

MANGALAM COLLEGE OF ENGINEERING

Date: 04/02/2019 to 08/02/2019



30 Hours Course  
(Certificate)

Needed to become  
an **Physical Design  
Engineer**


Learn the  
fundamentals of  
**PIPING AND PIPELINE**

**Physical Design  
Engineer**

MANGALAM COLLEGE

OF ENGINEERING

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



Syllabus  
Piping and Pipeline

Module	Topics	L Hrs
1	<b>Pipeline Design</b> Introduction to piping designing & engineering Design Considerations, Selection of Piping material, Pipe fittings, supports and valves, ASME, API, ASTM, standards & codes, Instrumentation, PLC & SCADA, Review of P&ID, Drafting of pipelines, Piping layout for pumps, exchangers, vessels	10
2	<b>Construction</b> Pipeline route selection, Liaison and Approvals, site survey, soil testing, Trenching, crossing and bending, construction methodology, Pipeline inspection, Testing, BOQ, Estimation and costing, Project planning, Scheduling	10
3	<b>Procurement &amp; Fabrication</b> Quality Assurance & Control, Line pipe inspection, Equipment inspection, Fabrication & Erection of piping, Vendor identification & selection, Non destructive testing (NDT), Health, environment & Safety (HSE)	5
4	<b>Operations &amp; Maintenance</b> Pipeline integrity management, pipeline risk assessment, maintenance engineering, Fitness-for-purpose Assessment, Damage Accident investigation, Pigging, Leak detection, Metering, Pumping station, Compressor station	5

Internal Quality Assurance Cell (IQAC)  
Mangalam College of Engineering  
Kattayam, India - 686 60

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





MANGALAM COLLEGE OF ENGINEERING  
DEPARTMENT OF MECHANICAL ENGINEERING

Department of Mechanical Engineering

1.	Academic Year	: 2018-2019
2.	Title of the Course	: <i>pipeline</i>
3.	Objective of the Course	: To provide graduates with a comprehensive knowledge of elements that are essential for the design, operation, and maintenance in pipelines
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: 58 Students
7.	Date and Duration of the Course	: 04.02.2019 - 08.02.2019 (30 Hours)
8.	Proposed Timing	: 10.00 AM to 04.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Aneesh K S AP (ME)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Mechanical Seminar Hall

*Aneesh*

COURSE COORDINATOR

*Nidhish*

HOD

*[Signature]*  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



# CERTIFICATE COURSE IN FOUNDATION IN MECHANICAL CAD

## 30 Hour Course

- ✓ Includes detailed technologies in CAD
- ✓ Available with updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

## Resource Person

Mr. Benphil C Mathew

APME

MANGALAM COLLEGE OF ENGINEERING

Date: 19/11/2019 to 28/11/2019



30 Hours Course  
(Certificate)

Needed to become  
Mechanical Design  
Engineer

Learn the  
fundamentals of  
MECHANICAL CAD

Become 1 among  
the trained

Mangalam Hills,  
Vettimukal P O,  
Ettimanoor, Kottayam

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettimanoor



MANGALAM COLLEGE OF ENGINEERING  
DEPARTMENT OF MECHANICAL ENGINEERING

Department of Mechanical Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	: Foundation in Mechanical CAD
3.	Objective of the Course	:
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall, CAD LAB
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 19.11.2018 to 28.11.2018(30 Hours)
8.	Proposed Timing	: 2:00 PM to 05:00 PM(3 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Benphil C Mathew AP (ME)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Mechanical Seminar Hall, CAD Lab

*Benphil*

COURSE COORDINATOR

*Nidhish*

HOD

*Benphil*  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**SYLLABUS (Add-on Course)**

**Subject Name: Foundation in Mechanical CAD**

**Subject Code: SCADM0075**

**Total hours: 30**

**MODULE 1: (8 hours)**

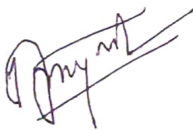
Engineering Graphics – Industrial Overview, Codes & Standards, Projection, Industrial projects, AutoCAD Interface Line, Circle, Trim, Inquiry-Distance, Rectangle, Copy, Move, Rotate, Poly line, Mirror, polygon, Stretch, Fillet, Chamfer, Ellipse arc, Region Array, Splines, Practice sessions

**MODULE 2: (12 hours)**

Single Line Text, Multiline Text, Explode, Hatch & Gradient, Drafting settings, Properties Tool Bar, Block (Make Block, Insert Block), Dimension style, Table Style, Isometric Drawings, Company Layout Designing, Drawings in Layer-International projects, Properties, Multi leader style

**MODULE 3: (10 hours)**

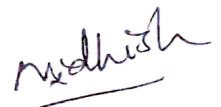
Design centre, Attribute, Inquiry – Area, Distance etc, Quick select, Filter, Draw order, Multi line style, Multi Line, Drawing Limits, Raster Image Reference, Hyper link, External References, Model-Title Block, Lay out, Scaling, Scale List, View port, Plot Style manager



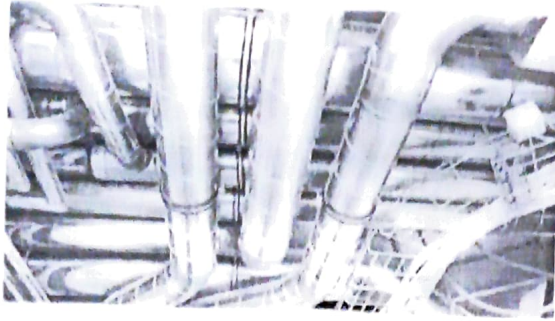
IQAC



PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettimanoor



HoD



# CERTIFICATE COURSE IN HVAC

## 30 Hour Course

- ✓ Includes detailed technologies in HVAC
- ✓ Available with updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

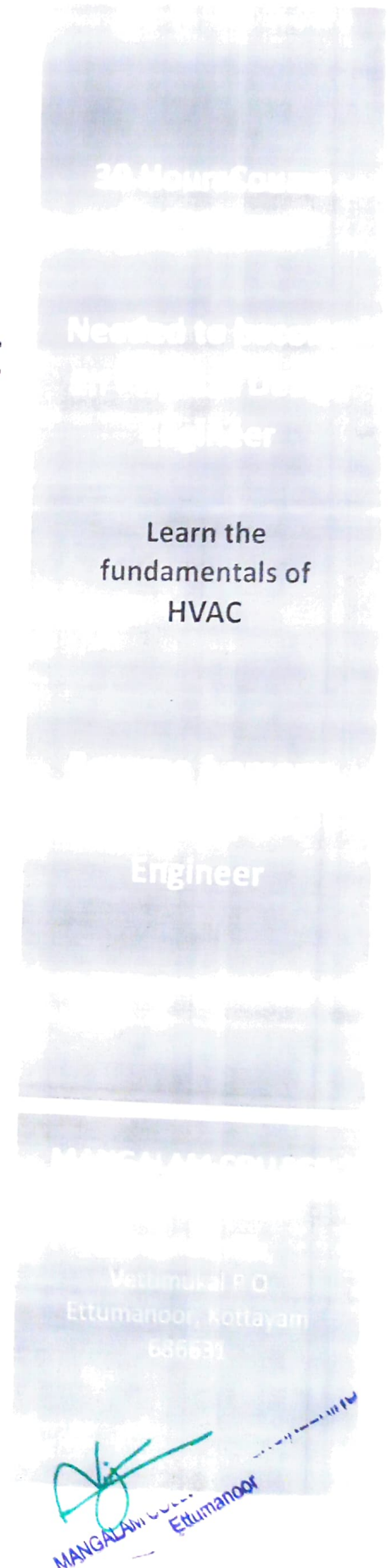
### Resource Person

Mr. Hariprasad K S

APME

MANGALAM COLLEGE OF ENGINEERING

Date 10/11/2018 to 12/01/2019





MANGALAM COLLEGE OF ENGINEERING  
DEPARTMENT OF MECHANICAL ENGINEERING

Course on Heat Ventilation & Air Conditioning (HVAC)  
Syllabus

Course Code: MEAC19HVAC		Course on HVAC	L	T	P	J	C
Pre-requisite: NIL			30	0	0	0	0
Module	Topics	L					
1	Introduction to HVAC, Fundamental of Heat Transfer, Fundamentals for RAC, Refrigerants in HVAC, Fundamental of Psychrometric, Psychrometric Process	6					
2	Classification of AC, Non-Centralized & Centralized AC, Air Handling Unit, Chiller Water System, Package System, VRV & VRF System	6					
3	Introduction to Heat Load, Heat Load Calculation for Bedroom, Heat Load Calculation for Hostel, Heat Load Calculation for Dining, Introduction to Hourly Analysis Program, Heat Load Calculation for HAP	6					
4	Introduction about Ducting, Duct Fittings, Duct Annotation, Single Line Diagram, Double Line Diagram, Duct Design	6					
5	Introduction to Hydronic System, Pipe Design, Fittings, Types of Valves, Pipe Loss Calculation and Pump Selection, Ventilation, Fresh Air Circulation, Clean Room	6					
<b>Total Hours</b>		<b>30</b>					
# Mode: Flipped Class Room [ Lecture to be videotaped], Industrial visit to see different types of equipment's, Lectures by Experts from Industry (two or more sessions)							

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

**Department of Mechanical Engineering**

1.	Academic Year	: 2018-19
2.	Title of the Course	: Heat Ventilation & Air Conditioning
3.	Objective of the Course	: To provide an overlook on the various aspects of HVAC
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	: 10.11.2018 - 12.01.2019 (30 Hours)
8.	Proposed Timing	: 9:00 AM – 12:00 PM (3 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Hariprasad K S AP (ME)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Mechanical Seminar Hall

*Hari*

**COURSE COORDINATOR**

*Madhish*

**HOD**

*[Signature]*  
MANGALAM COLLEGE OF ENGINEERING  
Erumathur



# CERTIFICATE COURSE IN SUPPLY CHAIN MANAGEMENT

30 Hour Course

- ✓ Includes detailed technologies in Supply Chain Management
- ✓ Available with updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

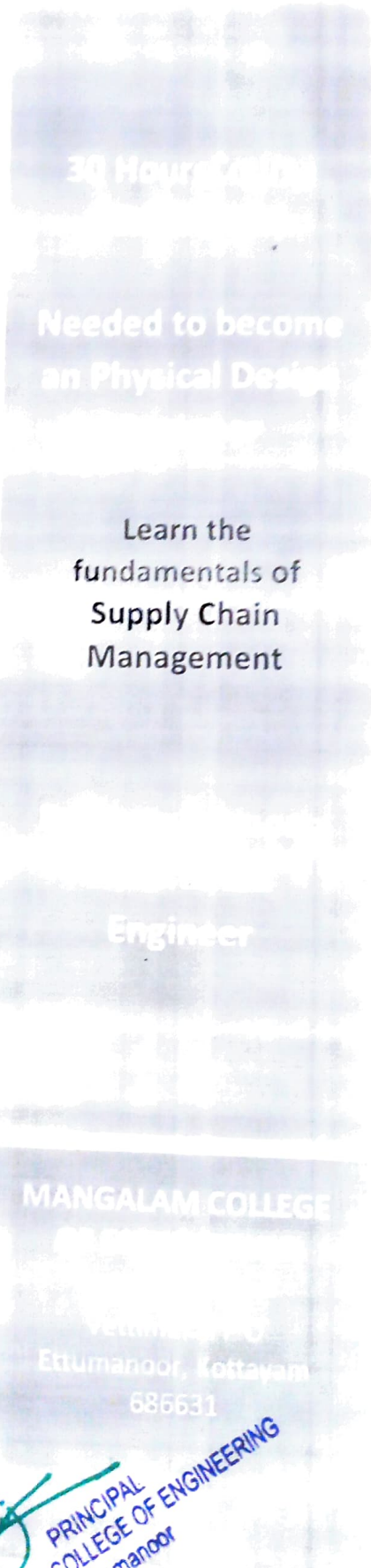
Resource Person

Mr. Rajeeve K Mohan

APME

MANGALAM COLLEGE OF ENGINEERING

Date: 11/01/2019 to 29/01/2019



30 Hour Course

Needed to become  
an Physical Design

Learn the  
fundamentals of  
Supply Chain  
Management

Engineer

MANGALAM COLLEGE

Ettumanoor, Kottayam  
686631

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

Syllabus

**SUPPLY CHAIN MANAGEMENT**

Module	Topics	L Hrs
1	Supply chain strategy: achieving strategic fit (Zara, Dell); dual sourcing; network design.	8
2	Supply chain risk sharing contracts Supply chain risk pooling: centralization, postponement, Omni channel	8
3	Supply chain risk hedging Supply chain coordination: sales & operations planning (S&OP)	8
4	Supply chain coordination: bullwhip effect Global supply chain: buy-sell, turnkey, transfer price and tax	6

Internal Quality Assurance (IQA)  
 Mangalam College of Engineering  
 Kottayam, India - 686031

PRINCIPAL  
 MANGALAM COLLEGE OF ENGINEERING  
 Ettumanoor





MANGALAM COLLEGE OF ENGINEERING  
DEPARTMENT OF MECHANICAL ENGINEERING

Department of Mechanical Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	: Supply Chain Management
3.	Objective of the Course	: The objective of this course is to introduce you to the key concepts and techniques that will allow you to analyze, manage and improve supply chain processes for different industries and markets
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: 83 Students
7.	Date and Duration of the Course	: 11.01.2019 to 31.01.2019(30 Hours)
8.	Proposed Timing	: 04.00 AM to 06.00 PM(2 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Rajeev K Mohan AP (ME)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Mechanical Seminar Hall

*Rajeev*

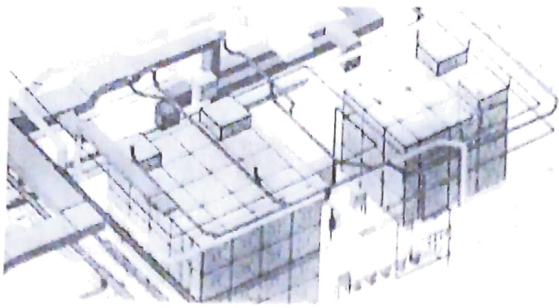
COURSE COORDINATOR

*[Signature]*

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

*Madhich*

HOD



# CERTIFICATE COURSE IN MEP

## 30 Hour Course

- ✓ Includes detailed technologies in MEP
- ✓ Available with updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

### Resource Person


Mr. JISHNU M

APME

MANGALAM COLLEGE OF ENGINEERING

Date: 11/01/2019 to 31/01/2019



  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Etumanoor



MANGALAM COLLEGE OF ENGINEERING  
DEPARTMENT OF MECHANICAL ENGINEERING

MEP  
Syllabus

Module	Topics	L Hrs
1	STARTING MEP PROJECT Linking projects View templates General system options ENERGY ANALYSIS FEATURES Use building elements for energy analysis mode Preparing spaces Zones in the system browser	8
2	VALIDATE ENERGY ANALYTICAL MODE Use third party tool for checking Heating and cooling load calculation PLANNING MECHANICAL SYSTEM Adding mechanical equipment Adding diffuser Create duct system ADDING DUCT SYSTEM Adding duct by duct layout Adding duct by duct pace holder <a href="http://www.aghoragroup.com">www.aghoragroup.com</a> Adding duct manually Duct sizing	8
3	ANNOTATION AND HYDRONIC CONNECTIONS Annotating duct Model pipe system ELECTRICAL DESIGN	8



	<input type="checkbox"/> Adding light fixtures <input type="checkbox"/> Adding receptacles <input type="checkbox"/> Adding & circuiting panel board	
4	<b>PANEL SCHEDULE</b> <input type="checkbox"/> Creating panel schedule <input type="checkbox"/> Creating a switch system <input type="checkbox"/> Circuiting receptacles <b>WIRING</b> <input type="checkbox"/> Adding wiring <input type="checkbox"/> Modifying panel schedule <input type="checkbox"/> Creating lighting circuit as per Indian standard	6



Internal Quality Assurance Cell (IQAC)  
 Mangalam College of Engineering  
 Ettumanoor, India - 686 631



PRINCIPAL  
 MANGALAM COLLEGE OF ENGINEERING  
 Ettumanoor




**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

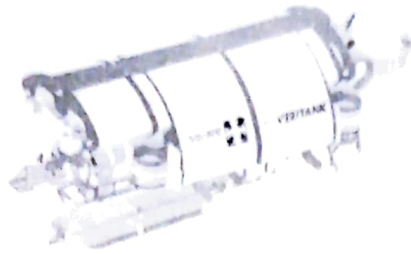
**Department of Mechanical Engineering**

