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



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)-

CERTIFICATE PROGRAMS- ACADEMIC YEAR 2020-2021

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	24-09-2020,30 hours	MLMCE	60	1
2	Quality Health and Safety in Built Environment	12-10-2020, 30 hours	MLMCE	80	2
3	Intelligent Transport System	02-11-2020, 30 hours	MLMCE	40	1
4	Soil Classification and characterization	04-01-2021, 30 hours	MLMCE	50	1
5	Training on Auto Cad 2D & 3D	12-04-2021, 30 hours	MLMCE	120	2
6	Training on Revit Arch	1 3-03-2021,30 hours	MLMCE	120	2
7	Learn Python developing a website	10 days	MLMCE	45	1
8	Salesforce program "Become Job ready for Developer"	15/6/20, 47 hrs	MLMCE	17	1
9	AAUs BOT Aspirant Program	22/5/21, 13 days	MLMCE	37	1
10	Women Centric Program - Salesforce	1/4/21, 12 weeks	MLMCE	6	1
11	RPA Developer Foundation Course	2/11/20, 40 hrs	MLMCE	15	1
12	Google ACE	30/3/21 30 hours	MLMCE	36	1
13	PC Hardware and networking	7/11/21, 30 hours	MLMCE	60	1
14	Certification of Java	1/8/21 30hrs	MLMCE	65 .	1
15	Certification on Python	30 hours	MLMCE	115	1
16	Introduction to Robotics	14-08-2020 & 30 HRS	MLMCE	35	1
17	Financial Planning for Young Professionals	19-09-2020 & 30 HRS	MLMCE	43	1
18	Introduction to Industrial Automation	18-11-2020 & 30HRS	MLMCE	42	1
19	How to write an effective research paper	04-05-2021 & 30 HRS	MLMCE	36	1
20	Effective Management and Efficience For Engineers	22-08-2020 & 30 HRS	MLMCE	35	RINCIPAL
21	Programming to Raspberry pi and Arduino	24-04-2021 & 30 HRS	MLMCE	36	A1:

22	Decoding Phython skills for engineers	26-09-2020 & 30 HRS	MLMCE	39	1
23	HDL Design for Engineers	22-05-2021 & 30 HBS		38	1
24	Flexible Electronics for Industry	27-05-2021 & 30 HRS	MLMCE	44	1
25	E-TAP	08/05/2021 & 30 hours	MLMCE	41	1
26	E-CAD	21/11/2020 & 30 hours	MLMCE	41	1
27	Proteus PCB Designing	21/11/2020 & 30 hours	MLMCE	18	1
28	Latex for begineers	21/11/2020 & 30 hours	MLMCE	24	1
29	Solar Power Plant Designing	10/04/2021 & 20 hours	MLMCE	20	1
30	Energy management	08/05/2021 & 30 hours	MLMCE	18	1
31	Construction Site Electrical	10/04/2021 & 20 hours	MLMCE	21	1
32	Controller design using	10/04/2021 & 20 hours	MLMCE	24	1
33	Research paper writing	12/06/2021 & 20 hours	MLMCE	41	1
34	Foundation In Mechanical CAD	29/07/2020,30 Hours	MLMCE	55	" "1
25	2D Printing Technology	01/08/2020.30 Hours	MLMCE	52	1
30		12/02/2021 30 Hours	MLMCE	45	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
30		11/02/2021 36 Hours	MLMCE	44	1_{m}
37	NDI	17/09/2020 30 Hours	MIMCE	47	1 1
38 39	HVAC Piping and pipeline	08/02/02021,30 Hours	MLMCE	54	1
	Engineering	11/01/2021 30 Hours	MIMCE	45	1.4
40	MEP	20/01/2021 36 Hours	MIMCE	49	1
41	Supplychain management	24/08//2020 30 Hours	MIMCE	45	1
42	Solidworks	24/08//2020,30 Hour	MIMCE	60	1
43	MS Excel	//10/2020,50 11001	MIMCE	65	1
44	SPSS	10/06/2021,30 hour		117	1. 2. 2. 2. 2. 1
45 46	Edge to Eminence Training Basics of Stock Market Trading	11/10/2020,30 hour	MLMCE	70	1
47	Import & Export Management	14/11/2020,30 hour	MLMCE	40	1
1		17/05/2021 30 Hour	MLMCE	38	1
48		3/02/221 30 hour	MLMCE	55	1
49	Six Sigma	3/2/2022 30 hour	MLMCE	ςς	an an saith an an an Canadhacha an ann an
50	Supply chain Management	7/10/2022,30 Hour	MIMCE	10	
51 52	Bussiness Etiquettes Mathematical Reasoning	02/01/21-30/01/21 30bours	MLMCE	22	1 1
53 1	_atex	14/11/20-12/12/20 30	MLMCE	25	1
54 5	oil Analysis	14/11/20-12/12/20 30 hours	MLMCE	20	1
55	itudent Professional Development Program	14/11/20-12/12/20 30 hours	MLMCE	30	1
56 N	Aultiplexing	02/01/21-30/01/21 30hours	MLMCE	25 NGALAM COLLE	HPAL SE OF ENGINE
57 A	rt Of Public Speaking	02/01/21-30/01/21 30hours	MĽMCE	22	1
58 H	yperbolic Functions	14/11/20-12/12/20 30 nours	MLMCE	24	1
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		Manual Action Statement Company and an and an an an and an and a statement of the statement of			
	Object Oriented Programming-		MART	18	1
59	Minor	18/12/2020 & 40 hours	MLMCE		
				40	1
60	Analog Communication- Minor	18/12/2020 & 40 hours	MLMCE		
				33	1
61	Basics Of Robotics- Minor	18/12/2020 & 40 hours	MLMCE		
	Programming Methodologies-			18	1
62	Minor	30/04/2021 & 40 hours	MLMCE		
				40	1
63	Digital Communication- Minor	30/04/2021 & 40 hours	MLMCE	10	
	Introduction To Industrial			22	1
64	Automation- Minor	30/04/2021 & 40 hours	MLMCE		
04					





Ranju S Kartha <ranju.kartha@mangalam.in></ranju.kartha@mangalam.in>
Batch Formation_ Robotic Process Automation Batch II 6 messages
ASDC NATTAKOM <asdcktmgptcnattakom@asapkerala.gov.in> To: ranju.kartha@mangalam.in Cc: "Dr. Vinodh P Vijayan" <vinodh.pvijayan@mangalam.in>, ANEESH S KRISHNAN <aneeshs@asapkerala.gov.in>, Sreeji R <sreeji@asapkerala.gov.in> <dpmktm@asapkerala.gov.in></dpmktm@asapkerala.gov.in></sreeji@asapkerala.gov.in></aneeshs@asapkerala.gov.in></vinodh.pvijayan@mangalam.in></asdcktmgptcnattakom@asapkerala.gov.in>
Dear Madam/Sir, Greetings!!!
In an increasingly competitive higher education environment, Robotic Process Automation is one of the top technologies in today's I Program, the students at engineering colleges can gain growth in their knowledge and career.
With reference to the above context, we will be offering 2 courses under Robotic Process Automation Developer namely Robi Foundation Level and Robotic Process Automation Developer Advanced Level in association with UiPath . Unlike the First f will be offered only at Engineering Colleges, initially focusing on the course "Robotic Process Automation Developer Found complete the above-mentioned course will only be eligible for the next level course on Robotic Process Automation Developer Ad attached herewith for your reference.
OBJECTIVE OF THE COURSE:
 To understand Basic Programming concepts and the underlying logic/structure To Describe RPA, where it can be applied and how its implemented To describe the different types of variables, Control Flow and data manipulation techniques To Understand Image, Text and Data Tables Automation To describe automation to Email and various types of Exceptions and strategies to handle
BATCH SIZE: 15 students/batch

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DURATION:

- ü RPA DEVELOPER FOUNDATION: 40 Hours
 - ü RPA DEVELOPER ADVANCED: 43 Hours

MODE OF DELIVERY: Online with Study Jams (Minimum 3 Study Jams to be conducted is a mandate)

COURSE FEE: NIL (The student will get a Diploma certificate after successfully completing the course on RPA Developer Foundation/

CERTIFICATION COST: 150\$ (50% discount Voucher)

PROJECTED JOB OPPORTUNITIES

- Robotic Process Automation Manager
- Robotic Process Automation developer

GENERAL GUIDELINES:

Initially, the course offered will be the Foundation Course on Robotics Process Automation. If a student successfully completes the the Advanced Level course.

The Process flow for the enrollment of students of Engineering Colleges into the programme at an institution will be as follows:

- 1. The students have to register to this google Form: (http://asapkerala.gov.in/?q=node/1010)
- 2. After the consolidation of the willing students' list, and if there are more than 15 applicants, a committee shall be formed constituting Principal, PM for the student selection process which shall include a personal interview.
 - 3. A rank list based on the interview and the students' willingness to take up RPA Certification shall be published on the college notice board/ circo Principal (Digital Signature)
 - 4. The faculty shall get the signed consent letter from the enrolled students which shall state the willingness of the student to get enrolled for the ccompleting the course with the interest of the student and the same should be shared with the ASDC PM. (The ASDC-PMs shall share the).
 - 5. After this process, the students shall fill the MIS Form for ASAP to maintain a database of the enrolled students on or before 23rd October 2020

	student_batch_r	Branch Nam													
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in the format given	student_email				0	2	17/2020) Lators with Division	UOISIAITI TITA STOPP				Ting students list s	ו student & share th format attached)		
nator shall share the students' list i	student_register_number (KTU NUMBER)			for the batch formation	TASK/ACTIVITIE	nator Training (20/07/07/000	lomas Certificate of faculty Coordin		1 of Institution Fraternities	osing	s students and Contification Durf	in completion Consent Lattor from	ired format to the ASDC Division (f	ncement	
The faculty coordi	student_name			nd the timeline I		Faculty Coordi	Sharing of Dipl		The orientation	Registration Cl	RPA willingnes	Batch Formatic	List in the requ	Class Comme	
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Expecting your full support and cooperation in this regard. Feel free to contact the field Programme Manager working with your college for any other information. Wishing you a great week ahead.

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Thanks and Regards

AND.

Advanced Skill Development Centre (ASDC), ASAP, Department of General and Higher Education Government of Kerala



E: asdcktmgptcnattakom@

asapkerala.gov.in **W:** www.asapkerala.gov.in Additional Skill Acquisition Programme | Trans Tower, 3rd Floor, CV Raman Pillai Rd, Opposite Government College, Thiruvananthapuram, | Kerala 695014 Attachments area



Cc: "Dr. Vinodh P Vijayan" <vinodh.pvijayan@mangalam.in>, Sreeji R <sreeji@asapkerala.gov.in> Aneesh S Krishnan <aneeshs@asapkerala.gov.in> To: Ranju S Kartha <ranju kartha@mangalam.in>

Mon, Oct 12, 2020 at 4:00 PM

Dear Madam,



LEARN PYTHON BY DEVELOPING A WEBSITE

PROGRAMME BROCHURE

A Govt. Supported and Industry led Program

ICT Academy of Kerala

Thejaswini Building, Technopark Campus Thiruvananthapuram Mob: 9995164856 / 8078109564 Email: sreekumar.kv@ictkerala.org

BUILDING THE NATION'S FUTUR

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Detailed Explanation of the course

Academic Year: 2020-21

Batch: 2017-21/2018-22/2019-2023

Year: Semester S7/S5/S3

The main Objective of the course was to provide the students with a solid foundation in Learn Python for developing a website. This course is offered by ICT Academy. Certificate was provided to students who have cleared the online test

No of students registered	No of students participated	No of students passed	No of candidates eligible for certificate
45	45	45	45

Course coordinator

CHEERING PRI AANGAL MIT



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 Nimy Mol Mathew, AP, CSE DEPT Ms Sruthy Emmanuel, AP, CSE DEPT Ms. Sujitha M, AP, CSE DEPT Date: 02-01-2021 to 30-1-2021





IANGAL

30 Hours Course (Certificate)

Needed to gain skills on python

Learn the fundamentals on python

Become 1 among the trained Engineer

MANGALAM COLLEGE OF ENGINEERING Mangalam Hills,

30 HoursCourse (Certificate)

Gain knowledge on python programming



Ref: MLM/CSE/`**CC**/2020-2021 /09

Date: 23/12/20

Submitted to the Principal approval

We have proposed to conduct the certificate course on "Certification on Python" for our UG students during this semester (2020-21). 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

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

Course Schedule :- 2.01.21 to 30.01.21

Thanking You, Course I/C

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Copy to:

- 1. CSE Department faculty members
- 2. The second se
- 3. IQAC Coordinator

PRINCIPAL MANGALAM COLLEGE OF ENGINEERING

Principal

ty Assurance Cell (IQAC) Internal Q neering Mangalam Co

Kottayam, a - 6c6 631



Department of Computer Science and Engineering

Academic year 2020-21

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

Internal Quality Assurance Cell (IQAC) Mangalach Coll 100 of Engineering Kottayam, India - 686 631



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

Mr Divya SB, AP, CSE DEPT Ms jinu P Sainudeen, AP, CSE DEPT Ms Neema George, AP, CSE DEPT

Date: 01-08-2021 to 29-08-2021



Coordinator: Ms Divya SB, AP, CSE DEPT

30 Hours Course (Certificate)

Needed to become a verified java programmer

Learn the fundamentals of java programming

Become 1 among the trained Engineer

MANGALAM COLLEGE OF ENGINEERING

AANGA

Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam 686631

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



Ref: MLM/CSE/CC/2020-2021 /04

Date: 29/7/20

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 (2020 21). Tentative timings and course fees details are mentioned below. Hence, we kindly request you to give approval for the same.