1.	Academic Year	: 2018-19
2.	Title of the Course	: MEP
3.	Objective of the Course	: The main objective of the course was to provide the This course is intended to introduce users to the software's user interface and the basic HVAC, electrical, and piping/plumbing components that make the Autodesk Revit software a powerful and flexible engineering modeling tool. .
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S8 Students
7.	Date and Duration of the Course	: 11.01.2019 to 29.01.2018(36 Hours)
8.	Proposed Timing	: 04.00 AM to 06.00 PM(2 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Jishnu M (ME)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Mechanical Seminar Hall

  
COURSE COORDINATOR

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

  
HOD



# CERTIFICATE COURSE IN SOLID WORKS

30 Hour Course

- ✓ Includes detailed technologies in SOLID WORKS
- ✓ Available with updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

Resource Person

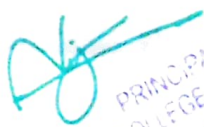
Mr. Albert Mathew

APME

MANGALAM COLLEGE OF ENGINEERING

Date: 22/08/2018 to 23/09/2018



  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Trivandrum





Course on Solid Works  
Syllabus

Course Code: MEAC20SW		Course on Solid Works	L	T	P	J	C
Pre-requisite: Machine Drawing			5	0	25	0	0
Module	Topics	L	P				
1	Introduction to CAD Features of Solid Works, Various products available in Solid Works for Product Design & Assembly Modeling	1	5				
2	Rectangle, Slots, Polygon, Ellipse, Partial Ellipse, Spline, Points, Text, Construction geometry, Session 3 Sketch Tools - Fillet, Chamfer, Offset, Convert entities, Trim, Extend, Mirror, Dynamic Mirror, Move, Copy, Rotate, Scale, Stretch, Sketch pattern Close Sketch To Model, Sketch picture.	1	5				
3	Creating Extrude features – Direction1, Direction2, From option, Thin feature, Applying draft, Selecting contours Creating Revolve features – Selecting Axis, Thin features, Selecting contours Creating Swept features-Selecting Profile and Path, Thin feature. Creating Loft features – Selecting Profiles, Guide curves.	1	5				
4	Creating Rib Creating Pattern - Linear pattern, Circular pattern, Sketch driven pattern, Curve driven pattern, Fill pattern, mirror. Environment & Utilities - Working with views and manipulating views, Trouble shooting	1	5				
5	Inserting Planar Surface, Offset Surface, Radiate Surface, Extending a surface, Surface fill, Ruled Surface, Trimming Surface, Mid surface, Replace Face, Delete face, Un-trim surface, Knit surface, Thickening a Surface, Move Face Session 13 Generating Drawing Views Introduction To Angle Of Projection	1	5				
<b>Total Hours</b>		<b>30</b>					
<p># <b>Mode:</b> Flipped Class Room [ Lecture to be videotaped], Industrial visit to see different types of equipment's, Lectures by Experts from Industry (two or more sessions)</p>							

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

**Department of Mechanical Engineering**

1	Academic Year	2018-19
2	Title of the Course	Solid Works
3	Objective of the Course	To create understanding of the Computer Aided Design Software To understand the fundamentals Design of Machine Elements and its analysis
4	Prerequisite	: Machine Drawing
5	Requirement	: CAD Lab for practical class
6	Beneficiary	: 53 Students
7	Date and Duration of the Course	:22.08.2018 to 23 09 2018 (30 Hours)
8	Proposed Timing	:05.00 PM to 07 00 PM (2 hours on every Monday to Thursday)
9	No of Hours Required	: 30 Hours
10	Internal Resources	: Mr Albert Mathew AP (ME)
11	Course Registration Fees	:Nil
12	Contents of Courses	:Enclosed Separately
13	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14	Venue	: CAD Lab

*Albert*

COURSE COORDINATOR

*Mathew*

HOD

*Mathew*  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



# MANGALAM COLLEGE OF ENGINEERING

Department of Electronics and Communication

## Department of Electronics and Communication Engineering

1.	Academic Year	: 2018-2019
2.	Title of the Course	: Financial independence at 40
3.	Objective of the Course	:To introduce the basic financial planning skills to final year students.
4.	Prerequisite	: Nil
5.	Requirement	: Basic Calculator skills
6.	Beneficiary	: S6 Students
7.	Date and Duration of the Course	: 9/2/2020 to 9/03/2020 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 04.00 PM(6 hours per every Saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Prof. Ajit Joseph, HoD, ECE
11.	Course Registration Fees	:Nil
12.	Contents of Courses	:Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: S6A classroom

  
COURSE COORDINATOR

  
HOD/ECE

  
PRINCIPAL

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



## CERTIFICATE COURSE

### Financial independence at 40

#### Course Objective:

- To expose students to basics of Budgeting.
- To explain students on different methods of financial planning.
- To introduce students to different tools of financial investing.
- To explain students about various insurance methods.
- To expose the students to entrepreneurship and finance.

#### Course Outcomes:

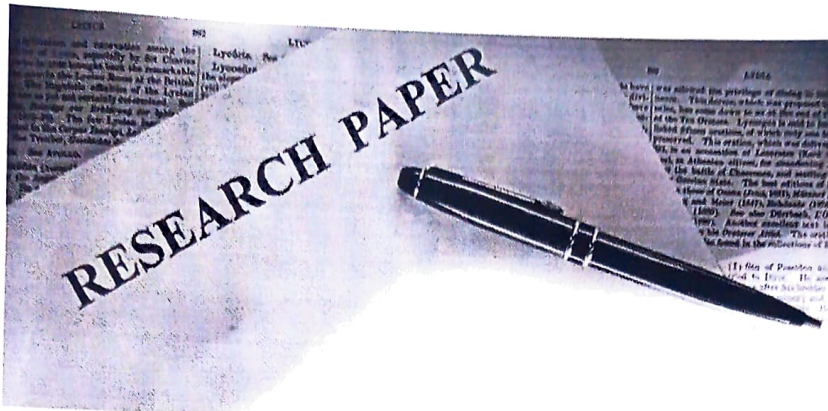
- Budget their personal finances for emergency and achieving financial goals
- Plan financial goals following proper financial planning process.
- Use different tools for investing in the financial markets.
- Understand the insurance tool to insure self, family and business.
- Plan through different stages of Venture development and financing.

Module	Topics	Hours
1	<b>Budgeting Basics</b>	5 Hours
	Building a spending plan- Income, debts, expenses; Financial priorities; Setting Financial Goals and saving for it; Emergency funds, Financing your financial goals.	
2	<b>Financial Planning</b>	7 Hours
	Introduction- Financial planning, Financial planning Pyramid, Financial planning process, Cash Flow Analysis, Current Asset Allocation & Networth, Risk Profiling, Emergency Fund Analysis, Protection Planning, Investment Planning for Goals, Estate Planning, Tax Planning.	
3	<b>Investing</b>	6 hours
	Introduction to investing-What, Why and How; Power of compounding; Time and Compounding; risk tolerance; Types of investing-Bonds, Stocks, Mutual Funds, Mutual funds and ETFs, Alternative Investments; Portfolio and Diversification.	
4	<b>Basics of Insurance</b>	6 hours
	Insurance-What and why; Insurance sector in India; Popular types of Insurance; How to choose a life insurance; Health insurance; Agent and Broker; Insurance repository; Insurance Ombudsman.	
5	<b>Entrepreneurial Finance</b>	6 hours
	What is Entrepreneurship; Types of Entrepreneurship; Stages of New Venture Development; Financial Performance and the Stages of New Venture Development; Sequence of New Venture Financing; New Venture Business Plan.	

#### ➤ Recommended Books:

1. "The Beginners Guide to budgeting", Allison Lindstrom, Amazon Digital Services LLC - KDP Print US.
2. "The Fundamentals of Insurance Theories", Principles and Practices, Hargovind Dayal, Notion Press
3. "Art of Stock Investing-How to find & Invest in great companies and sit back while your money grows", Manikandan Ramalingam, Notion Press.

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Etumanoor



# HOW TO WRITE AN EFFECTIVE RESEARCH PAPER

30 Hour Course

Course Objective:

- ✓ To Learn how to write research papers with easy steps. Includes examples and a research paper template.
- ✓ To Learn how to properly and efficiently conduct a research project, especially for scientific research
- ✓ To Learn exactly how to prepare an effective research paper for publication in a scientific journal, archival volume, or other publications.

Resource Person

Mr. Rijo Sebastian( PhD),

Research Scholar, CUSAT

Date: 05.11.2018 to 09.05.2018



Coordinator: Reneesh C Zacharia, AP-ECE

30 Hours Course  
(Certificate)

Course Outcomes:

- Student knows and how to select a research title.
- Student learns to write equations, matrix and tables in research paper.
- Student learn to quote the references, equation references, citations.

MANGALAM COLLEGE  
OF ENGINEERING

Mangalam Hills,  
Vettimukul P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 5 PM  
(5 Days)

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

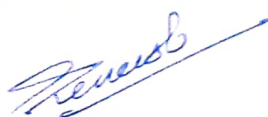





# MANGALAM COLLEGE OF ENGINEERING

## Department of Electronics and Communication Engineering


1.	Academic Year	: 2018-2019
2.	Title of the Course	: <b>How to write an effective research paper</b>
3.	Objective of the Course	<ul style="list-style-type: none"><li>• :Learn how to properly and efficiently conduct a research project, especially for scientific research</li><li>• Learn exactly how to prepare an effective research paper for publication in a scientific journal, archival volume, or other Journal.</li></ul>
4.	Prerequisite	: Nil
5.	Requirement	: Online Google meet for theory class : Computer lab for practical class
6.	Beneficiary	: S6Students
7.	Date and Duration of the Course	: 05.11.2018 to 09.05.2018(30 Hours)
8.	Proposed Timing	: 09.00 AM to 04.00 PM(6 hours per every Saturday)
9.	No of Hours Required	: 30 Hours
10.	Resources	: Mr. Rijo Sebastian( PhD), Research Scholar, CUSAT
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Online

  
COURSE COORDINATOR

  
HOD

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  


DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGG.  
MANGALAM COLLEGE OF ENGINEERING  
ETT, WANDUR, 681 031

  
MANGALAM COLLEGE OF ENGINEERING  
ETT, WANDUR, 681 031



# CERTIFICATE COURSE

## How to write an effective research paper

### Course Objective:

- ✓ To Learn how to write research papers with easy steps. Includes examples and a research paper template.
- ✓ To Learn how to properly and efficiently conduct a research project, especially for scientific research
- ✓ To Learn exactly how to prepare an effective research paper for publication in a scientific journal, archival volume, or other publications.

### Course Outcomes:

- ✓ Student knows and how to select a research title.
- ✓ Student learns to write equations, matrix and tables in research paper.
- ✓ Student learns to quote the references, equation references, citations.
- ✓ Student knows and how to select a research journal for publication.

### Recommended Books:

1. Manual for Writers of Research Papers, Theses, and Dissertations,

S.NO.	CONTENT	INSTRUCTIONAL HOURS
<b>Section 1</b>		
1	Understanding How a research paper is written	1
2	Preliminary Steps	2
3	Title	2
4	Abstract	3
5	Key Words	2
6	Introduction - Overview	2
7	Introduction - Organization	1
8	Introduction - First Paragraph	2
10	Introduction - Middle Paragraphs	2
11	Introduction - Middle Paragraphs	2
12	The Methods - Overview	1
13	The Methods - Examples	2
14	The Results	2
15	The Discussion	1
16	Summary and Conclusion	1
17	Acknowledgements	2
18	Appendices	1
19	References	1
Total Hours		=30

Chicago Style for Students and Researchers Kate L. Turabian

2. How to Write a Scientific Paper - An Academic Self-Help Guide for PhD Students Jari Saramäki

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Etumanoor



**Mangalam**  
College of Engineering

# Organized by Electronics and Communication Engineering

## Objective

- Introduce the concepts of micro electromechanical systems in medical use and learn the materials used and the micro manufacturing.

## Course Outcome

- Students can identify the principles of sensors and actuators and they can summarize the optical devices and applications.
- They can classify the performance of microfluidic devices to the environment.
- They can use the COMSOL software tools for designing and analyzing the sensors.

## Details of Course

- Online Google meet for theory class
- <https://meet.google.com/cma-rtts-uur>
- 09.00 AM to 04.00 PM (6 hours per every Saturday)
- Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
- Expert - Mr.Poompavai, Research Scholar, VIT University, Vellore
- Coordinator - Mr. Neethan Elizabeth Abraham / AP (ECE)

## About Us

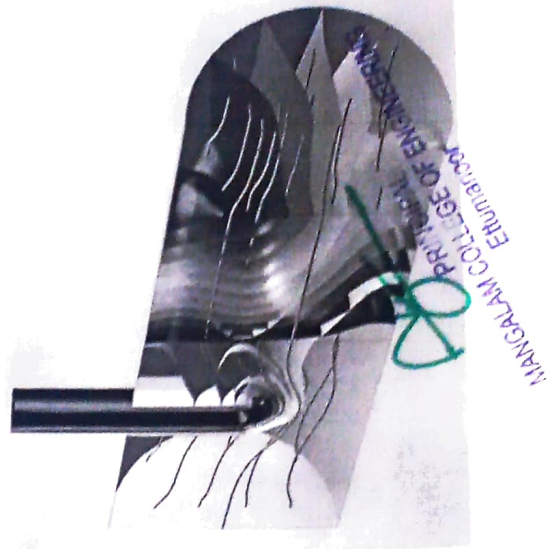
- *Electronics and Communication Engineering (ECE) is a swiftly advancing field, with new ideas emerging in every second. From mobile phones to fiber optics and remote sensing, there are exciting avenues to explore and create.*
- *The Department of ECE was started with an intake of 60 students in 2002. In 2004 it is expanded to 90 students and due to ever increasing demand the seats of the department increased to 120 by 2008.*
- *The Department also conducts post-graduate programmes in VLSI & Embedded Systems from the year 2011 and Communication Engineering from the year 2013.*
- *The Department has well-furnished, air conditioned Laboratories equipped with the necessary measuring instrument systems and softwares for design, simulation and testing.*
- *The Department has highly qualified and motivated academic faculty having extensive teaching / research experience and have several International / National Journal and conference publications to their credit.*
- *Every year, the department organizes National level Technical Symposium / National Conference/ Workshop to promote closer interaction between academic and research scholars.*

Certificate Course

On

Application in  
**BioMEMS using  
COMSOL**

19/03/2019 to 13/04/2019  
(Saturdays)





# MANGALAM COLLEGE OF ENGINEERING

## Department of Electronics and Communication Engineering

1.	Academic Year	: 2018-2019
2.	Title of the Course	: Application in BioMEMS using COMSOL
3.	Objective of the Course	: Introduce the concepts of micro electromechanical systems in medical use and learn the materials used and the micro manufacturing.
4.	Prerequisite	: Nil
5.	Requirement	: Online Google meet for theory class
6.	Beneficiary	: S4 Students
7.	Date and Duration of the Course	: 02/02/2019 to 09/03/2019 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 04.00 PM (6 hours per every Saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Neethan Elizabeth Abraham / AP (ECE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Online

COURSE COORDINATOR

HOD/ECE

PRINCIPAL

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGG.  
MANGALAM COLLEGE OF ENGINEERING  
ETTUMANOOR 686 631

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
ETTUMANOOR

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
ETTUMANOOR



## CERTIFICATE COURSE

### Application in BioMEMS using COMSOL

#### Course Objective:

- Introduce the concepts of micro electromechanical systems in medical use and learn the materials used and the micro manufacturing.

#### Course Outcomes:

- Identify the principles of sensors and actuators
- Summarize the optical devices and applications
- Classify the performance of microfluidic devices to the environment
- Use the software tools for designing and analyzing the sensors
- Recommend the suitable principles of testing for biomedical conditions

#### Recommended Books:

1. Printed circuit board design ,fabrication assembly and testing By R. S. Khandpur, Tata McGraw Hill 2006.
2. Printed circuit Board Design and technology, Walter C. Bosshart
3. Printed Circuits Handbook, Sixth Edition,by Clyde F. Coombs, Jr, Happy T.