Course Explanation:

P

Course Schedule :- 1.8.21 to 29.8.21

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

HoD/CSE

Thanking You,

1 Course I/C

Copy to:

- 1. CSE Department faculty members ·· ·r
- 2. !
- 3. IQAC Coordinator

Principal

1ANGA

5.7 Establishing connectivity and working with connection interface5.8 Working with statements5.9 Creating and executing SQL statements5.10 Working with Result Set

Prepared By Ms. Divya SB

Approved by

1,1



CERTIFICATION PC HARDWARE AND NETWORKING

30 Hour Course

- ✓ Trusted by Recruiters of Networking
- ✓ Includes detailed pc and 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 Maria john, AP, CSE DEPT

Date: 07-11-2020 to 28-11-20



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

30 HoursCourse (Certificate)

Gain knowledge on pc hardware and networking

Learn the fundamentals of pc hardware

Become 1 among the trained Engineer

MANGALA

MANGALAMI COLLEGE OF ENGINEERING Mangalam Hills, Vettimukal P O Bitumanosi, Kottayam 686631



CIRCULAR

Ref: MLM/CSE/ C.C/2020-2021 /01

Date: 2/11/20

Submitted to the Principal approval

We have proposed to conduct the certificate course on "PC Hardware and Networking" for our UG CSE students during this semester (2020-21). Tentative timings and course fees details are mentioned below. Hence, we kindly request you to give approval for the same.

Course Explanation:

PC Hardware and Networking focus to train the students to acquire basic knowledge in computer hardware and peripherals for installation, PC assembly, trouble shooting and maintenance including system management and its backup. The course also provides a basic knowledge of TCP/IP networks work group, internet and intranet.

Course Schedule: - 07.11.20 to 28.11.20

S.No.	Name of the course	Course instructors	Course duration	Approx. Course fee	Target students (year/branch)
	PC Hardware and Networking	Ms Simy Mary Kurian Ms Jinu P Sainudeen Ms Neethu Maria John	30 hrs	Free	UG Students

Thanking You,

Course I/C

Copy to:

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

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

Principa

PRINCIPAL MANGALAM COLLEGE OF ENGINEERING



MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Academic year 2020-21 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 Ku

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Internal Quality Assurance Cell (IQAC) Mangalam Codece of Engineering Kottayam, India - 635 631 1 22 4 23 PM

Mangatam Critinge of Engrand 1, Eards, India, Mail, Eart, Finigle ACE Program, Confirm your participation



Sruthy Emmanuel <sruthy emmanuel@mangalam.in>

Fwd: Google ACE Program - Confirm your participation 1 message Thu Mar 17 2022 at 3.26 PM Sneha Mathew <snehamathew@mangalam.in> To Sruthy Emmanuel « sruthy emmanuel@mangalam in> Forwarded message From Akshit from Google Cloud Edu <akshitj@google.com> Date Thu. Mar 25 2021 at 12 58 PM Subject Google ACE Program - Confirm your participation To <snehamathew@mangalam.in> <aneeshs@asapkerala.gov.in>, <sreeji@asapkerala.gov.in> <dpmktm@asapkerala.gov.in> Google ACE Program 🛆 Google Cloud #GoogleCloudReady Get free access to "Architecting with Google courserd Cloud Platform" **Google ACE:** specialization on-demand on Coursera. (100% discount: 6 courses) **Associate Cloud** Self-paced labs Get free access to "Cloud **Engineering Track** Engineering Quest" and additional self-paced labs on Qwiklabs. (100% discount: 10+ labs) ogle Cloud Certified Prepare to take the exam & earn your Associate Cloud Confirm Participation Engineer Certification. (100% discount for faculty, 50% discount for students per adhere to timelines and other criteria) Dear Prof. Sneha, We have launched the 3rd batch of the Google ACE program in

partnership with ASAP Kerala, to help students prepare for careers in a Cloud-first world and we would like to invite MANGALAM COLLEGE OF ENG, Kottayam to participate in it.

By participating in the program, your students will get access to Google's leading edge, enterprise-ready curriculum and learning resources **for**

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INTELLIGENT TRANSPORT SYSTEM

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. Vaishnav V K Asst. Professor

Date:

02-11-2020to 6-11-2020



Coordinator:Ms.Vaishnav V K,AP/CE

30 Hours Course (Certificate)

Needed to become a competent professional

Learn the fundamentals of transportation planning

Manage traffic system planning

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

MANGALAM COLLEGE OF ENGINEERING



Department of Civil Engineering

1.	Academic Year	: 2020-21
2.	Tile of the Course	Intelligent Transport System
3.	Objective of the Course	The main objective of the course was to provide the students with a solid foundation in advanced technologies in transportation planning and traffic system planning
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	:02-11-2020to 06-11-2020
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. Vaishnav V K (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

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MANGALAM COLLEGE OF ENGINEERING Ettumanoor



Intelligent Transport System Syllabus

Module	Topics	L Hrs
1	advanced traveler information systems; transportation network operations; commercial vehicle operations and intermodal freight; public transportation applications	10
2.	ITS and regional strategic transportation planning, including regional architectures: ITS and changing transportation institutions.	5
3	ITS and safety, ITS and security. ITS as a technology deployment program, research, development and business models	10
4	ITS and sustainable mobility, travel demand management, electronic toll collection, and ITS and road-pricing	5
5	Course assessment	





SOIL CLASSIFICATION AND CHARACTERIZATION

30 Hour Course

- Includes detailed lectures of characteristics of soil
- Available with Updated course handout
- ✓ Completion Certificate Will be provided
- Interaction with Domain Expert

Resource Person

MsNajila Ahmed M.Tech graduate, NIT Suratkal

Date:

4-01-2021 to 8-01-2021



Coordinator:Mr.Vilbin Varghese, AP-CE



30 Hours Course (Certificate)

Be 1 among the trained geologists

Design foundations suitable for the soil profile

MANGALAM COLLEGE OF ENGINEERING

Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam 686631

Time 9: 00 AM to 5 PM

MANGALMIN VILLOR OF ENVIREERING



Soil Classification and characterization

Syllabus

Module	Topics	L Hrs
1	Fundamentals of Soil Genesis, Classification, and Morphology	10
2 •	Fundamentals in Soil Chemistry and Mineralogy, Fundamentals in Soil Fertility and Nutrient Management	5
3	Soil Biology and Soil Ecology.	10
4	Influences and Management of Soil Physical Properties and Soil and Land Use Management	5
5	Course assessment	





Department of Civil Engineering

1.	Academic Year	: 2020-21
2.	Tile of the Course	Soil Classification and characterization
3.	Objective of the Course	The main objective of the course is to provide the students a knowledge on characteristics and engineering properties of different types of soil
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S5 Students
7.	Date and Duration of the Course	:04/1/2021to 08/01/2021
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: MsVilbin Varghese(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

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MANGALAM COLLEGE OF ENGINEERING



TRAINING ON AUTO CAD 2D & 3D

30 Hour Course

- Trusted by Recruiters of Drafting Industry
- Includes detailed lectures of AutoCad tools
- Available with Updated course handout
- ✓ Completion Certificate Will be provided
- Interaction with Domain Experts

Resource Person

MrJoseph Faculty SolidCADD

Date:

19-04-2021 to 23-04-2021



30 Hours Course (Certificate)

- Rendering of structures
- Modelling
- Be 1 among the trained
 Draughtsman





Training on Auto Cad 2D & 3D

Syllabus

Module	Topics	L Hrs
1	Introduction to CAD	
	Industry Annotations & amp; Dimensions	
	Layers Drawing Settings	
	Orthographic Drawings	10
	Isometric Drawings	
	Perspective Drawings Editing	
	The Drawings Selection Methods	
	Presenting the Project	
2	Layout Management	
	Scale setting	
	Plotting	
	Import & amp; Export	5
	AUTO CAD 3D (CIVIL) 3D Modelling Concepts	
	3D Co-ordinates Systems	
	Viewpoint & amp: UCS Wireframe	
	Modeling & amp; Editing Solid, Mesh,	
3	Surface (Modeling & amp; Editing) Materials, Lights & amp; Rendering Working with Images Import & amp; Export	10
4	Working with Images Import & amp; Export	5
5	Course assessment	







MANGALAM COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

Department of Civil Engineering

1.	Academic Year	: 2020-21
2.	Tile of the Course	Training on Auto Cad 2D & 3D
3.	Objective of the Course	The main objective of the course was to provide the students with a concrete foundation in 2D and 3D structural drawings
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	:12-04-2021to 16-04-2021
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



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: 20-03-2021 to 24-03-2021



Coordinator:Mr. Sreerench Raghav, AP/CE



30 Hours Course (Certificate)

Needed to become a responsible building designer

Learn the fundamentals of drafting and designing of structures

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

MANGALAM COLLEGE FE

AL ENGINEER



1, Academic Year : 2020-21 2. Tile of the Course Training on Revit Arch The main objective of the course was to provide the students with a concrete Objective of the Course 3. foundation in structural designing and drafting. 4. Prerequisite : Nil 5. Requirement : Seminar Hall 6. Beneficiary : S7 Students 7. Date and Duration of the Course :20-03-2021to 24-03-2021 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 : Those who have 80 % of Attendance and Credits and Certification 13. scored 60 % in internal exam evaluation 14. Venue : CADD LAB

Department of Civil Engineering

COURSE COORDINATOR

HOD

PRINCIPAL MANGALAM COLLEGE OF 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:	8
	Basic principles of each tool and components, modelling of components	0
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

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Internal Quality Actourance Mangelam Colorde of Kottaysta, India - C

'IQAC)



QUALITY HEALTH AND SAFETY IN BUILT ENVIRONMENT

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. Naseeb K P Asst. Engineer KIIFB Date: 12-10-2020 to 16-10-2020



Coordinator:Ms. Aujana Baby,AP/CE

30 HoursCourse (Certificate)

Needed to become a responsible Site Engineer

Learn the fundamentals of ensuring safety and health in a construction site

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 CI

ENGINEER

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MANGALAM COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

Department of Civil Engineering

1.	Academic Year	: 2020-21
2.	Tile of the Course	Quality Health and Safety in Built Environment
3.	Objective of the Course	The main objective of the course was to provide the students with a solid foundation in handling the health and safety of workers in a construction site
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	:12-10-2020to 16/10/2020
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. Anjana Baby (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



HOD

MANGALAM COLLEGE OF ENGINEERIN





ality Health and Safety in Built Environment

Syllabus

Module	Topics	L Hrs
1	Construction safety management	
	introduction-to-construction	10
	risk assessment in construction work	10
	form overview and work information	
2.	Safety and health in construction	
•	Managing Safety and health in construction	
•	Risk assessment for construction sites	10
•	Planning for safety	
•	Construction plant and equipment, electricity and other services	
•		
3	Health and safety for scaffolds and scaffolding works	
	Duties and risks	10
	Erecting, dismantling and modifying a scaffold	
4	Managing noise and demolition risks	
	Demolition work	
	Controlling risks in demolition	
	Managing noise at work	
5	Course assessment	





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:

24-09-2020 to 28-09-2020



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 the trained Engineer

MANGALAM COLLEGE OF ENGINEERING

Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam 686631

Time 9: 00 AM to 5 PM




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MANGALAM COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

Department of Civil	Engineering
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1,	Academic Vear	6
	readennie Tear	: 2020-21
2.	Tile of the Course	PROJECT MANAGEMENT USING
3.	Objective of the Course	PRIMAVERA P6 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	:24-09-2020to 28/09/2020
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 PRINCIPAL PRINCIPAL OF ENGINEERING Etumarioor

HOD



Project Management using Primavera P6

Module	Topics	Hr
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	5
2	Portfolio Program & Project Structure Creation - Setting up Enterprise Project Structure (EPS). Setting up Organizational Break down 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	n san san san san san san san san san sa
3	Project Code and Calendars	
	Project Codes. Calendar. Global Calendar. Project Calendar. Resource Calendar.	
	Project Time Management, WBS & Activities	
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	

Syllabus

Internal Carting

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3-DAY WORKSHOP ON STRUCTURAL DRAWING USING AUTOCAD

30 Hour Course

- Trusted by Recruiters of Drafting Industry
- ✓ Includes detailed lectures of AutoCad tools
- ✓ Available with Updated course handout
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Experts

Resource Person

MrJoseph Faculty SolidCADD

Date:

19-04-2021 to 23-04-2021



Coordinator:Mr.Sreerench Raghay, AP-CE

30 Hours Course (Certificate)

- Rendering of structures
 - Modelling
- Be 1 among the trained
 Draughtsman

MANGALAM COLLEGE OF ENGINEERING

Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam 686631

Time 9: 00 AM to 5 PM



Department of Civil Engineering

1.	Academic Year	: 2019-20
2.	Tile of the Course	3-day workshop on structural drawing using AutoCAD
3.	Objective of the Course	The main objective of the course was to provide the students with a solid foundation in advanced technologies in transportation planning and traffic system planning
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	:21-08-2020to 25-08-2020
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 PRINCIPAL OF ENGINEERING Eliumanoor



3-day workshop on structural drawing using AutoCAD Syllabus

Sessions	Topics	L Hrs
1	Introduction to CAD	
	Perspective Drawings Editing	10
	The Drawings Selection Methods	
2	AUTO CAD 2D (CIVIL), 3D Co-ordinates Systems	
	Viewpoint & amp; UCS Wireframe	8
	Modeling & amp; Editing Solid, Mesh	
3	Surface (Modeling & amp; Editing) Materials, Lights & amp; Rendering	6
	Working with Images Import & amp; Export	0
4	export of files to other drawing and designing formats.	6

PRINCIPAL NANGALAM COLLECE OF ENGINEERING Ettumanoor

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6 DAY WORKSHOP ON ETAB& REVIT ARCHITECTURE

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. Jobin John Faculty

SolidCAD

Date: 23-07-2020to 27-07-2020



30 Hours Course (Certificate)

Needed to become a responsible building designer

> Learn the fundamentals of drafting and designing of structures

Lecome 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)