S.NO.	CONTENT	INSTRUCTIONAL HOURS
<b>Section 1</b>		
1	MEMS and Microsystems- Introduction - Typical MEMS and Microsystem Products	2
2	Application of Microsystem in Healthcare Industry – Working Principles of Microsystems Micro-sensors	2
3	Working Principles of Micro-actuation	2
4	MEMS with Micro actuation– Micro accelerators.	2
5	Micro-Opto Electromechanical Systems: Fundamental principle of MOEMS Technology	4
6	Micro-lens, Micro-mirrors - Digital Micro-mirror Device.	4
7	Grating Light Valve, Optical Switch, Waveguide and Tuning	4
<b>Section 2</b>		
10	Introduction to BioMEMS, BioMEMS for Clinical Monitoring, Lab on a chip	2
11	BioMEMS for DNA Sensors, E-Nose, E Tongue.	4
12	Microsystem approaches to PCR, MEMS based Implantable Drug Delivery System, Emerging BioMEMS Technology.	4
Total Hours		=30

#### Recommended Books:

1. Tai-Ran Hsu, “MEMS & Microsystems- Design, Manufacture and Nanoscale Engineering”, John Wiley & Sons, 2 nd Edition 2008
2. Nitaigour Premchand Mahalik, “MEMS”, Tata McGraw Hill, 2 nd Reprint 2008
3. Albert Folch, “Introduction to Bio mems, ” CRC Press, First Edition, 2012.
- 4.. N.P.Mahalik, “Micro manufacturing & Nanotechnology”, Springer, 2006.

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

## Objective

- This is a basic course for designing of PCB using software. PCB (Printed Circuit Board) designing is an integral part of each electronics products and this program is designed to make students capable to design their own projects PCB up to industrial grade.
- Students understand basics of PCB designing. They apply advance techniques, skills, and modern tools for designing and fabrication of PCBs.
- Students learned to apply the knowledge and techniques to fabricate Multilayer, SMT and HDI PCB They understand concepts of Packaging.

## Details of Course

- Online Google meet for theory class
- <https://meet.google.com/cea-rves-vut>
- 09.00 AM to 04.00 PM (6 hours per every Saturday)
- Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
- Expert - Mr. Peter Joseph, Research Scholar VIT University, Vellore
- Coordinator - Mrs. Meeva P A, AP/ECE

विद्यया ऽमृतमश्नुते

by

# Electronics and Communication Engineering



Mangalam

College of Engineering

Certificate Course

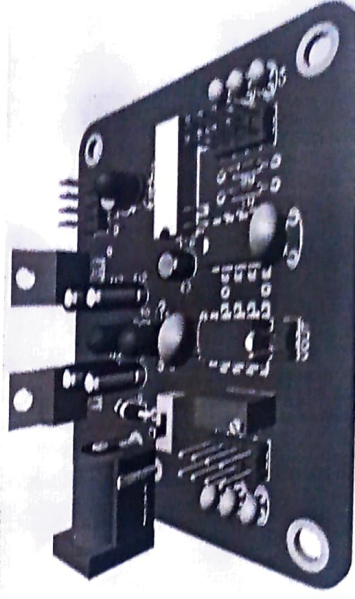
On

## Layout Design using Proteus and PCB

08/10/2018 to 03/11/2018  
(Saturdays)

## About Us

- *Electronics and Communication Engineering (ECE) is a swiftly advancing field, with new ideas emerging in every second. From mobile phones to fiber optics and remote sensing, there are exciting avenues to explore and create.*
- *The Department of ECE was started with an intake of 60 students in 2002. In 2004 it is expanded to 90 students and due to ever increasing demand the seats of the department increased to 120 by 2008.*
- *The Department also conducts post-graduate programmes in VLSI & Embedded Systems from the year 2011 and Communication Engineering from the year 2013.*
- *The Department has well-furnished, air conditioned Laboratories equipped with the necessary measuring instrument systems and softwares for design, simulation and testing.*
- *The Department has highly qualified and motivated academic faculty having extensive teaching / research experience and have several International / National Journal and conference publications to their credit.*
- *Every year, the department organizes National level Technical Symposium / National Conference/ Workshop to promote closer interaction between academic and research scholars.*



AP/ECE  
08/10/2018 to 03/11/2018  
MANGALAM COLLEGE OF ENGINEERING



# MANGALAM COLLEGE OF ENGINEERING

## Department of Electronics and Communication Engineering

1.	Academic Year	: 2018-2019
2.	Title of the Course	: Layout Design using Proteus and PCB
3.	Objective of the Course	: To impart basic knowledge to the students about current energy scenario, energy conservation and management.
4.	Prerequisite	: Nil
5.	Requirement	: Online Google meet for theory class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 08/10/2018 to 03/11/2018 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 04.00 PM (6 hours per every Saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mrs. Meeva P A / AP (ECE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Online

COURSE COORDINATOR

HOD/ECE

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGG.  
MANGALAM COLLEGE OF ENGINEERING  
ETTUMANOOR 686 631

PRINCIPAL

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
ETTUMANOOR

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



## CERTIFICATE COURSE

### Layout Design Using Proteus and PSB

#### Course Objective:

- This is a basic course for designing of PCB using software. PCB (Printed Circuit Board) designing is an integral part of each electronics products and this program is designed to make students capable to design their own projects PCB up to industrial grade.

#### Course Outcomes:

- Understand basics of PCB designing.
- Apply advance techniques, skills and modern tools for designing and fabrication of PCBs.
- Apply the knowledge and techniquesto fabricate Multilayer, SMT and HDI PCB.
- Understand concepts of Packaging.

S.NO.	CONTENT	INSTRUCTIONAL HOURS
<b>Section 1</b>		
1	Fundamental of electronic components, basic electronic circuits, Basics of printed circuit board designing:	2
2	Layout planning, general rules and parameters, ground conductor considerations, thermal issues, check and inspection of artwork.	2
3	Energy conservation and its importance, energy strategy for the future, Energy Conservation Act 2001 and its features.	2
4	Design rules for PCB: Design rules for Digital circuit PCBs, Analog circuit PCBs.	2
5	High frequency and fast pulse applications, Power electronic applications, Microwave applications.	2
6	Introduction to Electronic design automation (EDA) tools for PCB designing: Brief Introduction of various simulators, Proteus Environment, Selecting the Components Footprints as per design,	4
7	Making New Footprints, Assigning Footprint to components, Net listing, PCB Layout Designing, Auto routing and manual routing. Assigning specific text (silkscreen) to design, Creating report of design, creating manufacturing data (GERBER) for design.	4
<b>Section 2</b>		
10	Photo printing, film, master production, reprographic camera, basic process for double sided PCBs photo resists,	2
11	Screen printing process, plating, relative performance and quality control, etching machines, Solders alloys, fluxes, soldering techniques, Mechanical operations.	2
12	PCB Technology Trends: Multilayer PCBs, Multiwire PCB, Flexible PCBs, Surface mount PCBs, Reflow soldering, Introduction to High-Density Interconnection (HDI) Technology.	4
	Subsystem/PCB Placement in an enclosure, Filtering circuit placement, decoupling and bypassing, Electronic discharge	4

protection, Electronic waste; Printed circuit boards Recycling techniques	Total Hours	-30
--	-------------	-----

Recommended Books:

1. Printed circuit board design ,fabrication assembly and testing By R. S. Khandpur, Tata McGraw Hill 2006.
2. Printed circuit Board Design and technology, Walter C. Bosshart
3. Printed Circuits Handbook, Sixth Edition,by Clyde F. Coombs, Jr, Happy T. Holden,Publisher: McGraw-Hill Education Year: 2016
4. Complete PCB Design Using OrCAD Capture and PCB Editor,Kraig Mitzner Bob
5. Doe Alexander Akulin Anton Suponin Dirk Müller, 2nd Edition 2009.
6. 4. Introduction to System-on-Package, Rao R Tummala&MadhavanSwaminathan, McGraw Hill, 2008.

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





MANGALAM COLLEGE OF ENGINEERING  
Mangalam Hills, Vettimukal p.o  
Ettumanoor, Kottayam 686631

# PROTEUS PCB DESIGNING

Date: 08/09/2018  
(30 hour course)  
(certificate)

*Organized by :* Department Of Electrical  
And Electronics Engineering

**Speaker: Neeba Sabu**

(Assistant Profesor  
Department of Electrical And  
Electronics Engineering)





# MANGALAM COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

## Department of Electrical and Electronics Engineering

1.	Academic Year	: 2018-2019
2.	Title of the Course	: <b>Proteus PCB Designing</b>
3.	Objective of the Course	:To understand designing of PCB using software,To designing an integral part of each electronics products
4.	Prerequisite	: NIL
5.	Beneficiary	: S5Students
6.	Date and Duration of the Course	: 08.09.2018 to 06.10.2018(30 Hours)
7.	Proposed Timing	: 09.00 AM to 04.00 PM(6 hours per every Saturday)
8.	No of Hours Required	: 30 Hours
9.	Internal Resources	: Ms. Neeba Sabu /EEE
10.	Course Registration Fees	:Nil
11.	Contents of Courses	:Enclosed Separately
12.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in practical evaluation
13.	Venue	: CAD Lab for practical class and S5 Class room

COURSE COORDINATOR

HOD/EEE

PRINCIPAL

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

## CERTIFICATE COURSE

### Proteus PCB Designing

#### Course Objective:

- This is a basic course for designing of PCB using software. PCB (Printed Circuit Board) designing is an integral part of each electronics products and this program is designed to make students capable to design their own projects PCB up to industrial grade.

#### Course Outcomes:

- Student knows PCB designing and how to install Proteus software.
- Student learn to design electronic circuits.
- Student learn to simulate the circuit with Proteus software.

S.NO.	CONTENT	INSTRUCTIONAL HOURS
<b>Section 1</b>		
1	Introduction and Application	1
2	What is PCB, Types of PCBs: Single Sided (Single Layer), Multi-Layer (Double Layer), PCB Materials	2
3	Creating a Project	2
4	Planning, Keyboard shortcuts, display options etc	2
5	Components selection and connection in Proteus	3
6	Selection of Controllers	2
7	Scopes, meters and measurement equipment	1
8	Design verification and connections	3
<b>Section 2</b>		
9	Practical section for basic simpler circuits	2
10	Single Phase Half controlled converter with R load	2
11	Single Phase fully controlled bridge converter with R and RL loads	2
12	Three Phase half controlled bridge converter with R load	2
13	Single Phase AC Voltage Controller with R and RL Loads	2
14	Single phase Inverter with PWM control	1
15	Single Phase series inverter with R and RL loads	1
16	Buck and Boost converter	2
Total Hours		=30

#### Recommended Books:

1. Proteus (Design Software) by Lambert M. Surhone, Miriam T. Timpledon, Susan F. Marseken, VDM Publishing, 2010.

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Etumam





MANGALAM COLLEGE OF ENGINEERING  
Mangalam Hills, Vettimukal p.o  
Ettumanoor, Kottayam 686631

# FECAD

DATE: 08/09/2018  
(certificate)

(30 hour course)

*Organized by* : Department Of Electrical  
And Electronics Engineering

**Speaker: RAHMATHBEEBY KA**

(Assistant Professor  
Department of Electrical And  
Electronics Engineering)

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





# MANGALAM COLLEGE OF ENGINEERING

## DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

### Department of Electrical and Electronics Engineering

1.	Academic Year	: 2018-2019
2.	Title of the Course	: Electrical CAD <b>for Beginners</b>
3.	Objective of the Course	: To create understanding of the Electrical Cadd,
4.	Prerequisite	: Computer lab for practical class
5.	Beneficiary	: S7 Students
6.	Date and Duration of the Course	: 08.09.2018 to 06.10.2018 (30 Hours)
7.	Proposed Timing	: 09.00 AM to 04.00 PM ( <b>6 hours per every saturday</b> )
8.	No of Hours Required	: 30 Hours
9.	Internal Resources	: Ms. Rahumath K Beeby, AP/EEE
10.	Course Registration Fees	: Nil
11.	Contents of Courses	: Enclosed Separately
12.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in practical evaluation
13.	Venue	: MANGALAM COLLEGE OF ENGINEERING

COURSE COORDINATOR

HOD/EEE  
Head of Department  
Electrical and Electronics

PRINCIPAL

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Etumadoor

## CERTIFICATE COURSE

### Electrical CAD for Beginners

#### Course Objective:

- To expose the students to the basic concepts of using the powerful electrical drawing creation tools in the AutoCAD Electrical software.
- To give Working knowledge of Electrical cad.
- Student should use Electrical CAD software for Electrical project.

#### Course Outcomes:

- Student should Know methods of customizing AutoCAD Electrical symbols, circuits, and databases. Other topics covered include title block linking, reporting tools, templates, and project file.
- Student should Know methods of customizing AutoCAD Electrical symbols, circuits, and databases

S.NO.	CONTENT	INSTRUCTIONAL HOURS
1	Introduction to CAD	3
2	BASIC DIAGRAM	3
3	Projects <ul style="list-style-type: none"><li>• Introduction to Project Manager</li></ul> Working with projects	3
4	Drawing <ul style="list-style-type: none"><li>• Create a new drawing</li><li>• Adding a drawing</li></ul>	3
5	DC LAP WINDING	3
6	DC WAVE WINDING	3
7	Wires <ul style="list-style-type: none"><li>• Wire Layers</li><li>• Wire Types</li><li>• Insert Wire</li></ul> Modify wire	3
8	PLC Generate PLC layout module	3
9	Panel Layout	3
10	PROJECT	3
Total Hours =30		

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



MANGALAM COLLEGE OF ENGINEERING  
Mangalam Hills, Vettimukal p.o  
Ettumanoor, Kottayam 686631

# LATEX FOR BEGINNERS

- \* cross platform compatibility
- \* easy to make templates

Date: 08/09/2018  
(30 hour course)  
(certificate)

*Organized by* : Department Of Electrical  
And Electronics Engineering

**Speaker: PRIYA THOMAS**

(Assistant Professor  
Department of Electrical And  
Electronics Engineering)

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

**Department of Electrical and Electronics Engineering**

1.	Academic Year	: 2018-19
2.	Title of the Course	: <b>LaTeX for Beginners</b>
3.	Objective of the Course	:To create understanding of the LaTeX, To understand the fundamentals of Scilab and Utilization, Development of Proficiency in English and Communication skills
4.	Prerequisite	: Nil
5.	Requirement	: S3 class room Dept. of EEE
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	: 08.09.2018 to 06.10.2018 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 04.00 PM ( <b>6 hours per every Saturday</b> )
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mrs. Priya Thomas / AP (EEE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Dept. of EEE S3 class room

*Priya*  
COURSE COORDINATOR

*Priya Thomas*  
HOD/EEE  
Head of Department  
Electrical and Electronics

*Im. m. m. m.*  
PRINCIPAL  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
*Im. m. m. m.*  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

## CERTIFICATE COURSE

### LaTeX for Beginners

#### Course Objective:

- To expose the students to the basic concepts documentation and its importance.
- To give Working knowledge of Latex typesetting language.
- Student should use Latex file to define document class and layout options.
- Student should use various methods to either create or import graphics into Latex document.
- Student should use tabular and array environments within Latex documents.

#### Course Outcomes:

- Student knows and how to install Latex software.
- Student learns to write equations, matrix and tables.
- Student learn to quote the references, equation references, citations.
- Student lists the figures, tables and generating index.

S.NO.	CONTENT	INSTRUCTIONAL HOURS
<b>Section 1</b>		
1	Introduction and Application	1
2	Installation of the software LaTeX and basic MITEX	2
3	Understanding Latex compilation Basic Syntax	2
4	Page Layout – Titles, Abstract Chapters, Sections, References, Equation references, citation.	3
5	Classes: article, book, report, beamer, slides, IEEE tran.	2
6	List making environments Table of contents, Generating new commands	2
7	Errors and Error handling	1
8	Font Effects: Coloured Text, Font Sizes, Lists, Comments & Spacing, Special Characters	2
<b>Section 2</b>		
10	Figure handling numbering and List of figures with Practical examples	2
11	Tables and Practical examples	2
12	List of tables and Generating index.	1
13	Writing equations, Matrix, Mathematical Equations and numbering methods	2
14	Mathematical Symbols and format	2
15	Practical on numbering and without numbering format	1
16	Inserting References: Introduction, The BibTeX le	1
17	Inserting the bibliography, Citing, Styles.	2
18	Practical examples	2
Total Hours		=30

#### Recommended Books:

1. Diller, Latex Line by Line, published by Wiley.
2. Introduction to Latex by Tobias Oetiker.
3. Patrick Daly. Natural Sciences Citations and References, 2006
4. Michael Doenes. Short Math Guide for Latex.