Department of Civil Engineering

	1.	Academic Year	: 2019-20
the second	2.	Tile of the Course	6 Day workshop on Etab& Revit architecture
	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	: S3 Students
	7.	Date and Duration of the Course	:23-07-2020to 27-03-2020
	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. Aswathy Soman (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
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COURSE COORDINATOR

HOD





6 Day workshop on Etabs& Revit architecture Syllabus

Module	Topics	L Hrs
1	Introduction about Portfolio, Program and Projects. Introduction to Project Management. Introduction to Primavera. History of Planning. Skills required for Planning. Project Phases & amp; Life Cycle.	10
2	Portfolio Program & amp: Project Structure Creation - Setting up Enterprise Project Structure (LPS). Setting up Organizational Breakdown Structure (OBS). User Administration. User control & amp: Limited Access Provisions. Setting User Preferences. Creating a Project. Defining Project Status. Setting up Project Dates. Setting up Project Codes. Project Parameters	5
3	Structural modelling: Familiarization of user Revit platform, introduction of basic tools and components-walls, stair, ceiling roof, beam, column etc	10
4	Component designing: Basic principles of each tool and components, modelling of components Visual styling and levelling: Projecting different views, rendering the plan and model in different levels	5
5	Course assessment	

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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 ALBERT MATHEW APME MANGALAM COLLEGE OF ENGINEERING

Date: 01/08/2020 to 31/10/2020



EGE OF ENGINEERING MANGALAM COLL Ettumanoor

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

Course	Code: MEExxx							
Course	Code, MILLAXA			L	T	P	J	C
Pre-	requisite: NIL	3	D Printing Technology	2 5	0	5	0	0
dule		Topic	s	L Hr	·s		Р	
	3D Printing (Additive I Advantages and Applic process	Manufacturing): ations, Additive	Introduction and Classification, Vs Conventional manufacturing	5		1		
х ж	CAD for additive manu data loss. STL format	facturing: CAD	data formats, data translation,	5		1		
i.	Additive manufacturing deposition modelling pay various applications	g Techniques-FD rocess, process p	M Introduction to fusion arameter, process selection for	5		1		
4	Materials: Polymers, m materials and their desi	netal, non-metals red properties	s, ceramics, various forms of raw	5		1		
:	Additive manufacturing	gequipment- des	ign and process parameter	5		1		
į.	Hands on session: 3D CAD modelled comport of stl files, printing of j	modelling of a ents, Exercise or product on an ava	single component, assembly of n CAD data exchange, generation ailable AM machine.					
le: Fhr	Total Lecture oped Class Room [Lecture s of equipment's, Lectu	e Hours re to be videotap res by Experts fr	ed], Industrial visit to see om Industry (two or more		3	80		
15)	•							
of Eva	uation							
mmende	d by the Board of Studie	s on:						
Appro	oval by the Academic Co	uncil:						
abus Com	piled by:							

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

ANNIGALAM COLLEGE OF ENGINEERING



-	Academic Year	: 2020-21
	Tile of the Course	: 3D PRINTING TECHNOLOGY
;	Objective of the Course	:To create understanding of the 3D Printing Technology, To understand the fundamentals of 3D Printing Technology
4	Prerequisite	: Nil
`	Requirement	: 3D Printing lab for practical class
	Beneficiary	: S3 Students
	Date and Duration of the Course	:01.08.2020 to 31.10.2020 (30 Hours)
`.	Proposed Timing	:04.00 PM to 07.00 PM (3hours per day)
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
3	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14	Venue	: 3D Printing Lab

Department of Mechanical Engineering

COURSE COORDINATOR

PRINCIPAL MANGALAM COLLEGE OF ENGINEERING Ethumanoor 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: 11/02/2021 to 12/02/2021



30 HoursCourse (Certificate)

Needed to become an Physical Design Engineer

Learn the fundamentals of NON-DESTRUCTIVE TESTING

Become 1 among the trained

MANGALAM COLLEGE OF ENGINEERING Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam

HANGALAM COLLEGE OF ENGINEERING



Non-Destructive Testing

Syllabus

		L
Module	Topics	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.	12
2	Ultrasonic Testing: Basic principles, equipment, Techniques, Conducting and Recording the Test, Calibrating testing units, Calibrating transducers, Codes and standards, Test Results	12
3	Magnetic Particle Testing: Basics of magnetism, Magnetic particle test equipment, Mediums and their preparation, Defects, Standards and Specifications, Magnetic article application, Classification of discontinuities	6
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	6

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

NANGALAM COLLEGE OF ENGINEERING

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MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF MECHANICAL ENGINEERING

Department of Mechanical Engineering

١.	Academic Year	: 2020-21
	Tile of the Course	: NDT
:	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.
+.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
0.	Beneficiary	: S8 Students
-	Date and Duration of the Course	:11.01.2021 to 16.01.2021(36 Hours)
8.	Proposed Timing	: 10.00 AM to 04.00 PM (6 hours per day)
9.	No of Hours Required	: 36 Hours
[1]	Internal Resources	: Mr. Rajeeve K Mohan AP (ME)
	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



HOD

PRINCIPAL PRINCIPAL ENGINEERING



Piping and Pipeline Syllabus

Module	Topics	L Hrs
1	Pipeline Design 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	Construction Pipeline route selrction, 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	Procurement & Fabrication 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	Operations & Maintenance Pipeline integrity management, pipeline risk assessment, maintenance engineering, Fitness-for-purpose Assessment, Damage Accident investigation, Pigging, Leak detection, Metering, Pumping station, Compressor station	5

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

PRINCUEAL MANGALAM COLLEGE OF ENGINEERING Ettumanoor



Department of Mechanical Engineering

1.	Academic Year	: 2019-2021
2.	Tile of the Course	: Piping and Pipeline
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	: S8 Students
7.	Date and Duration of the Course	:08.02.2021 - 12.02.2021 (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

COURSE COORDINATOR

HOD

MANGALAM COLLEGE OF ENGINEERING



CERTIFICATE COURSE IN FOUNDATION IN MECHANICAL CAD

30 Hour Course

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

Resource Person

Mr. Abin Babu APME MANGALAM COLLEGE OF ENGINEERING

Date: 29/07/2020 to 02/08/2020



30 HoursCourse

Needed to become

an cover the

Learn the fundamentals of MECHANICAL CAD

> the trained Engineer

MANGALAM COLLEG

Vettimukal P O Ettumanoor, Kottayam 686631

PRINCIPAL MANIGALAM COLLEGE OF ENGINEERING Ettumanoor

SYLLABUS (Add-on Course) Subject Name: Foundation in Mechanical CAD

Subject Code: SCADM0075

Total hours: 30

MODULE 1: (8 hours)

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

MODULE 3: (10 hours)

Design centre. Attribute. Inquiry – Area. Distance etc., Quick select, Filter, Draw order, Multi ne 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

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NANGALAM COLLEGE OF ENGINEERING



Department of Mechanical Engineering

1	Academic Year	2020-21
	life of the Course	Foundation in Mechanical CAD
i.	Objective of the Course	1
4	Prerequisite	Nil
2	Requirement	: Seminar Hall, CAD LAB
15	Beneficiary	: S8 Students
	Date and Duration of the Course	:28.07.2020 to 08.08.2020(30 Hours)
8	Proposed Timing	: 2:00 PM to 05:00 PM(3 hours per day)
9	No of Hours Required	: 30 Hours
$ () \rangle$	Internal Resources	: Mr. Abin Babu 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

COURSE COORDINATOR

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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. Abin Babu APME MANGALAM COLLEGE OF ENGINEERING

Date: 17/09/2020 to 16/10/2020



Needed to become

6112

Learn the fundamentals of HVAC

Become 1 among

MANGALAM COLLEGE

Vettimukal P O Ettumanoer, Kottayam 686631

MANGALAM COLLEGE OF ENGINEERING Ethumanoor



	Academic Year	: 2020-21
)	Lile of the Course	HVAC
š	Objective of the Course	: To create understanding of the Heating, Ventilation & Air-conditioning systems. To understand the fundamentals of Refrigeration Technology
4	Prerequisite	: Nil
	Requirement	: Thermal Engineering Lab for practical class
6	Beneficiary	: S7 Students
λη.	Date and Duration of the Course	:17.09.2020 to 16.10.2020 (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. Abin Babu / AP (ME)
	Course Registration Fees	:Nil
1,2	Contents of Courses	:Enclosed Separately
13.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % in internal exam evaluation
14.	Venue	: Thermal Engineering Lab

Department of Mechanical Engineering

COURSE COORDINATOR





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: 11/01/2021 to 29/01/2021



30 HoursCours (Certificate)

Needed to become an Physical Design Engineer

> Learn the fundamentals of Supply Chain Management

Become 1 among The trained Engineer

MANGALAM COLLEGE

Vettimukal P O Ettumanoor, Kettayam 586631

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Supply Chain Management

Syllabus

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

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



1	Academic Year	- 2020-21
2	Tile of the Course	Supply chain management
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
÷	Prerequisite	: Nil
5	Requirement	: Seminar Hall
6	Beneficiary	: S3 Students
_	Date and Duration of the Course	(11 01 2021 to 29 01 2021/30Hours)
5.	Proposed Timing	: 02.00 PM to 04.00 PM(2 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
	Venue	Mechanical Seminar Hall

Department of Mechanical Engineering



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PRINCIPAL MANGALAM COLLEGE OF ENGINEERING Ettumanoor



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 11/01/2021 TO 29/01/2021





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MANGALAM COLLEGE OF ENGINEERING Department of mechanical engineering

MEP

Syllabus

Module	Topics	L.
1	SUNR LING MEP PROJECT	Hrs
	Linking projects	
	View templates	
	General system options	
	ENERGY ANALYSIS FEATURES	8
	Use building elements for energy analysis mode	0
	Preparing spaces	
	Zones in the system browser	
2	VALIDATE ENERGY ANALYTCAL 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	8
	Adding duct by duct layout	
	Adding duct by duct pace holder	
	www.aghoragroup.com	
	Adding duct manually	
	Duct sizing	
3	ANNOTATION AND HYDRONIC CONNECTIONS	
	Annotating duct	
	Model pipe system	8
	ELECTRICAL DESIGN	
		A CANAL CANNEL
	Ethuman Ethuman	1 million
	MANUM	

Adding light fixtures Adding receptacles Adding & circuiting panel board

PANEL SCHEDULE

Creating panel schedule Creating a switch system

Circuiting receptacles

WIRING

Adding wiring

Modifying panel schedule

Creating lighting circuit as per Indian standard

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

Mangalan vyucve vr ENGINEERING

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2020-21 Academic Year Tile of the Course : MEP To provide graduates with a solid foundation in fundamental science. engineering, and technology in order for Objective of the Course 2 them to be effective innovators and entrepreneurs in the field of nondestructive testing. : Nil Prerequisite 1 Seminar Hall Requirement S8 Students Beneficiary :11.01.2021 to 29.01.2021(30 Hours) Date and Duration of the Course : 04.00 PM to 06.00 PM(2hours per **Proposed Timing** 1 day) : 30 Hours No of Hours Required 0 : Mr. Jishnu M (ME) Internal Resources 10 :Nil **Course Registration Fees** 11 :Enclosed Separately Contents of Courses 12 : Those who have 80 % of Attendance and scored 60 % in internal exam Credits and Certification 13 evaluation Mechanical Seminar Hall 14. Venue

Department of Mechanical Engineering



COURSE COORDINATOR

HI CPRINCIPAL OF ENGINEERIN HOD

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CERTIFICATE COURSE IN AUTO DETAILING

30 Hour Course

- Includes detailed technologies in AUTO Detailing
- 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: 16/01/2021 TO 20/03/2021



Learn the fundamentals of Auto Detailing

NANGALAM COLLEGE OF ENGINEER



Course on Auto Detailing Syllabus

n to Auto detai hemicals as co oplications: tecl	Course on Auto Detailing Topics ling, Paint evaluation, introduction on multiple ating	L 25 L 5	T O	P 5	J O P	С 0
n to Auto detai hemicals as co oplications: tecl	Topics ling, Paint evaluation, introduction on multiple ating	2.5 L 5	V		P	
n to Auto detai hemicals as co oplications: tecl	ling, Paint evaluation, introduction on multiple ating	5				
oplications: tecl	Contribution		5		l	
e or apprying e	Coating Applications: technical know-how of applying coating, significance of applying coatings				l	
Interior Germ-free steam detailing ozone and deodorizing, Deep scratches, swirls, orange peel, buffer trails, holograms: how to find and correct them using right tools						l
Headlight restoration and coating: ceramics (quartz, ceramic, titanium) applications and techniques.			ŝ			1
Exterior waterless wash, foam wash and engine cleaning and dressing, leather cleaning and conditioning			5			۱
То	tal Hours					
iss Room Lee iipment's, Lee	ture to be videotaped], Industrial visit to see tures by Experts from Industry (two or more sessions)			30		
	plications: tech e of applying c rm-free steam awirls, orange [m using right to restoration and s and techniqu aterless wash, t ning and cond To ass Room [Lec tipment's, Lec	oplications: technical know-how of applying coating, e of applying coatings rm-free steam detailing ozone and deodorizing, Deep awirls, orange peel, buffer trails, holograms: how to find and m using right tools restoration and coating: ceramics (quartz, ceramic, titanium) is and techniques. aterless wash, foam wash and engine cleaning and dressing, ming and conditioning Total Hours ass Room [Lecture to be videotaped], Industrial visit to see tipment's, Lectures by Experts from Industry (two or more sessions)	pilications: technical know-how of applying coating. 5 e of applying coatings 5 rm-free steam detailing ozone and deodorizing, Deep avirls, orange peel, buffer trails, holograms: how to find and m using right tools 5 restoration and coating: ceramics (quartz, ceramic, titanium) is and techniques. 5 aterless wash, foam wash and engine cleaning and dressing, ming and conditioning 5 Total Hours 5 uss Room [Lecture to be videotaped], Industrial visit to see tipment's, Lectures by Experts from Industry (two or more sessions)	pilications: technical know-how of applying coating, 5 e of applying coatings 5 rm-free steam detailing ozone and deodorizing, Deep 5 awirls, orange peel, buffer trails, holograms: how to find and 5 m using right tools 5 restoration and coating: ceramics (quartz, ceramic, titanium) 5 and techniques. 5 atterless wash, foam wash and engine cleaning and dressing, 5 ming and conditioning 5 Total Hours 5 ass Room [Lecture to be videotaped], Industrial visit to see tipment's, Lectures by Experts from Industry (two or more sessions)	pilications: technical know-how of applying coating, 5 e of applying coatings 5 rm-free steam detailing ozone and deodorizing, Deep 5 awirls, orange peel, buffer trails, holograms: how to find and 5 m using right tools 5 restoration and coating: ceramics (quartz, ceramic, titanium) 5 is and techniques. 5 atterless wash, foam wash and engine cleaning and dressing, 5 ming and conditioning 5 Total Hours 30 iss Room [Lecture to be videotaped], Industrial visit to see tipment's, Lectures by Experts from Industry (two or more sessions) 30	applications: technical know-how of applying coating, 5 1 c of applying coatings 5 1 awirls, orange peel, buffer trails, holograms: how to find and m using right tools 5 1 restoration and coating: ceramics (quartz, ceramic, titamium) 5 5 1 aterless wash, foam wash and engine cleaning and dressing, ming and conditioning 5 1 30 test Room [Lecture to be videotaped], Industrial visit to see tipment's, Lectures by Experts from Industry (two or more sessions) 30

NANGALNA COLLEGE OF ENGINEERING HoD, no

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



1.	Academic Year	: 2020-21
2.	Tile of the Course	: Auto Detailing
3.	Objective of the Course	: To provide an overlook on the various auto detailing prospects of automobiles.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 16.01.2021 -20.03.2021 (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. Jishnu Mani AP (ME)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.		: Those who have 80 % of Attendance
	Credits and Certification	and scored 60 % in internal exam
		evaluation
14.	Venue	: Mechanical Seminar Hall

Department of Mechanical Engineering

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COURSE COORDINATOR

PRINCIPAL PRINCIPAL PRINCIPAL OF ENGINEERING PRINCIPAL OF ENGINEERING 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. Amal R APME MANGALAM COLLEGE OF ENGINEERING

Date: 24/08/2020 to 30/09/2020



Learn the fundamentals of SOLID WORKS

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Course on Solid Works Syllabus

Course Code: MEAC20SW Pre-requisite: Machine Drawing		Course on Solid Works	L T	P J C
		Course on Bona Horna	5 0	25 0 0
Module	Topics		L	Р
1	Introduction to CAD Features of Solid Works, Various products available15in Solid Works for Product Design & Assembly Modeling1			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			
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 1 5 Selecting Profile and Path, Thin feature. Creating Loft features – Selecting Profiles, Guide curves.			
4	Creating Rib Creating Pattern - Linear pattern, Circular pattern, Sketch driven pattern, Curve driven pattern, Fill pattern, mirror. Environment & 1 5 Utilities - Working with views and manipulating views, Trouble shooting			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 Projection5			5
Total Hours 30 # 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) 30				30
	Internal Quality Mangalam Kottaya	y Assurance Cell (IQAC) College of Engineering am, India - 686 631 MANGALAM COLLEGE OF Ethomanor	ENGINEERIM	



1	Academic Year	2020-21
2	Tile 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
-	Prerequisite	: Machine Drawing
5.	Requirement	: CAD Lab for practical class
6.	Beneficiary	: \$3 Students
-	Date and Duration of the Course	.24 08.2020 to 30 09 2020 (30 Hours)
Ē	Proposed Timing	:04.00 PM to 08.00 PM (4 hours on every Saturday & Sunday)
ŷ.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Mr. Amal R., AP (ME)
11	Course Registration Fees	Nil
	Contents of Courses	:Enclosed Separately
13	Credits and Certification	: Those who have \$0.% of Attendance and scored 60.% in internal exam evaluation
1-1	Venue	: CAD Lab

Department of Mechanical Engineering







INTRODUCTION TO ROBOTICS

30 Hour Course

- ✓ Trusted by Recruiters of Robotics Industry
- ✓ Includes detailed Robotic Design
- ✓ Available with Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

Resource Person

Dr. I. Siva Professor KARE , Madurai

Date: 14-08-2020 to 18-08-2020



Coordinator: Prof Akhil Kumar, AP-ECE

MANGALAM COLLEGE OF

30 Hours Course (Certificate)

Needed to become a Robotics Design Engineer

Learn the fundamentals of Mobile Robot Navigation

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)



Department of Electronics & communication Engineering

1.	Academic Year	: 2020-2021
2.	Tile of the Course	: Introduction to Robotics
3.	Objective of the Course	:To develop the skill for Robotic construction and navigation
4.	Prerequisite	: Basic Electronics and Electrical Engineering
5.	Requirement	: Online Google meet for theory class : ProjectLab for practical class
6.	Beneficiary	: S8 Students
7.	Date and Duration of the Course	: 14-08-2020 to 18-08-2020
8.	Proposed Timing	: 09.00 AM to 04.00 PM
9.	No of Hours Required	: 30 Hours
10.	Resource Person	: Dr I Siva
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

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MANGALAM COLLEGE OF ENGINEERIN Ethumanoo
Introduction to Robotics

Course Objective:

- > To expose the students to the basic fundamentals of robotics.
- > To discuss Decision-Theoretic planning and control.
- > To practice Hybrid and Distributed Control.
- > To practice Mobile robot navigation.
- > To relate Mobile sensor networks.

Course Outcomes:

- Student knows and how to install and write coding for DC Motor, Stepper Motor and Servomotor.
- Student learns to assemble the DC Motor, Servo motor, Stepper Motor.
- Student learn to integrate the Bluetooth wireless hardware and coding.

CNO	CONTENT		INSTRUCTIONAL
5.NU	CONTENT		HOURS
	Section 1		
1	Robotics Introduction		2
2	Serve Motors Introduction		2
2	Components Using Servo motor		2
3	Assembling of Servo motor		2
4	Assembling of Berve meter		2
5	DC Motors Introduction		2
0	Components Using DC motor		2
/	Assembling of DC motor		2
8	Coding Skills DC motor		2
9	Coding Skins- DC motor Section 2		
10	Sterrer Motors Introduction		2
10	Stepper Motors Infoddetion		2
11	Components Using Stepper motor		2
12	Assembling of Stepper Inotol		2
13	Coding Skills- Stepper motor		2
14	Assembling of Robotic Car with Components		2
15	Bluetooth Wireless Connection and Coding		1
16	Example : Line Follower		1
		Total Hours	=30

Recommended Text Books:

1. Craig, J. J. (2005). Introduction to robotics: mechanics and control. Pearson Educacion.

PRINCIPAL PRINCIPAL OF ENGINEERING ANGALAM COLLEGE OF ENGINEERING Entumancor

Introduction to Industrial Automation

Course Objective:

- > To expose the students to the basic fundamentals of automation.
- > To understand the basics of Embedded Software.
- > To analyze the Software Architecture.
- > To apply the Wireless Network.
- > To do the Software Testing.
- > To understand the Smart Grid.
- > To practice Internet of Things.
- > To apply the Embedded Systems.
- > To apply the Software Engineering

S.NO.	CONTENT	INSTRUCTIONAL HOURS
	Section 1	
1	Introduction to Automation Systems	2
2	Identification and locating the systems	2
3	Industrial Communication	2
4	Industrial Controls	2
5	Digital Enterprise Service	2
6	Industry Software	2
7	Operating control and Monitoring systems	2
8	PC based automation	2
9	Power supplies	2
Section 2		
10	Process analytics	2
11	Process Control systems	4
12	Process Instrumentation systems	4
13	Product for specific requirements	1
14	Examples	1
	Total	Hours =30

Course Outcomes:

- > Student knows and how to install and write coding for Automation systems
- Student learns to assemble the different control systems.
- Student learn to integrate the instrumentation systems and do analytics.
- Recommended Text Books:
 - 1. Shell, Richard. Handbook of industrial automation. CRC press, 2000.
 - 2. Dey, Chanchal, and Sunit Kumar Sen. Industrial automation technologies. CRC Press, 2020.

NANGALAM CULLEGE OF

5



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

Dr. Rijo Sebastian, AP/ECE, MITS Ernakulam Date: 04.05.2021 to 09.05.2021



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, Vettimukal P O Ettumanoor, Kottayam 686631

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

MANGALAM COLLEGE OF ENGINEERING



MANGALAM COLLEGE OF ENGINEERING

Department of Electronics and Communication Engineering

	1. Academic Year	: 2020-2021
	2. Tile of the Course	: Effective management and Ethics for Engineers
	3. Objective of the Course	: To enable the students to imbibe and internalize the Values and Ethical Behavior in the personal and Professional lives.
4	. Prerequisite	: Nil
5.	Requirement	: Online Google meet for theory class
6.	Beneficiary	: S1 students
7.	Date and Duration of the Course	: 22/08/2020 to 19/09/2020 (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	: Mr. Jyothish Kurian / 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

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

NANGALAM COLLEGE OF ENGINEERING

Objective

Hardware design for IoT using different platforms and Software Design of IoT using different protocols. Course Outcome

Students can design hardware for loT on different platforms for devices that can be connected to internet.

 They can design software for IoT nodes and system. Additionally develop understanding for IoT based system design for different situations.

Details of Course

- Online Google meet for theory class
- https://meet.google.com/cis-bttsptr
- 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. Senthilprabu, Research Scholar VIT University, Vellore
 - Coordinator Mrs. Krishnapriya C V, AP/ECE

Unganized by Electronics and Communication Engineering

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.



Mangalam College of Engineering

Certificate Course

0n

Programming to Raspberry pi and Arduino

24/04/2021 to 22/05/2021 (Saturdays)





MANGALAM COLLEGE OF ENGINEERING

Department of Electronics and Communication Engineering

1	. Academic Year	: 2020-2021
2	2. Tile of the Course	: Programming to Raspberry pi and Arduino
3	. Objective of the Course	: Hardware design for IoT using different platforms and Software Design of IoT using different protocols
4.	Prerequisite	: Nil
5.	Requirement	: Online Google meet for theory class
6.	Beneficiary	: S2 students
7.	Date and Duration of the Course	: 24/04/2021 to 22/05/2021 (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. Krishnapriya C V / 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

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PRINCIPAL PRINCIPAL PRINCIPAL OF ENGINEERING

Programming to Raspberry pi and Arduino

Course Objective:

- Hardware design for IoT using different platforms
- Software Design of IoT using different protocols

Course Outcomes:

- > To be able to design hardware for IoT on different platforms for devices that can be connected to internet
- To be able to design software for IoT nodes and system
- > To develop understanding for IoT based system design for different situations

		INSTRUCTIONAL	
S.NO.	CONTENT	HOURS	
	Section 1		
	Section 1	2	
1	Introduction to IoT and different internet protocols (like	2	
	HTTP, TCP/IP, and MQTT etc.).	2	
2	Programming on Arduino UNO, MEGA platforms using C.	2	
3	Interfacing Arduino UNO with sensors, display devices and	4	
5	control of things (using I2C, SPI and other protocols).		
1	Wireless control of things using local networks (e.g. ZigBee,	4	
4	LoRa protocols etc.)		
5	CPPS protocol and connecting GSM/GPRS modems with	4	
5	UPRS protocol and connecting condict the internet		
Internet.			
		2	
6	Publishing of sensor data on open source cloud platforms	2	
	(e.g. Dweet, Thingspeak etc.).		
7	Controlling of things over Wi-Fi and Ethernet.	4	
8	Web service development for IoT based applications	4	
·	(Designing User interfaces using Node RED).		
9	Web service development for IoT based applications	2	
,	(Database and their management).		
	Total Hours	=30	

Recommended Books:

- 1. Adrian McEwen and Hakim Cassimally, Designing the Internet of Things, Wiely, 2015
- 2. Vijay Madisetti and Arshdeep Bahga, Internet of Things (A Hands-on-Approach), 1st Edition, VPT, 2016.
- 3. Richard Blum, Arduino Programming in 24 Hours, Sams Teach Yourself, Pearson Education, 2017.
- 4. Jain, Prof. Satish, Singh, Shashi, Internet of Things and its Applications, 1st Edition, BPB, 2020.

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DECODING PHYTHON SKILLS FOR ENGINEERS₃₀

Hour Course

- ✓ Trusted By Recruiters
- ✓ Includes Detailed Python Programming
- ✓ Available With Short Study Material
- ✓ Completion Certificate Will Be Provided
- ✓ Interaction With Domain Expert

Resource Person

Dr. Maragatharajan, Assoc. Professor, VIT Bhopal.