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

**Department of Electrical and Electronics Engineering**

1.	Academic Year	: 2018-2019
2.	Title of the Course	: <b>Solar Power Plant Designing</b>
3.	Objective of the Course	:To create understanding of the Solar Power Plant, To understand the fundamentals of Energy Generation using Solar, working of solar power plant and its design
4.	Prerequisite	: Nil
5.	Requirement	: Online Google meet for theory class : Computer lab for practical class
6.	Beneficiary	: S8Students
7.	Date and Duration of the Course	: 16/03/2019 to 30/03/2019 (21 Hours)
8.	Proposed Timing	: 09.00 AM to 05.00 PM(7 hours per every Saturday)
9.	No of Hours Required	: 21 Hours
10.	Internal Resources	: Mr. Jeneesh Scaria/ AP (EEE)
11.	Course Registration Fees	:Nil
12.	Contents of Courses	:Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	:M 205

**COURSE COORDINATOR**

**HOD/EEE**

**PRINCIPAL**  
MANGALAM COLLEGE OF ENGINEERING  
Ettimanoor  
**PRINCIPAL**



## CERTIFICATE COURSE

### **Solar Power Plant Designing**

#### Course Objective:

- To expose the students different types of solar power plant, selection of location and technology
- To give Working solar power plant.
- Student will be able to design solar power plant


#### Course Outcomes:

- Student will be able to describe different types of solar power plant, selection of location and technology.
- Student will be able to describe the working of solar power plant.
- Student will be able to design solar power plant.

S.NO.	CONTENT	INSTRUCTIONAL HOURS
<b>Section 1</b>		
1	Introduction and Application	1
2	Types of Solar Power Plant	1
3	selection of site and shadow analysis	1
4	Selection of PV module technology	1
5	Selection of PV module (cells and BOM) and sizing	1
6	Inverters Selection and Sizing (Grid Connection and Off Grid)	1
7	Connection of PV Module(Series and Parallel Circuit)	1
<b>Section 2</b>		
8	Preparation of single line diagram and plant array layout .	2
9	Solar Power Plant String Combiner Box/ ACDB/ MDB/Metering cubical	1
10	Solar power plant HT switchgear selection and sizing	2
11	Selection and sizing of AC and DC Cable	2
12	Selection and sizing of AC /DC Side Earthing	1
<b>Section 3</b>		
13	Solar Power Plant Substation and switchyard	2
14	Selection and sizing Lightning Protection (LA )	1
15	System Losses of Solar Power Plant	1
16	Solar Power System Yield Performance(Energy Guarantee)	1
17	Smart Grid/Net Metering	2
Total Hours		=21

#### ➤ Recommended Books:

1. Solar Power Plants Fundamentals Technology Systems Economics by C.-J. Winter, Rudolf L. Sizmann, Lorin L. Vant-Hull , Springer
2. Fundamentals and Applications of Renewable Energy, by Mehmet Kanoglu (Author), Yunus A. Cengel (Author), John M. Cimbala (Author)
3. A Practical Guide for Total Engineering of MW capacity Solar PV Power Project, A.S.Kapur

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumala, Jor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

**Department of Electrical and Electronics Engineering**

1.	Academic Year	: 2018-2019
2.	Title of the Course	: Energy Management
3.	Objective of the Course	: To impart basic knowledge to the students about current energy scenario, energy conservation and management.
4.	Prerequisite	: Nil
5.	Requirement	: Online Google meet for theory class
6.	Beneficiary	: S6 Students
7.	Date and Duration of the Course	: 02/02/2019 to 09/03/2019 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 04.00 PM (6 hours per every Saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Phejil K Paul / AP (EEE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Online

**COURSE COORDINATOR**

**HOD/EEE**  
Head of Department  
Electrical and Electronics

**PRINCIPAL**  
**PRINCIPAL**  
MANGALAM COLLEGE OF ENGINEERING

**PRINCIPAL**  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

## CERTIFICATE COURSE

### Energy Management

#### Course Objective:

- To impart basic knowledge to the students about current energy scenario, energy conservation, audit and management. To inculcate among the student's systematic knowledge and skill about assessing the energy efficiency and energy management.

#### Course Outcomes:

- Students will be able to apply the knowledge of the subject to calculate the efficiency of various thermal utilities.
- Students will be able to design suitable energy monitoring system to analyze and optimize the energy consumption in an organization.
- Students will be able to improve the thermal efficiency by designing suitable systems for heat recovery and co-generation.
- Students will be able to carry out the cost- benefit analysis of various investment alternatives for meeting the energy needs of the organization.

S.NO.	CONTENT	INSTRUCTIONAL HOURS
<b>Section 1</b>		
1	Commercial and Non-commercial energy, primary energy resources, commercial energy production, final energy consumption,	2
2	Indian energy scenario, Sectoral energy consumption (domestic, industrial and other sectors), energy needs of growing economy, energy intensity, long term energyscenario, energy pricing, Energy security,	2
3	Energy conservation and its importance, energy strategy for the future, Energy Conservation Act 2001 and its features.	1
4	Electricity basics - Direct Current and Alternative Currents, electricity tariff, Thermal Basics-fuels, thermal energy contents of fuel, temperature and pressure, heat capacity, sensible and latent heat, evaporation, condensation, steam, moist air and humidity and heat transfer.	3
5	Calculation of heat loss - heat gain, estimation of annual heating & cooling loads, factors that influence thermal performance, analysis of existing buildings setting up an energy management programme and use management - electricity saving techniques	4
6	Definition, energy audit, need, types of energy audit. Energy management (audit) approach-understanding energy costs, 3.1 Bench marking, energy performance, matching energy use to requirement, maximizing system efficiencies, optimizing the input energy requirements, fuel and energy substitution, energy audit instruments and metering	4
7	Investment-need, appraisal and criteria, financial analysis techniques simple payback period, return on investment, net	3



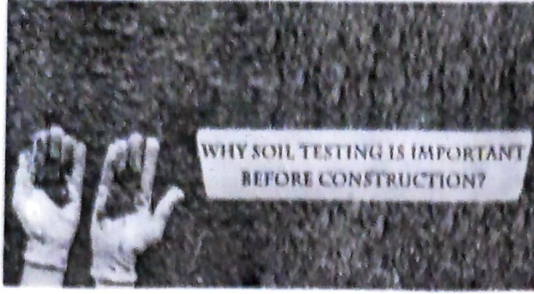
	present value, internal rate of return, cash flows, risk and sensitivity analysis; financing options, energy performance contracts and role of Energy Service Companies (ESCOs)	
<b>Section 2</b>		
10	Defining monitoring & targeting, elements of monitoring & targeting, data and information-analysis, techniques - energy consumption, production, cumulative sum of differences (CUSUM). Energy Management Information Systems (EMIS)	4
11	Energy efficiency in thermal utilities like boilers, furnaces, pumps and fans, compressors, cogeneration (steam and gas turbines), heat exchangers, lighting system, Motors belts and drives, refrigeration system.	4
12	Heat recovery from ventilation, air co-generation of heat and electricity, heat recovery and bottoming cycles	3
Total Hours		=30

**Recommended Books:**

1. W. F. Kenny, Energy Conservation in Process Industry.
2. Amlan Chakrabarti, Energy Engineering and Management, Prentice Hall India 2011.
3. CB Smith, Energy Management Principles, Pergamon Press, New York
4. Handouts New Delhi, Bureau of energy efficiency.



Principal  
MANIPALSA COLLEGE OF ENGINEERING  
BANGALORE



## SOIL ANALYSIS

### 30 Hour Course

- ✓ To expose the students to the basic concepts of soil analysis
- ✓ Give various properties soil.
- ✓ Study about different types of parameters of soil.

Date: 20/10/2018-17/11/2018



**Coordinator: VIDHYA VINAYAN**

**AsstProf/BSH**

**30 Hours Course  
(Certificate)**

**Learn the  
fundamentals of  
soil analysis**

**PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor**



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BASIC SCIENCE AND HUMANITIES**

**Department of Basic Science and Humanities**

1.	Academic Year	: 2018-2019
2.	Title of the Course	<b>SOIL ANALYSIS</b>
3.	Objective of the Course	: To develop basic understanding regarding soil testing in the students. : To introduce them with macro and micro nutrients for soil.
4.	Prerequisite	: Reduction, Oxidation, Minerals
5.	Requirement	: Offline theory class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 20.10.2018 - 17.11.2018 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 03.00 PM (6 hours per every Saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: : Ms. Vidhya Vinayan
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	Chemistry lab

**COURSE COORDINATOR**

**HOD/BSH**

**PRINCIPAL**

MANGALAM COLLEGE OF ENGINEERING  
Salem



## CERTIFICATE COURSE

### SOIL ANALYSIS

#### Course Objective:

- To develop basic understanding regarding soil testing in the students.
- To introduce them with macro and micro nutrients for soil.\_\_\_\_

#### Course Outcomes:

- Student knows components of soil
- Student learns different methods for finding pH of soil

S.NO.	CONTENT	INSTRUC TIONA L HOURS
1.	Concept of soil and its definition-components of soil-volume composition of soil mineral matter in soils-organic matter in soils-soil water-soil air	2
2.	difference between surface soil and subsoil-soil profile-organic horizons-elluvial horizons- Elluvial horizons	1
3.	Composition of the earth's crust	1
4.	definition, occurrence and classification of soil forming rocks and minerals	2
5.	Mechanical analysis and- soil separates---principle of mechanical analysis-stokes' law-assumptions in stokes' law-limitations of stokes' law	2
6.	classification of soil particles characteristics of soil particles-physical nature of soil particles	
7.	mineralogical nature-soil texture-densities of soil-porosity of soil factors affecting soil porosity soil	1
8.	Structure classification - grades of soil structure-genesis of soil structure-creation effects-evaluation of soil structure-index of soil structure-factors effecting soil- structure-influence of soil structure on physical properties	3
9.	Sources of soil heat-loss of soil heat - factors influencing soil temperatures-specific heat, heat capacity, thermal conductivity and thermal	2
10.	diffusivity-influence of soil temperature on plant growth and nutrition	1
11.	management of soil temperature- soil colour -kinds- factors affecting-determination.	2
12.	principles of analysis of water soluble salts in soils-Estimation of total soluble salts-Estimation of carbonate and bicarbonate	2
13.	Estimation of chloride-Estimation of sulphate-Estimation of Calcium-Estimation of magnesium	2
14.	Soil pH and soil micro nutrients	1
15.	Soil reaction-Soil acidity and alkalinity -Reactions of acidic and alkaline soils	1
16.	Management of acidic ,saline and alkaline soils	1
17.	Determination of soil pH- colouri metric method-p0tentiometric method.	2
18.	Determination of soluble salt by conductivity method Impact of micronutrient on soil fertility-crop response to micronutrients-supply of micronutrients	3
	TOTAL HOURS	30

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

## Water Quality Parameters

### Critical Parameters

- Dissolved Oxygen
- Temperature
- Ammonia/Nitrite/Nitrate
- pH



### Important Parameters

- Alkalinity/Hardness
- Salinity
- Carbon Dioxide
- Solids

## CHEMICAL PARAMETERS OF WATER

### 30 Hour Course

- ✓ To expose the students to the basic concepts of water quality assessment
- ✓ Give various properties water.
- ✓ Study about different types of parameters of water.

Date: 20.10.2018 to 03.11.2018



**Coordinator: Dr. SANJINI PRADEEP**

**Asst Prof/BSH**

**30 Hours Course  
(Certificate)**


**Learn the chemical  
parameters of  
water.**

**MANGALAM COLLEGE  
OF ENGINEERING**

Mangalam Hills,  
Vettimukal P O

Ettumanoor, Kottayam

686631

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BASIC SCIENCE AND HUMANITIES**

**Department of Basic Science and Humanities**

1.	Academic Year	: 2018-2019
2.	Title of the Course	: <b>Chemical parameters of water</b>
3.	Objective of the Course	: Understand important parameters for measuring water quality. Know about the methods for the determination of water quality parameters
4.	Prerequisite	: Nil
5.	Requirement	: Offline theory class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 20.10.2018 /17.11.2018 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 03.00 PM (6 hours per every Saturday excluding second Saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms.Vidhya Vinayan/ BSH
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Chemistry lab

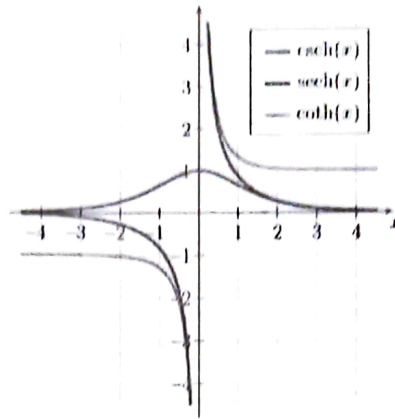
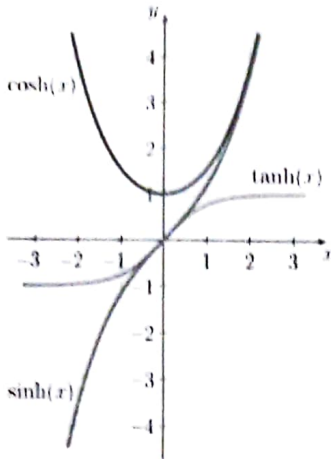
**COURSE COORDINATOR**

**HOD/BSH**

**PRINCIPAL**

**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
Erumangudi





# HYPERBOLIC FUNCTIONS

## 30 Hour Course

- ✓ To expose the students to the basic concepts of hyperbolic functions
- ✓ To apply the formulas for derivatives and integrals of the hyperbolic functions.
- ✓ To describe the common applied conditions of a catenary curve.

Date: 20.10.2018 to 03.11.2018



Coordinator: Mr. Jain P George, Ass. Prof/BSH

*(Signature)*  
 PRINCIPAL  
 MANGALAM COLLEGE OF ENGINEERING  
 Ettumanoor

**30 Hours Course  
 (Certificate)**

**Learn the  
 fundamentals of  
 Hyperbolic  
 Functions**

**MANGALAM COLLEGE  
 OF ENGINEERING**

Mangalam Hills,  
 Vettimukal P O  
 Ettumanoor, Kottayam  
 686631

Time 9: 00 AM to 3 PM  
 (5 Days)



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BASIC SCIENCE AND HUMANITIES**


**Department of Basic Science and Humanities**

1.	Academic Year	: 2018-2019
2.	Title of the Course	: HYPERBOLIC FUNCTIONS
3.	Objective of the Course	To apply the formulas for derivatives and integrals of the hyperbolic functions. To apply the formulas for the derivatives of the inverse hyperbolic functions and their associated integrals. To describe the common applied conditions of a catenary curve.
4.	Prerequisite	: Nil
5.	Requirement	: Offline theory class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 20.10.2018 to 03.11.2018 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 03.00 PM (6 hours per every Saturday excluding second Saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Jain P George/ BSH
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Room no: N 311

  
COURSE COORDINATOR

  
HOD/BSH

  
PRINCIPAL

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Erumancor

## CERTIFICATE COURSE

### HYPERBOLIC FUNCTIONS

#### Course Objective:

- To apply the formulas for derivatives and integrals of the hyperbolic functions.
- To apply the formulas for the derivatives of the inverse hyperbolic functions and their associated integrals.
- To describe the common applied conditions of a catenary curve.