Date: 26-09-2020 to 30-09-2020



Coordinator: Prof Jyothisree K ,AP/ECE

30 Hours Course (Certificate)

Needed to Verification and Design Engineer

Learn the fundamentals of Python Coding

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)

NANGALAM COLLECTOR OF ENGINEERING



MANGALAM COLLEGE OF ENGINEERING

Department of Electronics and Communication Engineering

1.	Academic Year	: 2020-2021
2.	Tile of the Course	: Decoding Python skills for Engineers
3.	Objective of the Course	:To develop the skill for Decoding Python for Engineers
4.	Prerequisite	: Basic Programming
5.	Requirement	: Online Google meet for theory class : Project Lab for practical class
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	: 26-09-2020 to 30-09-2020
8.	Proposed Timing	: 09.00 AM to 04.00 PM
	No of Hours Required	: 30 Hours
9.	NO OI HOUIS REquired	
9. 10.	Internal Resources	: Prof Jyothisree K R,AP/ECE
9. 10. 11.	Internal Resources Course Registration Fees	: Prof Jyothisree K R,AP/ECE : Nil
9. 10. 11. 12.	Internal Resources Course Registration Fees Contents of Courses	 Prof Jyothisree K R,AP/ECE Nil Enclosed Separately
9. 10. 11. 12. 13.	Internal Resources Course Registration Fees Contents of Courses Credits and Certification	 Prof Jyothisree K R,AP/ECE Nil Enclosed Separately Those who have 80 % of Attendance and scored 60 % in internal exam evaluation

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COURSE COORDINATOR

PRINCIPAL MANGALAM COLLEGE OF ENGINEERING

MANGALAM COLLECE OF ENGINEERING

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGG. MANGALAM COLLEGE OF ENGINEERING ETTUMANOOR 686 631 11

<u>CERTIFICATE COURSE</u>

Decoding Python skills for Engineers

Course Objective:

- > End-to-end knowledge of Data Science
- > Prepare for a career path as Data Scientist / Consultant
- Overview of Python programming and its application in Data Science
- Detailed level programming in Python Loops, Tuples, Dictionary, List, Functions & Modules, etc.
- Decision-making and Regular Expressions
- Introduction to Data Science Libraries
- Components of Python Ecosystem
- Analysing Data using Numpy and Pandas
- > Data Visualisation with Matplotlib
- > Three-Dimensional Plotting with Matplotlib
- Data Visualisation with Seaborn
- Introduction to Statistical Analysis Math and Statistics
- > Terminologies & Categories of Statistics, Correlation, Mean, Median, Mode, Quartile
- Data Science Methodology From Problem to Approach, From Requirements to Collection, From Understanding to Preparation
- Data Science Methodology From Modeling to Evaluation, From Deployment to Feedback
- Introduction to Machine Learning
- Types of Machine Learning Supervised, Unsupervised, Reinforcement
- Regression Analysis Linear Regression, Multiple Linear Regression, Polynomial Regression
- Implementing Linear Regression, Multiple Linear Regression, Polynomial Regression
- Classification, Classification algorithms, Logistic Regression
- Decision Tree, Implementing Decision Tree, Support Vector Machine (SVM), Implementing SVM
- Clustering, Clustering Algorithms, K-Means Clustering, Hierarchical Clustering
- > Agglomerative & Divisive Hierarchical clustering
- Implementation of Agglomerative Hierarchical Clustering
- Association Rule Learning
- > Apriori algorithm working and implementation

Course Outcomes:

- Student knows and how to install Python and write coding in Python
- Student learns to different algorithms
- > Student learn to implement and do analytics.

PRINCIPAL PRINCIPAL OF ENGINEERING MANGALAM COLLEGE OF ENGINEERING

➢ Recommended Text Books:

- 1. Lutz, Mark. Programming python. " O'Reilly Media, Inc.", 2001.
- 2. Lutz, Mark. Learning python: Powerful object-oriented programming. " O'Reilly Media, Inc.", 2013.
- 3. Lee, Kent D. Python programming fundamentals. London, New York: Springer, 2011.
- 4. Downey, Allen. Think python. " O'Reilly Media, Inc.", 2012.

		П	NSTRUCTIONAL
S.NO.	CONTENT	H	IOURS
	Quetter 1		
	Section 1	2	
1	Introduction to Data Science	2	
2	Introduction to Python Programming	2	
2	Variables and DataTypes	2	
3	Input Output, Keywords, Identifiers	2	
5	Operators	2	
6	Types of Operators	2	
7	Decision Making	2	
8	Loops in Python	2	
9	List in Python		
	Section 2	2	
10	Tuples in Dictionary	2	
11	Functions and Modules	2	
12	Working with files	2	
13	Regular Expressions	2	
14	Introduction to data science libraries		
15	Components of Python Ecosystem		
16	Analyzing Data's using NumPy and Pandas	Hours =	-30
	Iotal		

MANGALIAN LUCIESE OF ENGINEERING



HDL DESIGN FOR ENGINEERS

30 Hour Course

- ✓ Trusted by Recruiters of VLSI Design Company
- ✓ Includes detailed HDL Design
- ✓ Available with Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Domain Expert

Resource Person

Dr. S. Ramakomaragiri Professor Bennet University, Noida

Date: 22-05-2021 to 26-05-2021



Coordinator: Prof Mariya Stephen, AP/ECE

30 Hours Course (Certificate)

Needed to Verification Engineer

Learn the fundamentals of HDL Coding, Simulation and Synthesis

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)

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Department of Electronics and Communication Engineering

1.	Academic Year	: 2020-2021
2.	Tile of the Course	: HDL Design for Engineers
3.	Objective of the Course	:To develop the skill for HDL Design for Engineers
4.	Prerequisite	: Basic Programming
5.	Requirement	: Online Google meet for theory class : Project Lab for practical class
6.	Beneficiary	: Prof Mariya Stephen, AP/ECE
7.	Date and Duration of the Course	: 22.05.2021 to 27.05.2021
8.	Proposed Timing	: 09.00 AM to 04.00 PM
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: Prof Mariya Stephen, 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

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

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PRINCIPAL PRINCIPAL OF ENGINEERING

HDL Design for Engineers

Course Objective:

- To work in VHDL ۶
- To work in Verilog ≻
- > To Programme in FPGA

Course Outcomes:

- > Student Correctly describe the detailed behavior of given digital logic circuits Verilog HDL, state diagrams, or other means, including those circuits related to modern computer
- Students able to Translate system requirements into a practical digital design, making use of modern engineering tools such as Xilinx Vivado, Verilog HDL, and FPGA prototyping boards

		INSTRUCTIONAL
S.NO.	CONTENT	HOURS
	Section 1	
	Section 1	2
1	Introduction to Verilog	2
2	Introduction to VHDL	0
3	Finite State machines and Test Benches	9
	Section 2	
	Duin	5
4	Single Cycle Processor Design	5
5	Functions and Modules	7
6	Memory Design and I/OS	-20
–	Total Hour	5 = 50

Recommended Text Books:

- 1. Bhasker, Jayaram. A verilog HDL primer. Star Galaxy Publishing, 1999.
- 2. Chakravarthi, Veena S. "VLSI Logic Design and HDL." A Practical Approach to VLSI System on Chip (SoC) Design. Springer, Cham, 2020. 63-80.
- 3. Ünsalan, C., & Tar, B. (2017). Digital system design with FPGA: Implementation using Verilog and VHDL. McGraw-Hill Education.

NANGALAM COLLECTE OF ENGINEERING



Flexible Electronics for Industry

30 Hour Course

- ✓ Trusted By Recruiters
- ✓ Includes Detailed Flexible Electronics
- ✓ Available With Short Study Material
- ✓ Completion Certificate Will Be Provided

1.

✓ Interaction With Domain Expert

Resource Person

Mr Vithyasaahar, Researcher, G Innovations, IIT Guwahati

Date: 27-05-2021 to 31-05-2021



Coordinator: Prof Riya Sara Joy, AP/ECE

30 Hours Course (Certificate)

> Needed to Verification Engineer

Learn the fundamentals of HDL Coding, **Simulation and Synthesis**

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) MANGALAWI VULLEGE OF ENGINEERING



Flexible Electronics for Industry

30 Hour Course

- ✓ Trusted By Recruiters
- ✓ Includes Detailed Flexible Electronics
- ✓ Available With Short Study Material
- ✓ Completion Certificate Will Be Provided
- ✓ Interaction With Domain Expert

Resource Person

Mr Vithyasaahar, Researcher, G Innovations, IIT Guwahati Date: 27-05-2021 to 31-05-2021



Coordinator: Prof Riya Sara Joy, AP/ECE

30 Hours Course (Certificate)

> Needed to Verification Engineer

Learn the fundamentals of HDL Coding, Simulation and **Synthesis**

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)





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MANGALAM COLLEGE OF ENGINEERING

Department of Electronics and Communication Engineering

1.	Academic Year	: 2020-2021
2.	Tile of the Course	: Flexible Electronics for Industry
3.	Objective of the Course	:To develop the skill for Flexible Electronics for Industry
4.	Prerequisite	: Basic Electronics
5.	Requirement	: Online Google meet for theory class : Project Lab for practical class
6.	Beneficiary	: S8 Students
7.	Date and Duration of the Course	: 27.05.2021 to 31.05.2021
8.	Proposed Timing	: 09.00 AM to 04.00 PM
9.	No of Hours Required	: 30 Hours
10	. Internal Resources	: Prof Riya Sara Joy, 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	I. Venue	: Online

COURSE COORDINATOR

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGG. MANGALAM COLLECE OF ENGINEERING

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NANGNAN COLLEGE OF ENGINEERING

Flexible Electronics for Industry

Course Objective:

- > To work in Flexible Electronics
- > To learn different materials and compositions wrt Flexible Electronics for Industry

Course Outcomes:

- Students able to understand the materials, process used in Flexible Electronics for Industry
- Students bale to understand the processing issues
- Students able to relate the applications of Flexible Electronics for Industry

S.NO.	CONTENT	INSTRUCTIONAL	
		noons	
	Section 1		
1	Materials properties/synthesis of printable semiconductors	3	
2	Materials parameter space for design	3	
2	Processing issues for organic and printable semiconductors	3	
3	Flocessing issues for organic and prime		
	Section 2	7	
4	Organic light-emitting diodes, Organic and Printable	/	
	Flexible Electronics, Organic solar cells		
5	Molecular electronics with NDR & organic lasers	7	
5	Carbon based electronics (nanotubes and graphene), Organic	5	
6	carbon-based electronics (nunctures und graphing) - 2		
	Total Hours	=30	

Recommended Text Books:

- 1. Hussain, A. M. (2022). Introduction to Flexible Electronics. CRC Press.
- 2. Gates, B. D. (2009). Flexible electronics. Science, 323(5921), 1566-1567.
- Wong, W. S., & Salleo, A. (Eds.). (2009). Flexible electronics: materials and applications (Vol. 11). Springer Science & Business Media.

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

PROTEUS PCB

DESIGNING

* understand the electrical parameters

* creating the schematic

* define design rules and requirements

Date: 21/11/2020 (30 hour course)

(certificate) Organized by : Department Of Electrical

And Electronics Engineering Speaker: Neeba Sabu

(Assistant Proffesor Department of Electrical And Electronics Engineering) MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Department of Electrical and Electronics Engineering

1.	Academic Year	: 2020-2021
2.	Tile of the Course	: Proteus PCB Designing
3.	Objective of the Course	:To understand designing of PCB using software, To designing an integral part of each electronics products
4.	Prerequisite	: Online Google meet for theory class : Computer lab for practical class
5.	Beneficiary	: S5 Students
6.	Date and Duration of the Course	: 21.11.2020 to 19.12.2020 (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	: Mrs. Neeba Sabu, 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	: Online

COURSE COORDINATOR



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Head of Department PRINCIPAL Electrical and Electronic MANGALAM COLLEGE OF ENOMICEDING

OF ENGINEERING MANGALAM C Ettumanoor

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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 softwaare.

S.NO.	CONTENT	INSTRUCTIONAL	
		HOURS	
	Section 1		
1	Introduction and Application	1	
2	What is PCB, Types of PCBs: Single Sided (Single Layer),	2	
	Multi-Layer (Double Layer), PCB Materials		
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	
Section 2			
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	2	
	RL loads		
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:

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

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Department of Electrical and Electronics Engineering

1.	Academic Year	: 2020-2021
2.	Tile of the Course	: Electrical CAD for Beginners
3.	Objective of the Course	: To create understanding of the Electrical Cadd,
4.	Prerequisite	: Online Google meet for theory class : Computer lab for practical class
5.	Beneficiary	: S7 Students
6.	Date and Duration of the Course	: 21/11/2020 to 19/12/2020 (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. Krupa Ann Kurian, 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

PRINCIPAL

HOD/EEE PRINCIPAL Head of Department PRINCIPAL Electrical and Electronics MANGALAM COLLEGE OF ENGINEERING

MANCH

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	XLPE CABLE	3	
4	PIN INSULATER	3	
5	DC LAP WINDING	3	
6	DC WAVE WINDING	3	
7	DOL STARTER	3	
8	STAR DELTA STARTER	3	
9	AC LAP WINDING	3	
10	PROJECT	3	
Total Hours =30			





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.

C NO	CONTENT	INSTRUCTIONAL
5.NU.	CONTENT	HOURS
	Section 1	
1	Introduction and Application	1
2	Installation of the software LaTeX and basic MITEX	2
2	Installation of the software Later Basic Syntax	2
3	Drug Lawaut, Titles Abstract Chapters, Sections,	3
4	Page Layout – Thies, Abstract Onlytens, Contaction,	
	References, Equation references, ended	2
5	Classes: article, book, report, beamer, energy, 2	2
6	List making environments	
	Table of contents, Generating new commands	1
7	Errors and Error handling	2
8	Font Effects: Coloured Text, Font Sizes, Lists, Commons of	
	Spacing, Special Characters	
	Section 2	2
10	Figure handling numbering and List of lightes with Practical	2
	examples	2
11	Tables and Practical examples	1
12	List of tables and Generating index.	1
13	Writing equations, Matrix, Mathematical Equations and	2
10	numbering methods	2
14	Mathematical Symbols and format	2
15	Practical on numbering and without numbering format	1
16	Inserting References: Introduction, The BibTeX	1
10	1e	
17	Inserting the bibliography, Citing, Styles.	2
17	Practical examples	2
18	Total Hours	=30

Student lists the figures, tables and generating index.Recommended Books: Þ

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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 Mangalam Hills, Vettimukal p.o Ettumanoor, Kottayam 686631



Date: 08/05/2021 (30 hours) (certificate)

)rganized by : Department Of Electrical And Electronics Engineering

Speaker: Shoma Mani (Assistant Proffesor Department of Electrical A Electronics Engineering)

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Department of Electrical and Electronics Engineering

1.	Academic Year	: 2020-21
2.	Tile of the Course	: ETAP Familiarisation
3.	Objective of the Course	:To create understanding of the power system components. To perform modelling and Load flow analysis of a power system using ETAP. To perform short circuit analysis on a small power system.
4.	Prerequisite	: Knowledge of Power System Analysis : Tutorial Sessions in ETAP
5.	Venue	:PG simulation Lab
6.	Beneficiary	: S8 Students
7.	Date and Duration of the Course	: 8/5/2021 to 5/6/2021 (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.Shoma Mani / 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 practical evaluation



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HODEED Dr.S. KAB THHOMAR, Ph.D

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Dr.S. KARA HINDUMAR, Ph.D Professor & HoD, EEE PRINCIPAL Mangalam College of Engineering Vettimukal P.O., Ettumanoor Kottayam, Kerala - 686 631

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ETAP FAMILIARISATION

Course Objective:

- Yo introduce the basic concepts in power system modelling.
- To give familiarization of ETAP software for power system analysis and design
- To perform load flow analysis of a small power system using ETAP
- To perform short circuit analysis of a small power system using ETAP

Course Outcomes:

- Student will be able to model a power system network
- Student acquire skill to perform load flow analysis of a power system network
- Student acquire skill to perform short circuit analysis of a power system network
- Recommended Books: 6
 - 1. ETAP for Electrical Engineers

S.NO.	CONTENT	INSTRUCTIONAL HOURS
	Section 1	1
1	Introduction to ETAP	1
,	Why to use a Power System Analysis Software	
;	Creating New Project in ETAP	2
1	Draw Single Line Diagram	2
5	Load Flow Analysis	2
51	Fundamentals of Load Flow	2
5.2	Load flow calculations	2
53	Load flow examples demonstration using ETAP	
3.5	Section 2	2
6	Introduction to Short Circuit Analysis	3
61	Fundamentals of Short Circuit Analysis	3
6.1	Short Circuit Hand Calculations	3
6.2	Short Circuit Analysis examples demonstration using LTA	2
0.5	Cable sizing based on IEC standards	2
71	Types of different Cables	2
7.1	Cable sizing calculation using ETAP	=30

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

ENERGY MANAGEMENT

* Identify Sources of Energy Consumption

* Collect Utility Bill Data

* Analyze Meter Data

Date: 08/05/2021 (30 hour course)

(certificate)

Oryanized by : Department Of Electrical And Electronics Engineering

Speaker: Phijil k Paul (Assistant Profesor Department of Electrical And Electronics Engineering)

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MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Department of Electrical and Electronics Engineering

2020-2021 Academic Year : Energy Management 1. : To impart basic knowledge to the Tile of the Course 2 students about current energy scenario, energy conservation and management. Objective of the Course 3. : Nil Prerequisite : Online Google meet for theory class 4 Requirement 5 : S6 Students : 08/05/2021 to 05/06/2021 (30 Hours) Beneficiary 6. Date and Duration of the Course : 09.00 AM to 04.00 PM (6 hours per 7. 8. Proposed Timing every Saturday) : 30 Hours No of Hours Required 9 : Mr. Phejil K Paul AP (EEE) 10. Internal Resources : Nil 11. Course Registration Fees : Enclosed Separately Contents of Courses 12. : Those who have 80 % of Attendance 13. and scored 60 % in internal exam Credits and Certification evaluation : Online Venue 14.

A COURSE COORDINATOR

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HOD/EEE

ENGINEERING

ADD-ON 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
	Section 1	
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)	
	Section 2	
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:

I. 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 MANGALAM COLLEGE OF ENGINEERING Ettumanoor



Department of Electrical and Electronics Engineering

1	Academic Year	: 2020-2021
2.	Tile of the Course	: Construction Site Electrical System Design
3.	Objective of the Course	: To understand the fundamentals about for how an electrical system can be designed any construction site.
4.	Prerequisite	: Nil
5.	Requirement	: Online Google meet for theory class
6.	Beneficiary	: S8 Students
7.	Date and Duration of the Course	: 10/04/2021 to 24/04/2021 (20 Hours)
8.	Proposed Timing	: 09.00 AM to 04.00 PM (6 hours) every Saturday)
9.	No of Hours Required	: 20 Hours
10.	Internal Resources	: Dr Vijayakumari CK
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
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PRINCIPAL MANGALAM COLLEGE OF ENGRIEEDING

MANGALAM COLLEGE OF ENGINEERING Ettumanoor

Construction Site Electrical System Design

Course Objective:

- To Introduce the principles of operation for a site electrical system, why they need to be designed in a certain manner to achieve a system that is safe, durable & cost effective...
- Student should Look at the key elements of the electrical system including the generation and distribution systems, grounding, residual current devices & cabling
- Show how a lock and tag system can be used to make the system safe for all users.
- Show how to size electrical cables based on the current carrying capacity and vol

Course Outcomes:

- Students should know how to connect a site electrical distribution system
- > To make students to Learn about basic methodology for sizing electrical breakers
- > Understand how a lock and tag system can be used to make an electrical system safe
- Learn how to size electrical cables for current capacity and volt drop

S.NO.	CONTENT	INSTRUCTIONAL	
		HOURS	
	Section 1		
1	Introduction	1	
2	Site Electrical System	2	
3	Electrical Grounding on Site	2	
4	Site Electrical Circuits	1	
5	Residual Current Devices	1	
	Section 2		
6	Electrical Faults	1	
7	Site Electrical System Sizing	2	
8	Electrical Cabling on Site	2	
9	Lock & Tag Systems	2	
10	Electrical Faults	2	
11	Site Electrical System Sizing	2	
12	Electrical Cabling on Site	1	
13	Electrical Faults	1	
Total	Total Hours =20		

Recommended Books:

- 1. Electrical-System-Design-and-Specification-Handbook-for-Industrial-Facilities
- 2. Construction-Site-Erosion-and-Sediment-Controls-Planning-Design-and-Performance
- 3. Sustainable-On-Site-CHP-Systems-Design-Construction-and-Operations

MANGALAM COLLEGE OF ENGINEERING



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

CONTROLLER DESIGN USING RASPERRY PI AND ARDUINO

Date: 10/04/2021 (20 hour course) (certificate)

Organized by : Department Of Electrical And Electronics Engineering

Speaker: Neeba Sabu (Assistant Proffesor

(Assistant Protesor Department of Electrical And Electronics Engineering)

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MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Department of Electrical and Electronics Engineering

	1.	Academic Year	: 2020-2021
	2.	Tile of the Course	: Controller design using Raspherry Pi and Arduino
	3.	Objective of the Course	: To understand the difference between Raspberry Pi and Arduino, and its together advantages in projects.
	4.	Prerequisite	: Basic understanding of electrical and electronic concepts and ability to download and install software on your computer. programming, sensors, and communications.
	5.	Requirement	:The Arduino IDE software Arduino UNO, Arduino Mcga, Raspberry Pi 1 x RFID-RC522, 1 x LCD 16x2, 1x Keypad 4x4, 1 Kilo Ohm, 1 x Breadboard, RFID Card and Tag Thin wires to solder and jumper wires
-	6.	Beneficiary	: S4 Students
-	7.	Date and Duration of the Course	: 10/04/2021to 24/04/2021 (20 Hours)
	8.	Proposed Timing	: 09.00 AM to 04.00 PM (6 hours per every Saturday)
	9.	No of Hours Required	: 20 Hours
F	10.	Internal Resources	: Mrs. Neeba Sabu / 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



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Dr.S. KAR IKLIMAR, Ph.D. Profess 1 & HoD, EEE Mangalam College of Engineering Vettimukal P.O., Ettumanoor Kottayam, Kerala - 686 631

MANGALAM COLLEGE OF ENGINEERING or MANGALAM COLLEGE OF ENGINEERING MANGALAM COLLEGE OF ENGINEERING

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1
Controller design using Raspberry Pi and Arduino

Course Objective:

- > To expose the students to the basic concepts of Raspberry Pi and Arduino.
- To show how a Raspberry Pi and Arduino can communicate with each other.
- Student should use a protocol called Firmata.
- > Student should make hardware .

Course Outcomes:

- Student learns about Arduino types and different models of Raspberry Pi. Student learns how to communicate a message from the Arduino to the Raspberry Pi and
- vice-versa using a USB serial cable.
- > Student learns to quote which one is better. INSTRUCTIONAL S.NO. CONTENT HOURS Section 1 1 Introduction to Arduino 1 2 Arduino platform, Arduino development environment 2 2 Setting up the Arduino board, debugging using serial 3 monitor. 2 Arduino C, Data types, decision making, functions, 4 pointers, structure. 1 Sensing the world- sensors 5 2 Communication with the world – interfacing 6 communication modules with Arduino. Playing with display – interfacing alphanumeric LCD 1 7 display, interfacing graphical LCD display. Section 2 Basic functionality of the Raspberry Pi board and its 2 8 processor. Implications of an operating system on the behaviour of 2 9 raspberry pi. 1 Programing the Raspberry pi 10 2 Exploring electronics with Raspberry pi. 11 2 Practical experience. 12 =20 **Total Hours**

Recommended Books:

D

- 1. Arduino cookbook, 2nd edition, by Michael Margolis
- 2. Arduino programming in 24 hrs, sams teach yourself 1st edition by Richard Blum
- 3. Programming Arduino: getting started with sketches by Simon Monk.
- 4. Raspberry Pi: The ultimate guide to raspberry pi by Geoff Adams.





HYPERBOLIC FUNCTIONS

30 Hour Course

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

Date: 14.11.2020 to 12.12.2020



Coordinator: Ms. SheejaBhaskar, Ass. Prof/BSH

30 Hours Course (Certificate)

Learn the fundamentals of Hyperbolic **Functions**

MANGALAM COLLEGE **OF ENGINEERING**

Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam 686631

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

MANGALAM COLLEGE OF

Ettumanoor

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
	Section 1	
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
	Section 2	
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

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2. 5 (4 - 26- 58-261 GAL THEMAT

MATHEMATICAL REASONING

30 Hour Course

- Build mathematical critical thinking and logical reasoning.
- It will be quite useful in everyday life as well as in any field that they will pursue in the future.

Resource Person

Prof. Jain P George Asso. Professor Dept. of basic science and Humanities Mangalam college of Engineering

Date: 14-11-2020 to 12-12-2020



Coordinator: Prof sheeja Bhaskar, AP-BSH

30 Hours Course (Certificate)

> Build mathematical critical thinking and logical reasoning

MANGALAM COLLEGE OF ENGINEERING

Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam 686631

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





MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF BASIC SCIENCE AND HUMANITIES

Department of Basic Science and Humanities

1.	Academic Year	2020-2021
2.	Tile of the Course	Mathematical reasoning
3.	Objective of the Course	Students need to gear up and prepare for a future that will depend solely on mathematics. Build mathematical critical thinking and logical reasoning
4.	Prerequisite	Nil
5.	Requirement	Online theory classes
6.	Beneficiary	S1 Students
7.	Date and Duration of the Course	02/01/2021-30/01/2021 (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. Jain P George / BSH
10.	Course Registration Fees	Nil
12	Contents of Courses	Enclosed Separately
12.		Those who have 80 % of Attendance
13.	Credits and Certification	and scored 60 % in internal exam evaluation
14.	Venue	Google Meet

COURSE COORDINATOR

HOD/BSH

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PRINCIPAL

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CERTIFICATE COURSE

Mathematical Reasoning

Course Objective:

- The development of mathematical critical thinking abilities will enable them to understand
- > It will be quite useful in everyday life as well as in any field that they will pursue in the future.
- It is useful to solve real-world problems.

Course Outcomes:

- Solve practical problems using appropriate mathematical techniques.
- > Students will use proportional reasoning to solve problems that require ratios, rates.
- proportions, and scaling.