#### Course Outcomes:

- Student gain knowledge about hyperbolic and inverse hyperbolic functions.
- Student learns real life applications of hyperbolic functions.
- Student learn solve various problems using hyperbolic and inverse hyperbolic functions

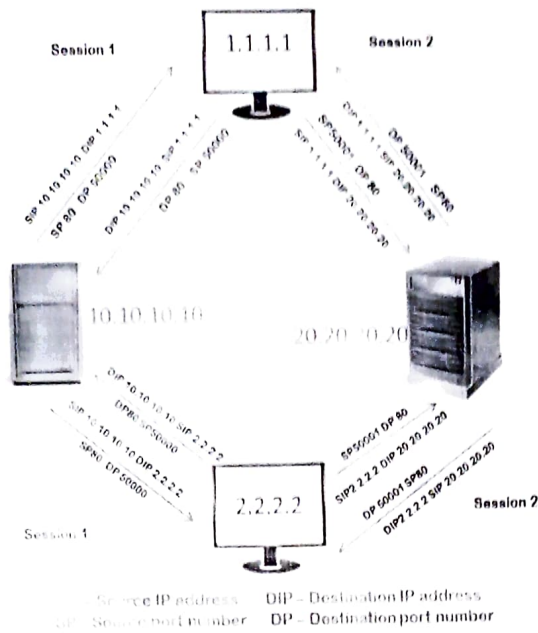
S.NO.	CONTENT	INSTRUCTIONAL HOURS
<b>Section 1</b>		
1	Introduction : Hyperbolic Function	1
2	Hyperbolic function: Definition , examples	1
3	Hyperbolic sine function ,Hyperbolic cosine function	2
4	Hyperbolic tangent function, Hyperbolic cotangent function	2
5	Hyperbolic cosecant function, Hyperbolic secant function	2
6	Properties of hyperbolic functions ,Hyperbolic function identities	2
7	Formulas of the double and half angle	1
8	Inverse hyperbolic function	2
<b>Section 2</b>		
10	Derivative of hyperbolic function	1
11	Integrals of hyperbolic functions	2
12	Graphs of hyperbolic functions	2
13	Practice problems	2
14	Applications of hyperbolic functions	2
15	Solving hyperbolic equations	3
16	Calculus of hyperbolic functions	3
17	Practical examples	2
Total Hours		=30

#### **REFERENCE:**

- Hyperbolic Functions: With Configuration Theorems and Equivalent and Equidecomposable Figures (Dover Books on Mathematics) Paperback – 1 January 2007. V. G Shervatov, B. I. Argunov, L. A. Skornjakov ,V. G. Boltyanskii ,V G Shervatov (Author)
- Hyperbolic Functions: by George F Becker, C E Van Orstrand, New Age International (P) Ltd.
- Hyperbolic Functions: by James McMahon

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





# MULTIPLEXING

## 30 Hour Course

- ✓ To expose the students to the basic concepts of multiplexing
- ✓ Give various signal transmission techniques.
- ✓ Study about different types of multiplexing.

Date: 20-10-2018 to 17-11-2018



Coordinator: Mr GOKUL C, AsstProf/BSH

*(Signature)*  
 PRINCIPAL  
 MANGALAM COLLEGE OF ENGINEERING  
 Ettumanoor

**MANGALAM COLLEGE  
 OF ENGINEERING**

Mangalam Hills,  
 Vettimukal P O  
 Ettumanoor, Kottayam  
 686631

**30 Hours Course  
 (Certificate)**

**Learn the  
 fundamentals of  
 Multiplexing**



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BASIC SCIENCE AND HUMANITIES**

**Department of Basic Science and Humanities**

1.	Academic Year	: 2018-2019
2.	Title of the Course	: MULTIPLEXING
3.	Objective of the Course	: To create understanding of Multiplexing to enable signals to be transmitted more efficiently over a given communication channel, thereby decreasing transmission cost
4.	Prerequisite	: Nil
5.	Requirement	: Offline theory class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 20.10.2018 / 17.11.2018 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 03.00 PM (6 hours per every Saturday excluding second Saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Gokul C / BSH
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: physics lab

**COURSE COORDINATOR**

**HOD/BSH**

**PRINCIPAL**

Internal Quality Assurance Cell (IQAC)  
Mangalam College of Engineering  
Kottayam, India - 686 631

MANGALAM COLLEGE OF ENGINEERING  
KOTTAYAM

## CERTIFICATE COURSE

### MULTIPLEXING

#### Course Objective:

- To expose the students to the basic concepts of multiplexing.
- To give idea about various signal transmission techniques.
- To study about different types of multiplexing.

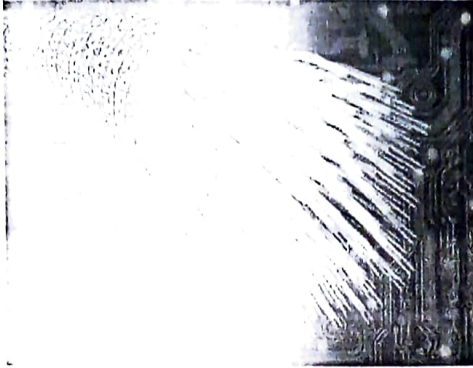
#### Course Outcomes:

- Student learns about the basic concept of multiplexing
- Student learns the basic ideas about various multiplexing techniques
- Student get an idea about various signal transmission techniques.

S.NO.	CONTENT	INSTRUCTIONAL HOURS
1	Introduction and Application	1
2	Frequency Division Multiplexing	2
3	Analog Carrier Systems	2
4	Wavelength Division Multiplexing	3
5	Time Division Multiplexing-Introduction	1
6	Framing, Pulse stuffing	2
7	TDM of analog & digital sources	2
8	Digital Carrier Systems	2
9	DSI-Mixed data-Multiplexing	2
10	TDM – Carrier Standarding	1
11	SONET/SDH	1
12	SONET Frame Format	1
13	SONET STS -1 Over head octets	1
14	Statistical TDM	2
15	Statistical TDM Frame Formats	2
16	Buffer size and Delay	1
17	Cable modem outline & Cable modem operation	1
18	Cable Modem Scheme & Asymmetrical digital subscription line	1
19	ADSL Design , Channel Configuration	2
Total Hours		=30

  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





# DIFFERENTIATION OF INFORMATION PROCESSES IN FIBRE

30 Hour Course

- ✓ To expose students to the basic concepts of optical fibre
- ✓ Give idea about the types of fibre.

Date: 01-01-2019 to 31-12-2019



Coordinator: Mr. M. S. Kumar, AsstProf/BSH

30 Hours Course  
(Certificate)

Learn the  
fundamentals of  
optical fibre  
communication  
and losses occur in  
it

MANGALAM COLLEGE  
OF ENGINEERING

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam  
686631

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BASIC SCIENCE AND HUMANITIES**

**Department of Basic Science and Humanities**

1.	Academic Year	: 2018-2019
2.	Title of the Course	: DIFFERENT TYPES OF INFORMATION LOSSES IN O FIBRE
3.	Objective of the Course	:To create understanding of different types of information losses in optical fibre and how to minimize it and uses effectively in telecommunication.
4.	Prerequisite	: Nil
5.	Requirement	: Offline theory class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	:05.01.2019to 02.02.2019 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 03.00 PM (6 hours per every Saturday excluding second Saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Vinu Sreedhar / BSH
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: physics lab

**COURSE COORDINATOR**

**HOD/BSH**

**PRINCIPAL**

**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
**Ettumanoor**

## CERTIFICATE COURSE

### DIFFERENT TYPES OF INFORMATION LOSSES IN FIBRE


#### Course Objective:

- To expose the students to the basic concept of optical fibre.
- To give idea about various losses occur in optical fibre.
- To study about minimizing losses in optical fibre.

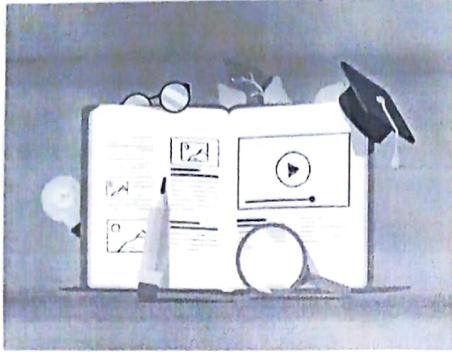
#### Course Outcomes:

- Student learns about the basic concept of optical fibre.
- Student learns the basic ideas about various losses in optical fibre
- Student get an idea about how to minimizing the losses in optical fibre.

S.NO.	CONTENT	INSTRUCTIONAL HOURS
1	Introduction and Application	1
2	Transmission characteristics of optical fibers	2
3	Absorption, absorption by atomic defects	1
4	Extrinsic absorption	1
5	Intrinsic absorption	1
6	Rayleigh scattering losses	2
7	Bending losse	2
8	Core and cladding loss	2
9	Information capacity determination , group delay	2
10	Wave guide dispersion	1
11	Chromatic dispersion	1
12	Modal dispersion	1
13	Signal distortion in signal mode fibres	3
14	Pulse broadening in GI fibres	1
15	Mode coupling	1
16	Design optimization	3
17	Dispersion calculations	2
18	Cut off frequency of an optical fibre	1
19	Bending los limitations	2
Total Hours		=30

  
PRINCIPAL  
WANGSHAN COLLEGE OF ENGINEERING  
Edu/mandar





# STUDENT PROFESSIONAL DEVELOPMENT PROGRAM

## 30 Hours Course

- ✓ Trusted by Recruiters
- ✓ Includes detailed skill development techniques.
- ✓ Available with Updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Experts

## Resource Person

Date: 5-01-2019 to 02-02-2019

30 Hours Course  
(Certificate)

Excel your skills

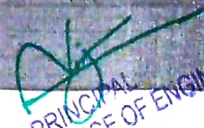
Learn the  
fundamentals of  
Communication  
and Soft Skills

Become a skilled  
Professional

**MANGALAM COLLEGE  
OF ENGINEERING**

Mangalam Hills,  
Vettimukal P O  
Ettumanoor, Kottayam  
686631

Time 9: 00 AM to 4 PM  
(5 Days)

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BASIC SCIENCE AND HUMANITIES**

**Department of Basic Science and Humanities**

1.	Academic Year	: 2018-2019
2.	Title of the Course	: Student Professional Development Program
3.	Objective of the Course	: To aid Personality development and mold a student as a Professional.
4.	Prerequisite	: Nil
5.	Requirement	: Offline Theory Class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 05.01.2019 to 02.02.2019 (30 Hours)
8.	Proposed Timing	: 09.00 AM to 03.00 PM (6 hours per every Saturday excluding second saturday)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms. Merin Deena Shiboo
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Language Lab

  
COURSE COORDINATOR

  
HOD/BSH

  
PRINCIPAL

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

## CERTIFICATE COURSE

### STUDENT PROFESSIONAL DEVELOPMENT PROGRAM

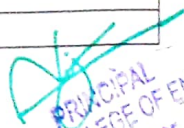
#### Course Objective:

- Enhance critical thinking skills
- Develop stronger project management abilities
- Improve verbal and written communication
- Sharpen workplace productivity
- Hone quality workplace readiness and etiquette
- Gain a greater understanding of their leadership style
- Improve networking skills and interviewing techniques

#### Course Outcomes:

- Clarify values, interests, strengths and skills.
- Articulate students' transferable, liberal arts, graduate school and work-related skills.
- Identify and research a wide variety of career fields and opportunities.
- Identify and use relevant tools in the job search, including activating professional networks.
- Understand and plan for future educational pursuits.
- Acquire and develop Communication Skills, and Personality development skills.

S.NO	CONTENT	INSTRUCTIONAL HOURS
<b>Section 1</b>		
1	Introduction and Ice Breaking	1
2	Innovation, Leadership, & Management	2
3	Leadership in the Workplace	2
4	Team Collaboration, Team Building, Participatory Team	3
5	Business and Technical Communication	2
6	Introduction to Skill Development	2
7	Study Skills -Listening and Speaking, Body Language,English Fluency	1
8	Building on Confidence- Public Speaking, Understanding Self and Others,Self-Leadership, Self Discipline and Manners Matter.	2
9	Organizing Skills	1
<b>Section 2</b>		
10	Research Ethics	1
11	Excel in Interviews	2
12	Body Language & Etiquettes	1
13	Time Management Skills	2
14	Group Discussion	2
15	Preparation of CV	1

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



16	Presentation Introduction	1
17	What to present and how	2
18	The world of visual culture.	2
Total Hours		=30





# LATEX

## 30 Hour Course

- ✓ It makes beautiful documents especially in mathematics
- ✓ To expose the students to the basic concepts document and its Applications.
- ✓ Completion Certificate Will be provided

## Resource Person

Ms. Sheen E M  
Asst. Professor  
Dept. of basic science and Humanities  
Mangalam college of Engineering

Date: 20-10-2018 to 17-11-2018



Coordinator: Prof sheen E M, AP-BSH


30 Hours Course  
(Certificate)

Learn the  
Fundamentals of  
Type setting  
Documents

MANGALAM COLLEGE  
ENGINEERING

Mangalam Hills,  
Kettimukal P O  
Ettumanoor, Kottayam  
686631

09:00 AM to 3 PM  
(5 Days)

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BASIC SCIENCE AND HUMANITIES**

**Department of Basic Science and Humanities**

1.	Academic Year	2018-2019
2.	Title of the Course	LATEX
3.	Objective of the Course	To create understanding of the LaTeX, It makes beautiful documents especially in mathematics. It is useful for the students for the future to prepare documents like thesis
4.	Prerequisite	Nil
5.	Requirement	Offline theory class Computer lab for practical class
6.	Beneficiary	S1 Students
7.	Date and Duration of the Course	20.10.2018 / 17.11.2018 (30 Hours)
8.	Proposed Timing	09.00 AM to 03.00 PM (6 hours per every Saturday)
9.	No of Hours Required	30 Hours
10.	Internal Resources	Ms. Sheen E M / BSH
11.	Course Registration Fees	Nil
12.	Contents of Courses	Enclosed Separately
13.	Credits and Certification	Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	Room no: N 303

**COURSE COORDINATOR**

**HOD/BSH**

**PRINCIPAL**

Internal Quality Assurance Cell (IQAC)  
Mangalam College of Engineering  
Kottayam, India - 686 631

**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
Kottayam



## CERTIFICATE COURSE

### LATEX

#### Course Objective:

- To expose the students to the basic concepts documentation and its importance.
- To give Working knowledge of Latex typesetting language.
- Student should use Latex file to define document class and layout options.
- Student should use to type mathematical documents

#### Course Outcomes:

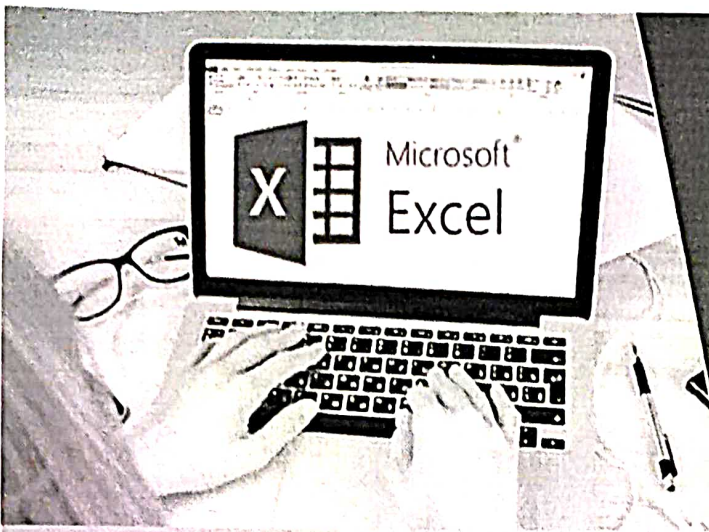
- Student knows and how to install Latex software.
- Student learns to write equations, matrix and tables.
- Student learn to quote the references, equation references, citations.

S.NO	CONTENT	INSTRUCTIONAL HOURS
1	The Basics	3
2	Document class, Page style, dividing the document	3
3	Bibliography	1
4	Type setting mathematics-super scripts, subscript, roots, Mathematical symbols	4
5	Single equations, Group of equations, Numbered equations.	3
6	Matrices	3
7	Symbols-Greek letters	1
8	Type setting theorems	2
10	Creating floating figures	3
11	Tables and Practical examples	3
12	Inserting References: Introduction, The BibTeX	2
13	Practical examples	2
Total Hours		=30

#### **References**

1. Latex tutorials Indian Tex users group, 2003 September
2. Latex, David R Wilkins -2<sup>nd</sup> edition 1995

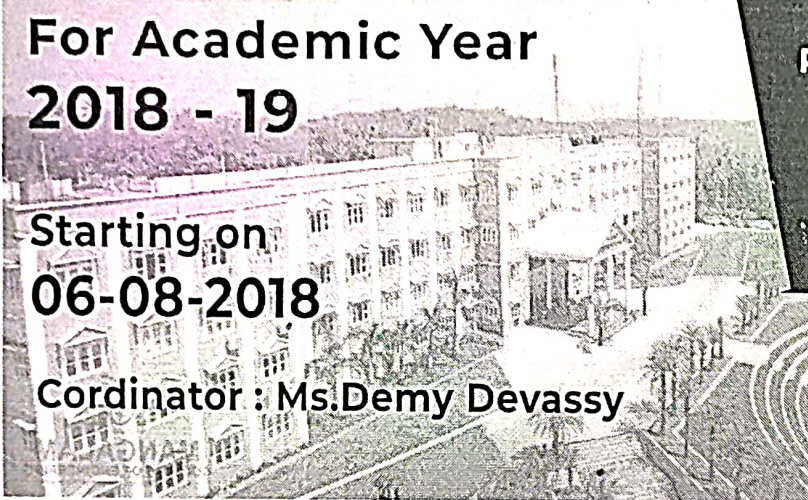
  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettimamangalam



For Academic Year  
**2018 - 19**

Starting on  
**06-08-2018**

Cordinator : Ms.Demy Devassy



## **CURRICULUM**

**Introduction to Ms-Excel**

**Conditional Formatting**

**Pivot Tables**

**Working with Formulas/Functions**

**Data Sorting & Filtering**

**Pivot Charts**



**MANGALAM**

**COLLEGE OF ENGINEERING**

**DEPARTMENT OF MANAGEMENT STUDIES**

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



MANGALAM COLLEGE OF ENGINEERING

DEPARTMENT OF MANAGEMENT STUDIES

Circular


Certificate Course –Ms Excel


The Department of Management Studies is planning to conduct a certificate course for First Semester MBA students. Hence it is informed to the students to enroll their names for the MS Excel course which will start on 06/08/2018. Students are asked to enroll their names to their respective class advisor on or before 21.07.2017. The course syllabus is attached.