S NO	CONTENT	INSTRUCTI HOURS	ONAL
3.1101		1	
1	Introduction	3	
2	Ratios and proportion	3	
3	Percentage	3	
4	Time, Distance and Speed	3	
5	Fractions	3	
6	Calendar problems	2	
7	sequences	2	
8	BODMAS Rule	3	
10	Permutations and combinations	2	
11	Pigeon hole principle	2	
12	Number Puzzle	3	
13	Graphs and Venn Diagrams Total	Hours 30	

PRINCIPAL MANGALAM COLLEGE OF ENGINEERING



SOIL ANALYSIS

30 Hour Course

- \checkmark To expose the students to the basic concepts of soil analysis
- ✓ Give various properties soil.
- ✓ Study about different types of parameters of soil.
 Date:14/11/2020-12/12/2020



Coordinator: Reshma Chandran

AsstProf/BSH







MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF BASIC SCIENCE AND HUMANITIES

Department of Basic Science and Humanities

1.	Academic Year	: 2020-2021
2	Tile of the Course	SOIL ANALYSIS
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	: Online Google meet for theory class
6	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 14/11/20-12/12/20 (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	: Ms.Resha Chandran
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	Google Meet



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HOD/BSH

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

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PRINCIPAL NANGALAM COLLEGE OF ENGINEERING Ethumanoor

CERTIFICATE COURSE

SOIL ANALYSIS

Course Objective:

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

Course Outcomes:

1

Student knows components of soil

S a	Stude	ent learns different methods for finding pH of soil	INSTRU
8 NO.		CONTENT	CTIONA 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	1
		horizons- Elluvial horizons	1
3.		Composition of the earth's crust	2
4		definition, occurrence and classification of soil forming rocks and minerals	2
5		Mechanical analysis and- soil separatesprinciple of mechanical analysis- stokes' law-assumptions in stokes' law-limitations of stokes' law	
6	b .	classification of soil particles characteristics of soil particles-physical nature of soil particles	
7	7.	mineralogical nature-soil texture-densities of soil-porosity of soil factors	1
8	8.	Structure classification - grades of soil structure-genesis of soil structure- cation effects-evaluation of soil structure-index of soil structure-factors effecting soil- structure-influence of soil structure on physical properties	5
	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-	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-	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 micronutrie on soil fastility-crop response to micronutrients-supply of micronutrients	ent 3
		TOTAL HOU	RS

MANGALAM COLLEGE OF ENGINEERING



LATEX

30 Hour Course

- It makes beautiful documents especially in mathematics.
- To expose the students to the basic concepts documentation 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: 14-11-2020 to 12-12-2020



Coordinator: Prof sheeja Bhaskar, AP-BSH

30 Hours Course (Certificate)

Learn the fundamentals of Type setting Documents

MANGALAM COLLEGE OF ENGINEERING

Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam 686631

Time 9:00 AM to 4 PM

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MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF BASIC SCIENCE AND HUMANITIES

Department of Basic Science and Humanities

1.	Academic Year	2020-2021
2.	Tile 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	Online theory class Computer lab for practical class
6.	Beneficiary	S1 Students
7.	Date and Duration of the Course	14/11/2020 - 12/12/2020 (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	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	Google meet

COURSE COORDINATOR

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PRINCIPAL MANGALAM COLLEGE OF ENGINEERING

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
5.110		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,	4
	Mathematical symbols	
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 tutorialsIndian Tex users group, 2003 September
- 2. Latex, David R Wilkins -2nd edition 1995

PRINCIPAL MANGALAM COLLEGE OF ENGINEERING



MULTIFLEXING

30 Hour Course

- \checkmark To expose the students to the basic concepts of multiplexing
- ✓ Give various signal transmission techniques.
- ✓ Study about different types of multiplexing.
 Date: 2-1-1021to 30-1-2021



Coordinator: here all L.C,AsstProf/BSH

Learn the fundamentals of Multiplexing

30 Hours Course

(Certificate)

MANGALAM COLLEGE OF ENGINEERING

Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam 686631

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MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF BASIC SCIENCE AND HUMANITIES

Department of Basic Science and Humanities

1.	Academic Year	: 2020-2021
2.	Tile 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	: online theory class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	:02/01/2021-30/01/2021(30 Hours)
		: 09.00 AM to 03.00 PM (6 hours per
8.	Proposed Timing	every Saturday excluding second Saturday)
8. 9.	Proposed Timing No of Hours Required	every Saturday excluding second Saturday) : 30 Hours
8. 9. 10.	Proposed Timing No of Hours Required Internal Resources	every Saturday excluding second Saturday) : 30 Hours : Mr. Gokul C / BSH
8. 9. 10. 11.	Proposed Timing No of Hours Required Internal Resources Course Registration Fees	every Saturday excluding second Saturday) : 30 Hours : Mr. Gokul C / BSH : Nil
8. 9. 10. 11. 12.	Proposed Timing No of Hours Required Internal Resources Course Registration Fees Contents of Courses	every Saturday excluding second Saturday) : 30 Hours : Mr. Gokul C / BSH : Nil : Enclosed Separately
8. 9. 10. 11. 12. 13.	Proposed Timing No of Hours Required Internal Resources Course Registration Fees Contents of Courses Credits and Certification	every Saturday excluding second Saturday) : 30 Hours : Mr. Gokul C / BSH : Nil : Enclosed Separately : Those who have 80 % of Attendance and scored 60 % in internal exam evaluation

COURSE COORDINATOR

HOD/BSH





CERTIFICATE COURSE

MULTIPLEXING

Course Objective:

- \succ To expose the students to the basic concepts of multiplexing.
- Y To give idea about various signal transmission techniques.
- Fo 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
1	Wavelength Division Multiplexing	3
5	Time Division Multiplexing-Introduction	
6	Framing, Pulse stuffing	2
7	TDM of analog & digital sources	2
8	Digital Carrier Systems	2
0	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	1
	line	
19	ADSL Design, Channel Configuration	2
	Total Hour	s = 30

MANGALAM COLLEGE OF ENGINEERING



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: 14-11-2020 to 12-12-2020

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

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MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF BASIC SCIENCE AND HUMANITIES

Department of Basic Science and Humanities

1.	Academic Year	: 2020-2021
2.	Tile 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	: online theory class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	:14/11/2020-12/12/2020 (30 Hours)
0		: 09.00 AM to 03.00 PM (6 hours per
δ.	Proposed Timing	every Saturday excluding second Saturday)
9.	No of Hours Required	every Saturday excluding second Saturday) : 30 Hours
9. 10.	Proposed Timing No of Hours Required Internal Resources	every Saturday excluding second Saturday) : 30 Hours : Ms. Aksa Robert / BSH
8. 9. 10.	Proposed Timing No of Hours Required Internal Resources Course Registration Fees	every Saturday excluding second Saturday) : 30 Hours : Ms. Aksa Robert / BSH : Nil
8. 9. 10. 11. 12.	Proposed Timing No of Hours Required Internal Resources Course Registration Fees Contents of Courses	every Saturday excluding second Saturday) : 30 Hours : Ms. Aksa Robert / BSH : Nil : Enclosed Separately
8. 9. 10. 11. 12. 13.	Proposed Timing No of Hours Required Internal Resources Course Registration Fees Contents of Courses Credits and Certification	every Saturday excluding second Saturday) : 30 Hours : Ms. Aksa Robert / BSH : Nil : Enclosed Separately : Those who have 80 % of Attendance and scored 60 % in internal exam evaluation



COURSE COORDINATOR

HOD/BSH



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



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.

SL		INSTRUCTIONAL]
No		HOURS	
	Section 1		1
1	Introduction and Ice Breaking	1	
2	Innovation, Leadership, & Management	2	1
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	1	
	Fluency		
8	Building on Confidence- Public Speaking, Understanding Self and	2	
	Others, Self-Leadership, Self Discipline and Manners Matter.		
9	Organizing Skills	1	
	Section 2		
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	~
16	Presentation Introduction	1	FRINCE
		NANGALAM COLLEGE DATA	WENVEL



ART OF PUBLIC

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SPEAKING

30 Hours Course

- ✓ Trusted by Recruiters
- ✓ Includes detailed public speaking methods and techniques.
- Available with Updated Short Study Material
- ✓ Completion Certificate Will be provided
- ✓ Interaction with Experts

Resource Person

Date:02-01-2021 to 30-01-2021



Coordinator: Prof Akhila Jose

30 Hours Course (Certificate)

Excel your public speaking skills

Learn the fundamentals of rhetoric

> Integrative Learning

MANGALAM COLLEGE OF ENGINEERING

Mangalam Hills, Vettimukal P O Ettumanoor, Kottayam 686631

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

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Ettumanoor



MANGALAM COLLEGE OF ENGINEERING DEPARTMENT OF BASIC SCIENCE AND HUMANITIES

Department of Basic Science and Humanities

ł	Academic Year	: 2020-2021
)	Tile of the Course	ART OF PUBLIC SPEAKING
\$.	Objective of the Course	:To create understanding of public speaking and familiarize the art of public speaking with students.
4	Prerequisite	: Nil
5	Requirement	: online theory class
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	: 02/01/2021-30/01/2021 (30 Hours)
		: 09.00 AM to 03.00 PM (6 hours per
8.	Proposed Timing	every Saturday excluding second Saturday)
8. 9.	Proposed Timing No of Hours Required	every Saturday excluding second Saturday) : 30 Hours
8. 9. 10.	Proposed Timing No of Hours Required Internal Resources	every Saturday excluding second Saturday) : 30 Hours Ms Akhila K Jose /BSH
8. 9. 10. 11.	Proposed Timing No of Hours Required Internal Resources Course Registration Fees	everySaturdayexcludingsecondSaturday): 30 HoursMs Akhila K Jose /BSH: Nil
8. 9. 10. 11. 12.	Proposed Timing No of Hours Required Internal Resources Course Registration Fees Contents of Courses	everySaturdayexcludingsecondSaturday): 30 HoursMs Akhila K Jose /BSH: Nil: Enclosed Separately
8. 9. 10. 11. 12. 13.	Proposed Timing No of Hours Required Internal Resources Course Registration Fees Contents of Courses Credits and Certification	everySaturdayexcludingsecondSaturday): 30 HoursMs Akhila K Jose /BSH: Nil: Enclosed Separately: Those who have 80 % of Attendanceand scored 60 % in internal examevaluation

COURSE COORDINATOR

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PRINCIPAL MANGALAM COLLEGE OF ENGINEERING Entumenoor

CERTIFICATE COURSE

ART OF PUBLIC SPEAKING

Course Objective:

- To expose the students to the basic concepts of public speaking and its importance. To learn to speak confidently in a variety of situations
- Describe the difference between the linear and the transactional model of communication Students should identify the eleven core public speaking competencies.

Course Outcomes:

- Student learns about the basic concept of public speaking
- Student learns the basic ideas about the elements of communication process Students get an idea about the value of ethics in public speaking.

S.N	CONTENT	INSTRUCTION		
Ο.		AL HOURS		
1	Basic Communication Theory, Introduction	1		
2	Organizing the Speech, Types of Organizational Arrangements, Outlining the Speech	2		
3	Developing the Introduction, Developing the Conclusion	2		
4	Elements of the Communication Process Encoding and Decoding, Communicator, Message, Channel, Noise, Worldview, Context	3		
5	Developing communication skills	1		
6	Using the Internet to Support your Speech	2		
7	Methods of Speech delivery, The Voice/Body in Delivery	1		
8	Informative Speech	1		
10	Persuasive Speech	1		
11	Special occasion speech	1		
12	Inform the audience. Persuade the	2		
	audience. Entertain the audience			
13	Models of Communication	2		
14	Speaking Competencies	2		
15	Benefits of Public Speaking 1.Personal 2.Professional 3.Public	1		
16	Origin of Anxiety in Public Speaking; Anxiety and public speaking	3		
17	Audience analysis and listening	1		
18	Listening in public speaking setting	2		
19	Ethics in public speaking	2		_
	Total Hours	=30		NEERINE
		WA	PRINCIPAL NGALAM COLLEGE OF EN	GINEEI

Course on CORPORATE TRAINING 2020 - 21

Starting on **06-10-2021**

Cordinator MS.Neethu Kuncheria



DEPARTMENT OF MANAGEMENT STUDIES

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IANGALAM COLLEGE OF ENGINEERING



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

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DEPARTMENT OF MANAGEMENT STUDIES

Starting on **02-03-2021**

Cordinator Ms.Rinta George



Course on



PRINCIPAL IANGALAM COLLEGE OF ENGINEERING Ettumanoor



MANGALAM COLLEGE OF ENGINEERING Department of Management Studies

Six SigmaSyllabus

Module	Topics	L Hrs
• 1	Lean Six Sigma Fundamentals	
	• What is Lean Six Sigma ?	
	Process Flow and Value Stream Mapping	
- 16	• Muda, Mura and Muri – The 3 diseases of Processes	9
	• The 7 (or 8) Wastes	
	• Voice of the Customer (VOC) and CTQs	
	Cost of Poor Quality	•
2	Define Phase	
	Problem Definition	
	Project Selection	
	Business Case	
	Project Charter	
	Measure Phase	7
	Process Discovery	
	Six Sigma Statistics	
	Measurement System Analysis	
	Process Capability	
3	Analyze Phase	
	Inferential Statistics	7
	Correlation and Regression Analysis	
4	Introduction to Hypothesis Testing	
	Improve Phase	2
	Lean Tools for improvement	
	 Implementation strategies for improvements 	7
	Control Phase	,
	Control Plans	
	Statistical Process Control (SPC)	
A CONT	Control Charts	
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OF ENGINEERING





For Academic Year 2020 -21

Starting on 06-10-2021

Cordinator : Mr.Bose Tom PRINCIPAL IANGALAM COLLEGE OF FRIGHT



MANGALAM COLLEGE OF ENGINEERING Department of Management Studies

SPSS

Syllabus

Module	Topics	L Hrs
1	Introduction- Statiscal 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 IANGALAM COLLEGE OF ENGINEERING



For Academic Year 2020 -21 Starting on 10-07-2020

Cordinator : Ms.Demy Devassy

CURRICULUM Introduction to Ms-Excel Conditional Formatting Pivot Tables Working with Formulas/Functions Data Sorting & Filtering Pivot Charts



IANGALAM COLLEGE OF ENGINEERING



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 IANGALAM COLLEGE OF ENGINEERING Ettumanoor

Course on IMPORT & EXPORT MANAGEMENT | 2020 - 21

^{On} 14-11-2020

Cordinator : Mr.Bose Tom

COLLEGE OF ENGINEERING

DEPARTMENT OF MANAGEMENT STUDIES

ANGALAM COLLEGE OF ENGINEERING



MANGALAM COLLEGE OF ENGINEERING Department of Management Studies

Import and Export Management

Syllabus

Module	Topics	L Hrs
1	Elements of Management	6
2	Export & Import Policies- Procedure and Product Planning for Export	6
3	Export & Import Documentation	6
4	International Economics & Foreign Trade	12





For Academic Year 2020 2021

Starts on 29-05-2021

Cordinator MS.Neethu Kuncheria



EDGE TO EMINENCE TRAINING SOFT SKILL TRAINING

PRINCIPAL IANGALAM COLLEGE OF ENGINFERING



MANGALAM COLLEGE OF ENGINEERING Department of Management Studies

Edge to Eminence Training

Syllabus

		L
Module	Topics	Hrs
1	Introduction to Employee Training and Development- Strategic Training- Training needs assessment	6
2.	Learning and Transfer of Training- Program Design- Training Evaluation	6
3	Traditional Training Methods- Technology Based Training Methods- Employee Development and Career Management	8
4	Social Responsibility: Legal issues, Managing diversity, and Career challenges- Future of Training and Development- Managing Disruption in organizations through Training	10