Name of the Course: Ms Excel

Course Duration: 06/08/2018 to 14/09/2018

Time Duration: 3.00 PM-04.00 PM

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettimongur

  
HOD





**MANGALAM COLLEGE OF ENGINEERING**  
**Department of Management Studies**

MS Excel  
Syllabus

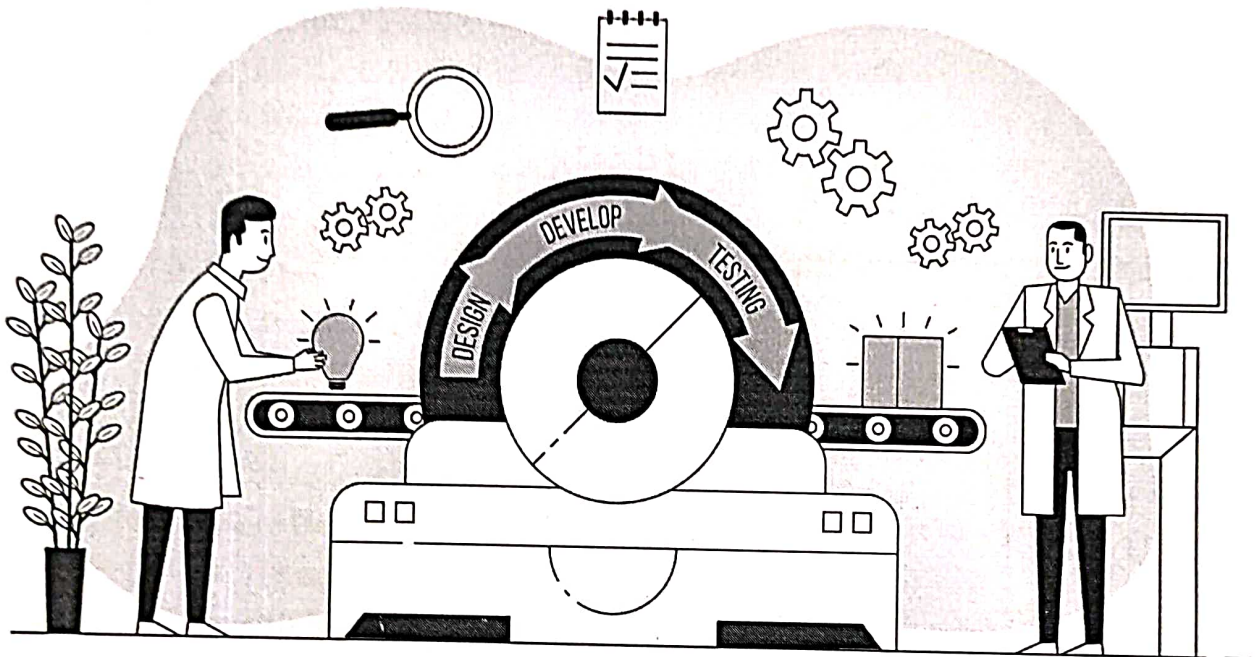
Module	Topics	L Hrs
1	Manage Workbook Options and Settings- Apply Custom Data Formats and Layouts	7
2	Create Tables- . Perform Operations with Formulas and Functions	8
3	Create Charts and Objects- Apply Custom Data Formats and Layouts	8
4	Create Advanced Formulas - Create Advanced Charts and Tables	7

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

2018 - 19


Starting on  
26-11-2018

Cordinator  
Ms.Rinta George



Course on

# SIX - SIGMA

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**Department of Management Studies**

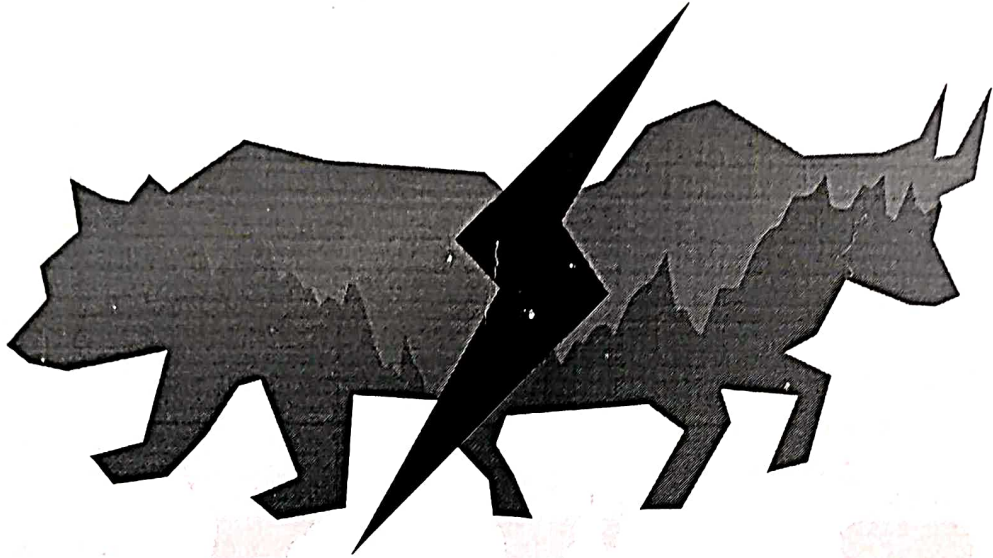
Six Sigma Syllabus

Module	Topics	L Hrs
1	<b>Lean Six Sigma Fundamentals</b> <ul style="list-style-type: none"><li>• What is Lean Six Sigma ?</li><li>• Process Flow and Value Stream Mapping</li><li>• Muda, Mura and Muri – The 3 diseases of Processes</li><li>• The 7 (or 8) Wastes</li><li>• Voice of the Customer (VOC) and CTQs</li><li>• Cost of Poor Quality</li></ul>	9
2	<b>Define Phase</b> <ul style="list-style-type: none"><li>• Problem Definition</li><li>• Project Selection</li><li>• Business Case</li><li>• Project Charter</li></ul> <b>Measure Phase</b> <ul style="list-style-type: none"><li>• Process Discovery</li><li>• Six Sigma Statistics</li><li>• Measurement System Analysis</li><li>• Process Capability</li></ul>	7
3	<b>Analyze Phase</b> <ul style="list-style-type: none"><li>• Inferential Statistics</li><li>• Correlation and Regression Analysis</li></ul>	7
4	<b>Introduction to Hypothesis Testing</b> <b>Improve Phase</b> <ul style="list-style-type: none"><li>• Lean Tools for improvement</li><li>• Implementation strategies for improvements</li></ul> <b>Control Phase</b> <ul style="list-style-type: none"><li>• Control Plans</li><li>• Statistical Process Control (SPC)</li><li>• Control Charts</li></ul>	7

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



# BASICS OF STOCK MARKET TRADING



For Academic Year

**2018 - 19**

On

**15-03-2019**

Cordinator : Mr.Bose Tom



विद्यया ऽमृतमश्नुते

**MANGALAM**  
**COLLEGE OF ENGINEERING**

**DEPARTMENT OF MANAGEMENT STUDIES**

Handwritten signature in green ink.

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING



MANGALAM COLLEGE OF ENGINEERING

DEPARTMENT OF MANAGEMENT STUDIES

**Circular**

**Certificate Course –Basis of Stock Market**

The Department of Management Studies is planning to conduct a certificate course for Third Semester MBA students. Hence it is informed to the students to enroll their names for the Basis of Stock Market Trading Course which will start on 15/03/2019. Students are asked to enroll their names to their respective class advisor on or before 12.03.2019. The course syllabus is attached.


Name of the Course: Basis of Stock Market Trading


Instructor: Ms. Tinta Baby

Course Duration: 15/03/2019 to 26/04/2019

Time Duration: 3.00 PM-04.00 PM



  
HOD

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING



**MANGALAM COLLEGE OF ENGINEERING**  
**Department of Management Studies**

**Basics of Stock Market Trading**  
**Syllabus**

Module	Topics	L Hrs
1	An Overview Of Capital and Commodities Markets- Primary Market-Secondary Market (Stock Market)-Depositories Private placements of shares- Buyback of shares- Issue mechanism- Meaning of Commodities and Commodities Market- Stock market Vs Commodities market.	6
2	Stock Market- History, Membership & Organisation Governing body- Functions of stock Exchange- Online trading- Role of SEBI Recognized Stock Exchanges in India- Derivatives on stocks: Meaning, types	6
3	Trading In Stock Market- Patterns of Trading & Settlement Speculations & Its Types- Activities of Brokers & Broker Charges- Settlement Procedure- National Securities Depository Ltd Central Securities Depository Ltd	6
4	Commodities Market- History, Membership & Objectives Functions of commodities exchange- Organisation & role of commodity exchange- Governing Body- Types of Transactions in Commodity Market- Physical vs Future Market- Trading In Commodity Markets- Trading Pattern & Settlement- Efficiency of Commodity Markets- Size or volumes of Commodities	12

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



Course on

# CORPORATE TRAINING

## 2018 - 19



Starting on  
**01-02-2019**

Cordinator  
MS.Neethu Kuncheria



**MANGALAM**  
**COLLEGE OF ENGINEERING**

**DEPARTMENT OF MANAGEMENT STUDIES**

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
E. H. H. H. H.



**MANGALAM COLLEGE OF ENGINEERING**  
**Department of Management Studies**

Corporate Training  
Syllabus

Module	Topics	L Hrs
1	Introduction to Training and Assessment of Needs - Defining Training; Need and scope of Corporate Training; Training Needs Analysis-Reactive and Proactive TNA's -: Types of Training; The role of a Trainer	6
2	Designing and Planning Training - Development of training modules; Facilitating the learning process among adult learners (use Kolbe's Model).	6
3	Training Methods and Practice A. Non-experiential Training Techniques: Types –Lecture, Audio- visuals Computer Assisted Instruction B. Experiential Training Techniques: Experiential Learning Philosophy; Types: Simulation, Case- Study Method, Role- Playing, Group Discussion; Educational Games	12
4	Evaluation and Follow up - Why training programs fail? –Definition and need of Evaluation, strategies and process of evaluation; Importance of conducting Follow ups	6

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

Course on

# SOCIAL MEDIA MARKETING 2018 - 19

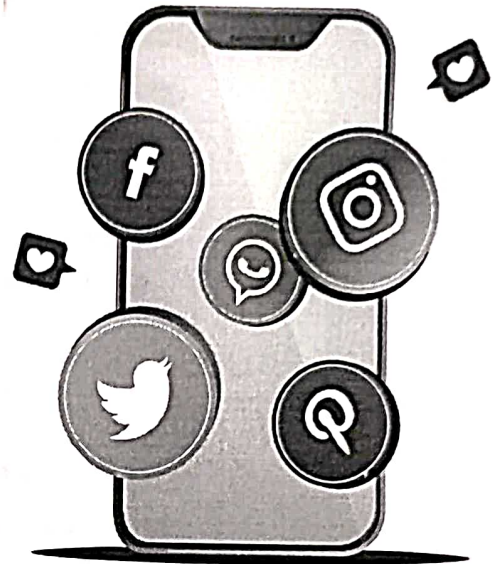
Starting on  
26-11-2018

Cordinator  
Mr. Siby James



**MANGALAM**  
COLLEGE OF ENGINEERING

DEPARTMENT OF MANAGEMENT STUDIES



A handwritten signature in green ink, appearing to be 'Siby James'.

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**syllabus**  
**SOCIAL MEDIA MARKETING**

<b>MODULE 1</b>	History of internet, concept of digital marketing, importance and benefits of digital marketing, domain name and domain extensions, digital marketing management, functioning of digital marketing in an organisation, CRM in digital marketing, paid owned and earned media.	<b>9 hours</b>
<b>MODULE 2</b>	Concept of web hosting, Fundamentals of search engines, working of search engines, paid and organic search engines, Search engine optimisation, types of SEO, meta tags and best practices.	<b>8 hours</b>
<b>MODULE 3</b>	Uses of social media, social media profile creation and optimisation, the concept of social media marketing, importance and benefits of social media marketing, facebook marketing.	<b>6 hours</b>
<b>MODULE 4</b>	Instagram and LinkedIn marketing, Pinterest marketing, online reputation management, tools used for online reputation management, influencer marketing – meaning and platforms of influencer marketing	<b>7 hours</b>



Course on

# DIGITAL MARKETING

## 2018 - 19



Starting on  
**01-02-2019**

Cordinator  
Mr. Siby James

 **MANGALAM**  
**COLLEGE OF ENGINEERING**  
DEPARTMENT OF MANAGEMENT STUDIES

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING



**MANGALAM COLLEGE OF ENGINEERING**  
**Department of Management Studies**

Digital Marketing  
Syllabus

Module	Topics	L Hrs
1	Introduction to the Course and Work plan - Introduction of the digital marketing - Digital vs. Real Marketing - Digital Marketing Channels - Creating initial digital marketing plan - Content management -SWOT analysis - Target group analysis- Digital Marketing Budgeting	10
2	Web design - Optimization of Web sites - MS Expression WebSEO Optimization - Writing the SEO content- Google AdWords- creating accounts - Google AdWords- types	8
3	Introduction to CRM - CRM platform - CRM models- Introduction to Web analytics - Web analytics - levels	6
4	Introduction of Social Media Marketing- Business tools in social media – Facebook, Instagram, E mail marketing	6

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

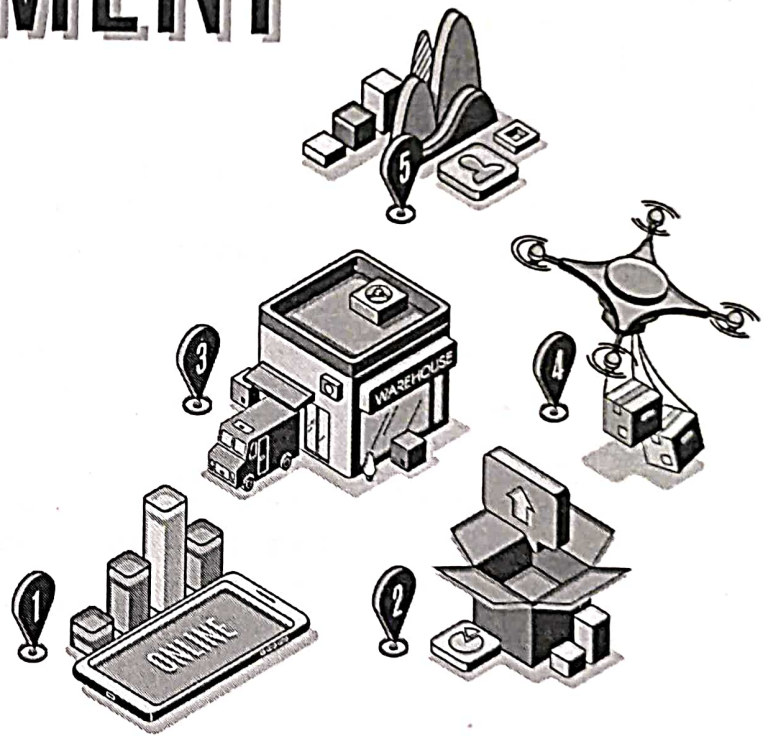


# SUPPLY CHAIN MANAGEMENT

For Academic Year  
2018 - 19

Starting on  
07-03-2019

Cordinator  
Mr.Siby James



PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**MANGALAM COLLEGE OF ENGINEERING**  
**Department of Management Studies**

Supply Chain Management

Module	Topics	L Hrs
1	Development of SCM concepts and Definitions – key decision areas – strategic. Supply Chain Management and Key components, External Drivers of Change. Dimensions of Logistics – The Macro perspective and the macro dimension – Logistic system analysis	8
2	Sourcing strategy: Manufacturing management – make or buy decision – capacity management – Materials Management – choice of sources – procurement planning. UNIT – III Distribution strategy: Choice of Market – network design – warehouse designed operation and distribution planning – transportation – packaging.	10
3	Inventory Strategy: Demand forecasting – inventory planning – planning of stocking facilities – warehouse location allocation. Warehouse design and operations – inventory norms	8
4	.Channels of Distribution – Customer Service Strategy: Identification of Service needs, cost of services – revenue Management.	4

Syllabus

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





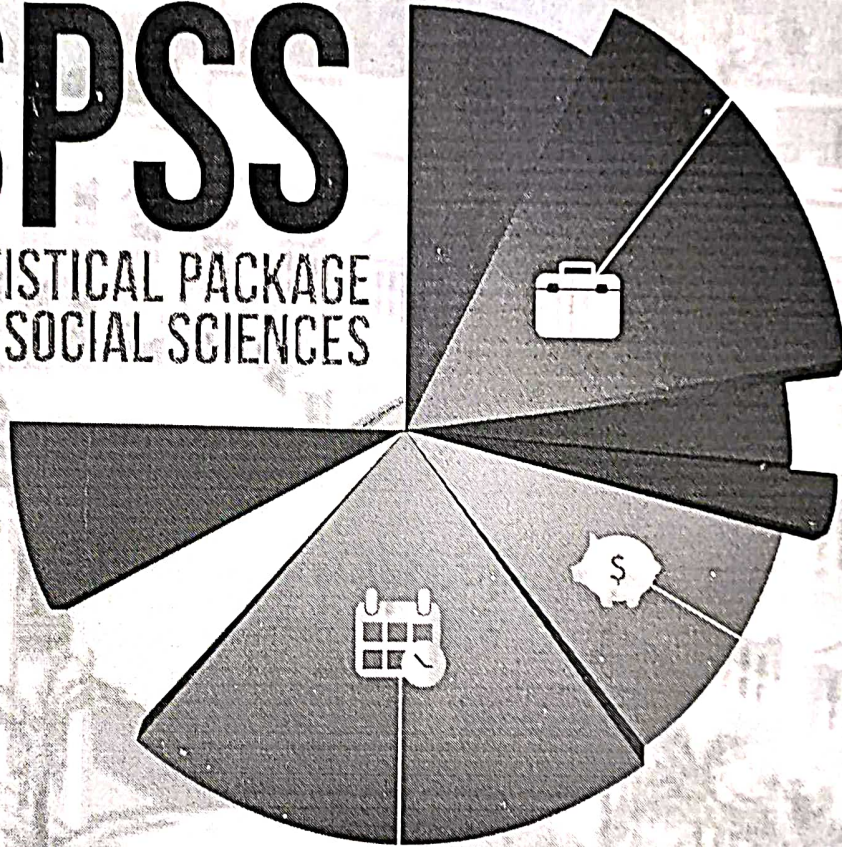
**MANGALAM**  
**COLLEGE OF ENGINEERING**

**DEPARTMENT OF MANAGEMENT STUDIES**

**Advanced Course on**

**SPSS**

**STATISTICAL PACKAGE  
FOR THE SOCIAL SCIENCES**



**For Academic Year  
2018 - 19**

**Starting on  
05-02-2019**

**Cordinator : Mr.Bose Tom**

**PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING**





**MANGALAM COLLEGE OF ENGINEERING**  
**Department of Management Studies**

SPSS  
Syllabus

Module	Topics	L Hrs
1	Introduction- Statistical thinking- Introduction to IBM SPSS- Data understanding and Coding	5
2	Enter categorical and continuous data Define and label variables Add variables and cases Transform, recode and compute variables Select appropriate simple plots and descriptive statistics	5
3	Univariate Statistics- Frequency distributions- Cross Tabulation- Chisquare, Introduction to Anova	10
4	Simple Parametric tests- F test, T test, Correlation; Simple Non Parametric test	10

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Consolidated Report for the Certificate Course - Proteus PCB Designing

Academic Year: 2018-2019

Batch 2016-2020

Year: III/V Semester

Name of the Activity	: Certificate Course
Title of the Activity	: Proteus PCB Designing
Staff Incharges	: Ms. NeebaSabu, AP/EEE
Place of the Activity	: Dept. of EEE S5 classroom and CAD Lab
No. of Participants	: 43
No. of Qualified	: 41
Name & Designation of Expert	: Ms. NeebaSabu, AP/EEE
Objective of the Activity	:This program is designed to make students capable to design their own projects PCB up to industrial grade
Outcome of the Activity	: Students were able to design basic converters and their controlling networks in Proteus

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Consolidated Report for the Certificate Course–Energy Management

Academic Year: 2018-2019

Batch 2016-2020

Year: V/VI Semester

Name of the Activity	: Certificate Course
Title of the Activity	: Energy Management
Staff Incharges	: Mr. Phejil K Paul, AP/EEE
Place of the Activity	: Dept. of EEE S6 class room Mangalam College of Engineering.Ettumanoor.
No. of Participants	: 22
No. of Qualified	: 22
Name & Designation of Expert	: Mr. Phejil K Paul, AP/EEE
Objective of the Activity	To impart basic knowledge to the students about current energy scenario, energy conservation, audit and management. To inculcate among the student's systematic knowledge and skill about assessing the energy efficiency, energy auditing and energy management.
Outcome of the Activity	Students are now able to apply the knowledge of the subject to calculate the efficiency of various thermal utilities. Students can design suitable energy monitoring system to analyze and optimize the energy consumption in an organization. Students learned energy audit methods to identify the areas deserving tighter control to save energy expenditure.

**MANGALAM COLLEGE OF ENGINEERING**  
Ettumanoor





( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course –Electrical CAD for Beginners**

**Academic Year: 2018-2019**

**Batch 2015-2019**

**Year: IV/VII Semester**

Name of the Activity	: Certificate Course
Title of the Activity	: Electrical CAD for Beginners
Staff In charges	:Ms. RahumathBeeby K
Place of the Activity	:Mangalam College of Engineering.Ettumanoor.
No. of Participants	: 26
No. of Qualified	: 26
Name & Designation of Expert	: Ms. RahumathBeeby K
Objective of the Activity	To expose the students to the basic concepts of Electrical drawing using Electrical CAD
Outcome of the Activity	: Students were able to understand and draw electrical diagrams using Electrical CAD

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course - LaTeX for Beginners**

**Academic Year: 2018-19**

**Batch : 2017-2021**

**Year: II/III Semester**

Name of the Activity	: Certificate Course
Title of the Activity	: LaTeX for Beginners
Staff Incharges	: Ms. Priya Thomas, AP/EEE
Place of the Activity	: Dept. of EEE S3 Class Room Mangalam College of Engineering.Ettumanoor.
No. of Participants	: 35
No. of Qualified	: 35
Name & Designation of Expert	: Ms. Priya Thomas, AP/EEE
Objective of the Activity	To expose the students to the basic concepts documentation and its importance and to give Working knowledge of Latex typesetting language.
Outcome of the Activity	: Students understood how to frame report and thesis, Improved their proficiency in English and communication skill

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )


**Consolidated Report for the Certificate Course - Controller design using Raspberry pi & Arduino**

**Academic Year:2018-19**

**Batch 2017-2021**

**Year: II/IV Semester**

Name of the Activity	: Certificate Course
Title of the Activity	: Controller design using Raspberry pi & Arduino
Staff In charges	: Ms. Neebasabu, AP/EEE
Place of the Activity	: Dept. of EEE - S4 class room Mangalam College of Engineering.Ettumanoor.
No. of Participants	: 43
No. of Qualified	: 43
Name & Designation of Expert	: Ms. Neebasabu, AP/EEE
Objective of the Activity	To expose the students to the basic concept and to give practical experience in controller using Raspberry pi and Arduino.
Outcome of the Activity	: Students the understood importance of controlling device and were able to inbuilt devices using sensors and controllers

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





**Consolidated Report for the Certificate Course–Application in BIOMEMS using  
COMSOL**

**Academic Year: 2018-2019**

**Batch 2017-2021**

**Year: III/IV Semester**

Name of the Activity	: Certificate Course
Title of the Activity	: Application in BioMEMS using COMSOL
Staff Incharges	: Mrs.Neethan Elizabeth Abraham, AP/ECE
Place of the Activity	: Dept. of ECE (Online) Mangalam College of Engineering. Ettumanoor. <a href="https://meet.google.com/cma-rtts-uur">https://meet.google.com/cma-rtts-uur</a>
No. of Participants	: 43
No. of Qualified	: 43
Name & Designation of Expert	: Mrs.Neethan Elizabeth Abraham, AP/ECE
Objective of the Activity	Introduce the concepts of micro electromechanical systems in medical use and learn the materials used and the micro manufacturing.
Outcome of the Activity	Students can identify the principles of sensors and actuators and they can summarize the optical devices and applications. They are able to classify the performance of micro fluidic devices to the environment. They use the COMSOL software tools for designing and analyzing the sensors. Recommend the suitable principles of testing for biomedical conditions

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course – HDL Design**

**Academic Year: 2018-19**  
**Year: III**

**Batch S6-ECE**

Name of the Activity	: Certificate Course
Title of the Activity	: HDL Design
Staff In charges	: Prof Jyothisree K R, Assoc,Prof,ECE
Place of the Activity	: Dept. of ECE (Online) Mangalam College of Engineering. Ettumanoor. Link: Department Link <a href="https://meet.google.com/tpn-kdxq-ewz">https://meet.google.com/tpn-kdxq-ewz</a> Or dial: (US) +1 337-359-2878 PIN: 489 799 733#
No. of Participants	: 69
No. of Qualified	: 69
Name & Designation of Expert	: Mr Abraham C G, Researcher, AnnaUniversity,Chennai
Objective of the Activity	Learn the fundamentals of HDL Designs
Outcome of the Activity	Participants learned theory and practiced the development of VHDL and Verilog

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course – 2D to 3D IC-change in trends in semiconductor IC design**

**Academic Year: 2018-19**  
**Year: IV**

**Batch S8-ECE**

Name of the Activity	: Certificate Course
Title of the Activity	: 2D to 3D IC-change in trends in semiconductor IC design
Staff In charges	: Prof Simi P Thomas
Place of the Activity	: Dept. of ECE (Online) Mangalam College of Engineering. Ettumanoor. Link: Department Link <a href="https://meet.google.com/tpn-kdxq-ewz">https://meet.google.com/tpn-kdxq-ewz</a> Or dial: (US) +1 337-359-2878 PIN: 489 799 733#
No. of Participants	: 41
No. of Qualified	: 41
Name & Designation of Expert	: Prof Radeep Krishna R, Centre for VLSI Design , KARE
Objective of the Activity	Learn the fundamentals of VLSI Physical Design
Outcome of the Activity	Participants learned theory and practiced the development of VLSI Physical Design

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course - How to write an effective research paper**

**Academic Year: 2018-2019**

**Batch 2015-2019**

**Year: IV/VII Semester**

Name of the Activity	: Certificate Course
Title of the Activity	: How to write an effective research paper
Staff Incharges	: Mr.Reneesh C Zacharia, AP/ECE
Place of the Activity	: Dept. of ECE Mangalam College of Engineering, Ettumanoor.
No. of Participants	: 38
No. of Qualified	: 38
Name & Designation of Expert	: Mr. Rijo Sebastian( PhD), Research Scholar, CUSAT
Objective of the Activity	To expose the students to the basic concepts documentation and its importance and Learn how to write good research papers with easy steps.
Outcome of the Activity	: Students understood how to frame report and thesis, Improved their proficiency in paper writing

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

Mangalam Campus  
Mangalam Hills, Vettimukal P.O  
Ettumanoor, Kottayam  
Kerala-686631



**MANGALAM**  
**COLLEGE OF ENGINEERING**  
Inspire | Imbibe | Innovate

Ph :+91-481-2710120, +91-481-2537053  
+91-481-2533711, Fax: +91-481-2533700  
Web : www.mangalam.ac.in  
E-mail : info@mangalam.in

( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course – Financial independence at 40**

**Academic Year: 2018-2019**

**Batch 2016-2020**

**Year: III/VI Semester**

Name of the Activity	: Certificate Course
Title of the Activity	: Financial independence at 40
Staff Incharges	: Prof. Ajit Joseph, HoD, ECE
Place of the Activity	: Dept. of ECE (Online) Mangalam College of Engineering, Ettumanoor. S6 A Classroom
No. of Participants	:65
No. of Qualified	:66
Name & Designation of Expert	: Prof. Ajit Joseph, HoD, ECE
Objective of the Activity	:To introduce the basic financial planning skills to final year students.
Outcome of the Activity	: Students understood the basics of Budgeting and financial planning. They understood the financial investing tools and the importance of being insured. They have got the basic idea of Entrepreneurial financing.

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course- LAYOUT DESIGN USING PROTEUS  
AND PCB**

**Academic Year: 2018-2019**

**Batch 2018-2022**

**Year: I/II Semester**

Name of the Activity	: Certificate Course
Title of the Activity	: Layout Design Using Proteus and PCB
Staff Incharges	: Mrs. Meeva P A, AP/ECE
Place of the Activity	: Dept. of ECE (Online) Mangalam College of Engineering, Ettumanoor. <a href="https://meet.google.com/cea-ryes-vut">https://meet.google.com/cea-ryes-vut</a>
No. of Participants	: 31
No. of Qualified	: 31
Name & Designation of Expert	: Mr. Meeva P A, AP/ECE
Objective of the Activity	This is a basic course for designing of PCB using software. PCB (Printed Circuit Board) designing is an integral part of each electronics products and this program is designed to make students capable to design their own projects PCB up to industrial grade.
Outcome of the Activity	Students understand basics of PCB designing. They apply advance techniques, skills and modern tools for designing and fabrication of PCBs. Students learned to apply the knowledge and techniques to fabricate Multilayer, SMT and HDI PCB They understand concepts of Packaging.

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Computer Science And Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	Certification on Data Science and Machine Learning
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in Data Science and Machine Learning
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S8 Students
7.	Date and Duration of the Course	: 02-03-2019 to 30/03/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms.Neethu Maria
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CSE Seminar Hall


  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Computer Science And Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	Certification on IoT
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in IoT
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	: 03-11-2018 to 01/12/2018
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: MsSreenimol KR
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CSE Seminar Hall

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Computer Science And Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	Certification on Robotic Automation
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in Robotic Automation
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	: 01-09-2018 to 29/09/2018
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms Merlin Mary James
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CSE Seminar Hall

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor







( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Computer Science And Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	PC Hardware and networking
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in PC Hardware and networking
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S5 Students
7.	Date and Duration of the Course	: 06-10-2018to 29/10/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms.Simy Mary Kurian
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CSE Seminar Hall

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Computer Science And Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	Certification on Python
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in Python
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S2 Students
7.	Date and Duration of the Course	: 01-06-2019 to 29/02/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: MsNimmymol Manuel
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CSE Seminar Hall

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor






( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Computer Science And Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	Certification of PHP
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in PHP
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	: 04-08-2018 to 25/08/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms.Neema George
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CSE Seminar Hall

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Computer Science And Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	Certification of Java
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in Java
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S4 Students
7.	Date and Duration of the Course	: 01-03-2019 to 30/03/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms.Divya SB
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CSE Seminar Hall



PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course - Multiplexing**

**Academic Year: 2018-2019**

**Batch 2018-2022**

**Year/ Semester: I/I**

Name of the Activity	: Certificate Course
Title of the Activity	: Multiplexing
Staff Incharges	: Mr. Gokul C, AP/BSH
Place of the Activity	: physics lab Mangalam College of Engineering. Ettumanoor
No. of Participants	: 20
No. of Qualified	: 20
Name & Designation of Expert	: Mr. Gokul C, AP/BSH
Objective of the Activity	To create understanding of Multiplexing to enable signals to be transmitted more efficiently over a given communication channel, thereby decreasing transmission cost
Outcome of the Activity	Students understood how to perform signal transmission effectively through multiplexing.

**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
**ETTUMANOOR**





( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

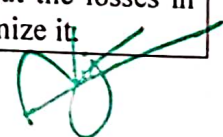
**Consolidated Report for the Certificate Course -Different Types Of Information Losses In Fibre**

**Academic Year: 2018-2019**

**Batch 2018-2022**

**Year/ Semester: I/I**

Name of the Activity	: Certificate Course
Title of the Activity	Different Types Of Information Losses In Fibre
Staff In charges	: Mr. Vinu Sreedhar AP/BSH
Place of the Activity	: physics lab Mangalam College of Engineering. Ettumanoor
No. of Participants	: 20
No. of Qualified	: 20
Name & Designation of Expert	: Mr. Vinu Sreedhar, AP/BSH
Objective of the Activity	To create understanding of different types of information losses in optical fiber and how to minimize it and uses effectively in telecommunication.
Outcome of the Activity	Students understood about the losses in optical fibre and to minimize it

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course – Hyperbolic Functions**

**Academic Year: 2018-2019**

**Batch 2018-2022**

**Year/ Semester : I/I**

Name of the Activity	: Certificate Course
Title of the Activity	: Hyperbolic Functions
Staff Incharges	: Mr. Jain P George, AP/BSH
Place of the Activity	: Dept. of BSH (room no:311) Mangalam College of Engineering, Ettumanoor
No. of Participants	: 25
No. of Qualified	: 25
Name & Designation of Expert	: Mr.Jain P George, AP/BSH
Objective of the Activity	To teach the students the basic concepts of hyperbolic functions and its applications.
Outcome of the Activity	Students understood how to solve problems based on hyperbolic functions.

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )


**Consolidated Report for the Certificate Course - LaTeX**

**Academic Year : 2018-2019**

**Batch 2018-2022**

**Year/ Semester : I/I**

Name of the Activity	Certificate Course
Title of the Activity	LaTeX
Staff Incharges	Ms. Sheen E M, AP/BSH
Place of the Activity	Dept. of BSH (room no:303) Mangalam College of Engineering. Ettumanoor
No. of Participants	26
No. of Qualified	26
Name & Designation of Expert	Ms. Sheen E M, AP/BSH
Objective of the Activity	To expose the students to the basic concepts documentation and its importance and to give Working knowledge of Latex typesetting language.
Outcome of the Activity	Students understood how to frame report and thesis, mathematical typesetting knowledge

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )


### Consolidated Report for the Certificate Course - SOIL ANALYSIS

Academic Year: 2018-19

Batch:2018-2022

Year: I/I Semester

Name of the Activity	Certificate Course
Title of the Activity	SOIL ANALYSIS
Staff In charge	Ms.Reshma Chandran / BSH
Place of the Activity	Dept. of BSH (room no:311) Mangalam College of Engineering. Ettumanoor
No. of Participants	30
No. of Qualified	30
Name & Designation of Expert	Ms. Vidhya Vinayan/ BSH
Objective of the Activity	Students need to gear up and prepare for a future that will depend solely on chemistry Build basic knowledge about Soil components and testing
Outcome of the Activity	Students will use proportional reasoning for finding properties of soil and components

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Consolidated Report for the Certificate Course - Chemical Parameters of Water

Academic Year: 2018-2019

Batch 2018-2022

Year/ Semester: I/I

Name of the Activity	: Certificate Course
Title of the Activity	: Chemical Parameters of Water
Staff Incharges	: Ms. Sanjini.N.S, AP/BSH
Place of the Activity	: Chemistry lab Mangalam College of Engineering. Ettumanoor
No. of Participants	: 19
No. of Qualified	: 19
Name & Designation of Expert	: Ms. Sanjini.N.SAP/BSH
Objective of the Activity	Understand important parameters for measuring water quality. Know about the methods for the determination of water quality parameters.
Outcome of the Activity	Students understood how to run accurate water quality tests and to determine how the parameters relate to each other

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Consolidated Report for the Certificate Course- Student Professional Development Program**

**Academic Year : 2018-2019**

**Batch 2018-2022**

**Year/ Semester : I/I**

Name of the Activity	: Certificate Course
Title of the Activity	: Student Professional Development Program
Staff Incharges	: Ms. Aksa Robert /BSH
Place of the Activity	: Dept. of BSH (room no:) Mangalam College of Engineering. Ettumanoor
No. of Participants	: 30
No. of Qualified	: 30
Name & Designation of Expert	: Ms.Aksa Robert /BSH
Objective of the Activity	: Enhance critical thinking skills: Develop stronger project management abilities: Improve verbal and written communication: Sharpen workplace productivity: Hone quality workplace readiness and etiquette: Gain a greater understanding of their leadership style: Improve networking skills and interviewing techniques
Outcome of the Activity	: Clarify values, interests, strengths and skills. Articulate students' transferable, liberal arts, graduate school and work-related skills. Identify and research a wide variety of career fields and opportunities. Identify and use relevant tools in the job search, including activating professional networks. : Understand and plan for future educational pursuits. Acquire and develop Communication Skills, and Personality development skills.

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Management Studies

1.	Academic Year	: 2018-19
2.	Title of the Course	Supply chain Management
3.	Objective of the Course	The main objective of the course was to provide the students to create value, build a competitive infrastructure, leverage worldwide logistics, etc.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: T6 Students
7.	Date and Duration of the Course	:7/3/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms. Rinta George
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: N105

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



### Department of Management Studies

1.	Academic Year	: 2018-19
2.	Title of the Course	Corporate Training
3.	Objective of the Course	The main objective of the course was to provide the students should clearly communicate the tangible benefits of the training program in a way that engages.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: T5 Students
7.	Date and Duration of the Course	: 1/2/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Tinta Baby
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: N106

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Management Studies

1.	Academic Year	: 2018-19
2.	Title of the Course	Six Sigma
3.	Objective of the Course	The main objective of the course was to provide the students with basics of six sigma to learn process flow and value stream mapping, definition phase and measure phase analyze phase and improve phase and control phase in hypothesis testing.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: T2 Students
7.	Date and Duration of the Course	: 6/12/2018 to 12/01/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms. Reshma Raveendranath
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: N103

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Management Studies

1.	Academic Year	: 2018-19
2.	Title of the Course	spss
3.	Objective of the Course	The main objective of this course is to provide the students is to learn basic data analysis with spss. How to enter data, define variables, and perform variable manipulation and transformation.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: T3 Students
7.	Date and Duration of the Course	: 5/02/2019 to 15/02/2019
8.	Proposed Timing	: 1.00 PM to 04.00 PM (3 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Bose Tom
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: N104

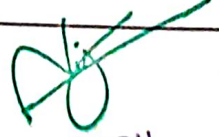
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Management Studies

1.	Academic Year	: 2018-19
2.	Title of the Course	Social Media Marketing
3.	Objective of the Course	The main objective of this course is to provide the students to increase social community size, accurately target audiences, strengthen engagement strategies for increased brand loyalty.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: T5 Students
7.	Date and Duration of the Course	: 26/11/2018
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Siby James
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: N104

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
ETTUMANOOR

### Department of Management Studies

1.	Academic Year	: 2018-19
2.	Title of the Course	Basics of Stock Marketing
3.	Objective of the Course	The main objective of the course was to provide the students with basics of stock market trading, the difference existing between stock market and commodities market, online trading details, etc.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	:T3 Students
7.	Date and Duration of the Course	: 15/3/2019-26/3/2019
8.	Proposed Timing	: 1.00 PM to 04.00 PM (3hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms. Tinta Baby
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: N106

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Management Studies

1.	Academic Year	: 2018-19
2.	Title of the Course	Digital Marketing
3.	Objective of the Course	The main objective of the course was to provide the students to developing an overall understanding of digital marketing/online marketing platforms mainly web analytics, social media tools, mobile marketing, etc.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: T5 Students
7.	Date and Duration of the Course	: 1/2/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Siby James
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: N105


  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Management studies

1.	Academic Year	: 2018-19
2.	Title of the Course	MS Excel
3.	Objective of the Course	The main objective of the course was to provide the students with primarily to enter, edit, format, sort, perform, mathematical computations, save, retrieve and print numerical data.
4.	Prerequisite	: Nil
5.	Beneficiary	: T1 Students
6.	Date and Duration of the Course	: 6/8/2018-11/8/2018
7.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
8.	No of Hours Required	: 30 Hours
9.	Internal Resources	: Ms. Demy Devassy
10.	Course Registration Fees	: Nil
11.	Contents of Courses	: Enclosed Separately
12.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
13.	Venue	: N102

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



**Consolidated Report for the Certificate Course - ETAP FAMILIARISATION**

**Academic Year: 2018-2019**

**Batch 2015-2019**

**Year: IV/VIII Semester**

Name of the Activity	: Certificate Course
Title of the Activity	: ETAP FAMILIARISATION
Staff Incharges	: Mrs.Shoma Mani, AP/EEE
Place of the Activity	: Dept. of EEE Mangalam College of Engineering.Ettumanoor. PG Simulation Lab
No. of Participants	: 26
No. of Qualified	: 26
Name & Designation of Expert	: Mrs.Shoma Mani, AP/EEE
Objective of the Activity	To perform load flow analysis and short circuit analysis on given power system network using ETAP.
Outcome of the Activity	: Students understood how to do load flow analysis, short circuit on a given bus system.

PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Consolidated Report for the Certificate Course –Research Paper Writing

Academic Year:2018-19

Batch 2015-2019

Semester: VIII

Name of the Activity	: Certificate Course
Title of the Activity	: Research Paper Writing
Place of the Activity	: Dept. of EEE , S8 Class room with projector, Mangalam College of Engineering. Ettumanoor.
No. of Participants	: 26
No. of Qualified	: 26
Name & Designation of Expert	: Ms. Preethy Sebastian, AP/EEE
Objective of the Activity	: Understand the logic and structure of a research paper. Identify the qualities that make a research paper effective. Know what to write in every part of every section.
Outcome of the Activity	: Students were able to Know exactly how to prepare an effective research paper for publication in a scientific journal, archival volume, or other professional publications

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Consolidated Report for the Certificate Course - Solar Power Plant Design

Academic Year: 2018-2019

Batch 2015-2019

Semester: VIII

Name of the Activity	: Certificate Course
Title of the Activity	: Solar Power Plant Design
Staff Incharges	: Mr. JeneeshScaria, AP/EEE
Place of the Activity	: Dept. of EEE Mangalam College of Engineering.Ettumanoor.
No. of Participants	: 26
No. of Qualified	: 26
Name & Designation of Expert	: Mr.JeneeshScaria, AP/EEE
Objective of the Activity	To expose the students to the basic concepts of electrical energy generation using solar energy, its working and design
Outcome of the Activity	: Students understood how to select various components, design the solar power plant



PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING,  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

## Certificate Course – 3D Printing Technology

### Detailed explanation about the course

**Academic Year: 2018-2019**

**Batch 2016-2020**

**Year: III & V Semester**

Department of Mechanical Engineering organized a certificate course on **3D Printing Technology** for the 5<sup>th</sup> semester B. Tech students (2016-2020 batch) from 1<sup>st</sup> September 2018 to 30<sup>th</sup> September 2018. A total of 53 students were enrolled for the course. 25 lecture hours and 5 practical hours were provided during the course as per curriculum. A multiple choice based examination was conducted for the enrolled students at the end of the course. Certificates were provided for the participants after successful completion of the course.

**Course Coordinator**

**HOD / ME**

**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

## Certificate Course – Foundation in Mechanical CAD

### Detailed explanation about the course

Academic Year: 2018-2019

Batch 2018-2022

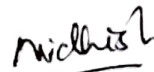
Year: I Year

Department of Mechanical Engineering organized a certificate course on **Foundation in Mechanical CAD** for the First Year B. Tech students (2018-2022 Batch) from 19<sup>th</sup> November 2018 to 28<sup>th</sup> November 2018. A total of 62 students were enrolled for the course. 22 lecture hours and 8 practical hours were provided during the course as per curriculum. A multiple choice based examination was conducted for the enrolled students at the end of the course. Certificates were provided for the participants after successful completion of the course.

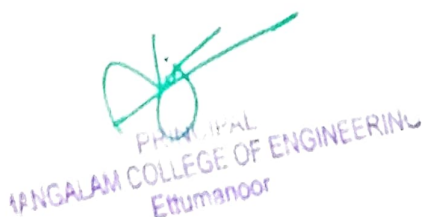
No of students Registered	No of Students participated	No of Students Passed	No of students Eligible for Certificate
62	62	62	62



Course Coordinator



HOD / ME



PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor

( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Certificate course: Heating, ventilation and Air-conditioning**

**Detailed Explanation of Course**

**Academic Year: 2018-2019**

**Batch: 2015-2019**

**Year: IV/VII Semester**

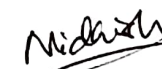
The main objective of the course is to provide the students with a solid foundation in heat ventilation and air condition and make them understand the calculation for heat loss and also about duct design.

The course was offered for final year mechanical students of Mangalam college of engineering. The course was designed with five modules and course was conducted from 10-11-2018 to 12-01-2019. Certificate was provided with students those who have 80% of Attendance and scored 60 % in internal exam evaluation

No of students Registered	No of Students participated	No of Students Passed	No of students Eligible for Certificate
25	25	25	25



**Course Coordinator**



**HOD/ME**

MANGALAM COLLEGE OF ENGINEERING  
ETTUMANOOR

( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

**Certificate course: Non destructive Testing**

**Detailed Explanation of Course**

**Academic Year:2018-2019**

**Batch :2016-2020**

**Year: III/VI Semester**

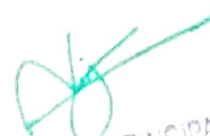
The main objective of the course was to provide the students with a solid foundation in fundamental science, engineering, and technology in order for them to be effective innovators and entrepreneurs in the field of nondestructive testing.

The course was offered for final year mechanical students of Mangalam college of engineering. The course was designed with four modules and course was conducted from 21.01.2019 to 25.01.2019. Certificate was provided with students those who have 80 % of Attendance and scored 60 % in internal exam evaluation

No of students Registered	No of Students participated	No of Students Passed	No of students Eligible for Certificate
51	51	51	51

  
**Course Coordinator**

  
**HOD/ME**

  
**PRINCIPAL**  
**MANGALAM COLLEGE OF ENGINEERING**  
**Ettumanoor**



**Certificate course: Piping and Pipeline**

**Detailed Explanation of Course**

**Academic Year:2018-2019**

**Batch :2015-2019**

**Year: IV/VIII Semester**

The main objective of the course was to provide the students with a solid foundation in fundamental science, engineering, and technology in order for them to be effective innovators and entrepreneurs in the field of piping and pipeline.

The course was offered for final year mechanical students of Mangalam college of engineering. The course was designed with four modules and course was conducted from 04.02.2019 to 08.02.2019. Certificate was provided with students those who have 80 % of Attendance and scored 60 % in internal exam evaluation

No of students Registered	No of Students participated	No of Students Passed	No of students Eligible for Certificate
49	49	49	49

  
Course Coordinator

  
HOD/ME


  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Civil Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	Training on Revit Arch
3.	Objective of the Course	The main objective of the course was to provide the students with a concrete foundation in structural designing and its optimization along with the application of structural analysis subjects in practical layout of a structure.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	:04-08-2018to 08/08/2018
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Sreerench Raghav (CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB


  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Civil Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	Structural drawings using AUTO CADD
3.	Objective of the Course	The main objective of the course was to provide the students with a concrete foundation in structural designing and drafting.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	:03-12-2018to 07/12/2018
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Sreerench Raghav (CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB


  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor





### Department of Civil Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	PROJECT MANAGEMENT USING PRIMAVERA P6
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in building the hierarchy of Organization and Enterprise, Scheduling the project in software, Assigning the resource and responsible to the activity.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	: 04-02-2019 to 08/02/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Sreerench Raghav (CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB


  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Civil Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	TOTAL STATION - SURVEYING
3.	Objective of the Course	The main objective of the course was to provide the students with a solid foundation in advanced technologies in surveying, especially the awareness regarding multiple surveys can be performed at one setup location.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S5 Students
7.	Date and Duration of the Course	:11-02-2019to 15/02/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms. Reni Kuruvila (CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor



( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Civil Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	GIS Applications and uses
3.	Objective of the Course	The main objective of the course was to provide the students with a solid foundation in advanced technologies in surveying especially remote sensing
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	:03-03-2019to 07/03/2019
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Sreerench Raghav (CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING  
Ettumanoor






( Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution )

### Department of Civil Engineering

1.	Academic Year	: 2018-19
2.	Title of the Course	Healthier and Safe Sustainable buildings
3.	Objective of the Course	The main objective of the course is to provide the students a knowledge on sustainable construction methods and materials.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	: 10/12/2018 to 14/12/2018
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Ms Reni Kuruvila(CE)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: CADD LAB

  
PRINCIPAL  
MANGALAM COLLEGE OF ENGINEERING,  
Ettumanoor