PRINCIPAL IANGALAM COLLEGE OF ENGINEERING Ettumanoor

BASICS OF STOCK MARKET TRADING



For Academic Year

2020 -21

on **10-11-2020**

Cordinator : Mr.Bose Tom

COLLEGE OF ENGINEERING

DEPARTMENT OF MANAGEMENT STUDIES

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MANGALAM COLLEGE OF ENGINEERING Department of Management Studies

Basics of Stock Market Trading

Syllabus

		L
Module	Topics	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 Governingbody-Functions of stock Exchange- Online trading- Role of SEBIRecognizedStock 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 IANGALAM COLLEGE OF ENGINEERING Ettumanoor

BUSINESS ETIQUETTE

DEPARTMENT OF MANAGEMENT STUDIES

For

MANGALAM

Starts on 10-07-2020

Academic Year

2020

2021

Cordinator Ms.Tinta Baby

PRINCIPAL IANGALAM COLLEGE OF ENGINEERING Ettumanoor


MANGALAM COLLEGE OF ENGINEERING Department of Management Studies

Business Etiquette

Syllabus

Modula	Tonics	L Hrs
Module	Topics	
1	The Case for Business Etiquette	
	□ The ABC of Business Etiquette	0
	Body Language	9
	□ First Impressions do Count	
	□ Nothing to Wear?	
-	Grooming	
- 2	□ Introduction Etiquette	
	The Hand Shake	
	Polite Conversation	9
	Personal Style	
	□ Civility on the Internet	
	Email Etiquette	
	□ Social Media Etiquette .	
3	Understanding Particular Cultures	
	□ Hosting or Attending?	
	□ Awkward Dining Moments	
	□ Which fork?	9
	□ Socialising After Hours	
•	□ Marking Employee Events	
· . ·		
4 -	□ Difficult People	
	□ Ethical Dilemmas	
· ·	Create an Action Plan	3
	$\Box \text{ Accountability} = \text{Action}$	
	Accountability Action	

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Consolidated Report for the Certificate Course – FINANCIAL PLANNING FOR YOUNG PROFESSIONALS

Academic Year: 2020-2021

Batch 2019-2023

Year: IV/VII Semester

Name of the Activity	: Certificate Course
Title of the Activity	: FINANCIAL PLANNING FOR YOUNG
	PROFESSIONALS
Staff Incharges	: Prof. Ajit Joseph, HoD, ECE
Place of the Activity	: Dept. of ECE (Online)
	Mangalam College of Engineering.
	Ettumanoor.
	Online Google meet
No. of Participants	:43
No. of Qualified	:43
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 investion to be
	and the importance of being insured
	They have got the basic idea of Entrepreneurial financing.

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

paper

Academic Year: 2020-2021

Batch 2019-2023

Year: III/VI 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	: 36
No. of Qualified ·	: 36
Name & Designation of Expert	: Dr. Rijo Sebastian AP/ECE, MITS
	Ernakulam
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 store
Outcome of the Activity	: Students understood how to frame
	report and thesis, Improved their proficiency in paper writing

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Batch S8-ECE

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Consolidated Report for the Certificate Course – Flexible Electronics for Industry

Academic Year: 2020-2021 Year: IV

: Certificate Course Name of the Activity : Flexible Electronics for Industry Title of the Activity : Prof Riya Sara Joy, AP-ECE Staff In charges : Dept. of ECE (Online) Place of the Activity Mangalam College of Engineering. Ettumanoor. Link: :44 No. of Participants No. of Qualified : 44 Fellow, Queensland Research Vithyasaahar, : Mr. Designation of & Name University, Australia Expert Learn the fundamentals of Flexible Electronics Objective of the Activity Participants learned theory and practiced the development Outcome of the Activity of Flexible Electronics for Industry

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Consolidated Report for the CertificateCourse-Effective management and Ethics for

Engineers

Academic Year: 2020-2021

Batch 2020-2024

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Year: I/II Semester

Name Cit Antit	
Name of the Activity	: Certificate Course
Title of the Activity	: Effective management and Ethics for Engineers
Staff Incharges	: Mr. Jyothish Kurian, AP/ECE
Place of the Activity	: Dept. of ECE (Online)
	Mangalam College of Engineering. Ettumanoor.
	https://meet.google.com/cpp-rrtd-klr
No. of Participants	: 35
No. of Qualified	: 35
Name & Designation of	: Mr.Jyothish Kurian, AP/ECE
Expert	
Objective of the Activity	To enable the students to imbibe and internalize the Values and Ethical Behavior in the personal and Professional lives.
Outcome of the Activity	Students are able to understand basic purpose of profession, professional ethics and various moral and social issues. The awareness of professional rights and responsibilities of a Engineer, safety and risk benefit analysis of an Engineer
	Student acquires knowledge of various roles of Engineer In applying ethical principles at various professional levels. Professional Ethical values and contemporary issues.



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Consolidated Report for the CertificateCourse–Programming to Raspberry pi and Arduino Academic Year: 2020-2021 Batch 2020-2024

Year: I/II Semester

Name of the Activity	: Certificate Course
Title of the Activity	: Programming to Raspberry pi and
	Arduino
Staff Incharges	: Mr. Simi K Thomas, AP/ECE
Place of the Activity	: Dept. of ECE (Online)
	Mangalam College of
	Engineering.Ettumanoor.
	https://meet.google.com/cis-btts-ptr
No. of Participants	: 36
No. of Qualified	: 36
Name & Designation of Expert	: Mrs.Simi K thomas, AP/ECE
Objective of the Activity	Hardware design for IoT using different
	Software Design of IoT using different protocols
Outcome of the Activity	Students are able to design hardware for IoT on different platforms for devices that can be connected to internet. They are able to design software for IoT nodes and system. Additionally develop
	understanding for toT based system
	acsign for different situations

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Consolidated Report for the Certificate Course – Introduction to Robotics Academic Year: 2020-2021 Batch S5-ECE Year: III

Name of the Activity	: Certificate Course
Title of the Activity	: Introduction to Robotics
Staff In charges	: Mr Akhil Kumar S
Place of the Activity	: Dept. of ECE (Online)
	Mangalam College of Engineering. Ettumanoor. Link:
No. of Participants	: 35
No. of Qualified	: 35
Name & Designation of Expert	: Dr I Siva, Professor, KARE
Objective of the Activity	Learn the fundamentals of robotic development and navigation
Outcome of the Activity	Participants learned theory and practiced the development of robotics and navigation.

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Consolidated Report for the Certificate Course – Introduction to Industrial Automation

Academic Year: 2020-2021 Year: IV **Batch S5-ECE**

Name of the Activity	: Certificate Course
Title of the Activity	: Introduction to Industrial Automation
Staff In charges	: Mr Akhil Kumar S
Place of the Activity	: Dept. of ECE (Online) Mangalam College of Engineering. Ettumanoor. Link:
No. of Participants	: 42
No. of Qualified	: 42
Name & Designation of Expert	: Dr. M. Paramathma, Assoc. Professor, KARE
Objective of the Activity	Learn the fundamentals of Industrial Automation
Outcome of the Activity	Participants learned theory and practiced the development of Industrial Automation

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Batch S3-ECE

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Consolidated Report for the Certificate Course – Decoding Python skills for Engineers

Academic Year: 2020-2021 Year: II

Name of the Activity : Certificate Course Title of the Activity : Decoding Python skills for Engineers Staff In charges : Mrs Jyothisree, AP, ECE Place of the Activity : Dept. of ECE (Online) Mangalam College of Engineering. Ettumanoor. Link: : 39 No. of Participants No. of Qualified : 39 : Dr. Maragatharajan, Assoc. Professor, VIT Bhopal. Name & Designation of Expert Learn the fundamentals of Python Objective of the Activity Participants learned theory and practiced the development Outcome of the Activity of Python Programming

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Consolidated Report for the Certificate Course - HDL Design for Engineers

Academic Year: 2020-2021 Year: II

Batch S3-ECE

Name of the Activity	: Certificate Course
Title of the Activity	: HDL Design for Engineers
Staff In charges	: Prof Mariya Stephen, AP-ECE
Place of the Activity	: Dept. of ECE (Online)
	Mangalam College of Engineering. Ettumanoor.
	Link:
	•
No. of Participants	: 38
No. of Qualified	: 38
Name & Designation of	: Dr. Ramakomaragiri, Professor, Bennet University
Expert	
Objective of the Activity	Learn the fundamentals of HDL
Outcome of the Activity	Participants learned theory and practiced the development of
	HDL Programming wrt to memory design

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1.	Academic Year	: 2020-21
2.	Tile of the Course	RPA Devoloper Foundation
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in RPA Devoloper.
4.	Prerequisite	: Nil
5.	Requirement	: Net connectivity
6.	Beneficiary	: S6 Students
7.	Date and Duration of the Course	: 20/1/21
8.	Proposed Timing	: Self Paced Learning
9.	No of Hours Required	40 hrs
10.	Internal Resources	: DrRanju S Kartha(offered by ICT Academy)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have completed all the task
14.	Venue	: Online

Department of Computer Science And Engineering

PRINCIPAL MANGALAM COLLEGE OF ENGINEERING Ettumancor



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Department of Computer Science And Engineering

1.	Academic Year	: 2020-21
2.	Tile of the Course	Women Centric Program - Salesforce
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in Programming
4.	Prerequisite	: Nil
5.	Requirement	: Net connectivity
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	: 01-04-2021
8.	Proposed Timing	: Self Paced Learning
9.	No of Hours Required	12 weeeks
10.	Internal Resources	: DrRanju S Kartha(offered by ICT Academy)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have completed all the task
14.	Venue	: Online

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1.	Academic Year	: 2020-21
2.	Tile of the Course	Learn Python developing a website
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in website development using python
4.	Prerequisite	: Nil
5.	Requirement	: Net connectivity
6.	Beneficiary	: S5 Students
7.	Date and Duration of the Course	: 07-12-2020
8.	Proposed Timing	: Self Paced Learning
9.	No of Hours Required	10days
10.	Internal Resources	: DrRanju S Kartha(offered by ICT Academy)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have completed all the task
14.	Venue	: Online

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1.	Academic Year	: 2020-21
2,	Tile of the Course	Salesforce program "Become Job ready for Developer"
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in becoming a Devoloper
4.	Prerequisite	: Nil
5.	Requirement	: Net connectivity
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	: 08-08-2020
8.	Proposed Timing	: Self Paced Learning
9.	No of Hours Required	47 hrs
10.	Internal Resources	: DrRanju S Kartha(offered by ICT Academy)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have completed all the task
14.	Venue	: Online



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1.	Academic Year	: 2020-21
2.	Tile of the Course	Salesforce program "Become Job ready for Developer"
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in becoming a Devoloper
4.	Prerequisite	: Nil
5.	Requirement	: Net connectivity
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	: 08-08-2020
8.	Proposed Timing	: Self Paced Learning
9.	No of Hours Required	47 hrs
10.	Internal Resources	: DrRanju S Kartha(DrRanju S Kartha(offered by ICT Academy)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have completed all the task
14.	Venue	: Online

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1.	Academic Year	: 2020-21
2.	Tile of the Course	AAUs BOT Aspirant Program
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in BOT Devolopment
4.	Prerequisite	: Nil
5.	Requirement	: Net connectivity
6.	Beneficiary	: S5 Students
7.	Date and Duration of the Course	: 22-05-2021
8.	Proposed Timing	: Self Paced Learning
9.	No of Hours Required	: 13 days
10.	Internal Resources	: DrRanju S Kartha(DrRanju S Kartha(offered by ICT Academy)
11.	Course Registration Fees	: Nil
12.	Contents of Courses	: Enclosed Separately
13.	Credits and Certification	: Those who have completed all the task
14.	Venue	: Online

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Department of Computer Science And Engineering

1.	Academic Year	: 2020-21
2.	Tile 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 Programming
4.	Prerequisite	: Nil
5.	Requirement	: Net connectivity
6.	Beneficiary	: S1 Students
7.	Date and Duration of the Course	:02-01-2021-30/1/21
8.	Proposed Timing	: 9:00 am to 4:00 PM
9.	No of Hours Required	30 hrs
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	: Online

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1.	Academic Year	: 2020-21
2.	Tile of the Course	Certification on Java
3.	Objective of the Course	The main objective of the course is to provide the students with a concrete foundation in Java Programming
4.	Prerequisite	: Nil
5.	Requirement	: Net connectivity
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	:01-08-2020-29/8/21
8.	Proposed Timing	: 9:00 am to 4:00 PM
9.	No of Hours Required	30 hrs
10.	Internal Resources	: MsDivyaSb
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

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1.	Academic Year	: 2020-21
2.	Tile 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	: Net connectivity
6.	Beneficiary	: S5 Students
7.	Date and Duration of the Course	: 07-11-2020- 28/11/20
8.	Proposed Timing	: 9:00 am to 4:00 PM
9.	No of Hours Required	30 hrs
10.	Internal Resources	: MsSimy 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	: Online

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1. Academic Year : 2020-21 2. Tile of the Course Google ACE The main objective of the course is to 3. Objective of the Course provide the students with a concrete foundation in Programming Prerequisite 4. : Nil 5. Requirement : Net connectivity 6. Beneficiary : S6 Students : Date and Duration of the Course 7. 20/1/21 8. **Proposed Timing** : Self Paced Learning 9. No of Hours Required 30 hrs : DrRanju S Kartha(Offered by Course 10. Internal Resources Era) 11. **Course Registration Fees** : Nil 12. Contents of Courses : Enclosed Separately : Those who have completed all the task 13. Credits and Certification 14. Venue : Online

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Department of Computer Science And Engineering



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Consolidated Report for the Certificate Course –Research Paper Writing

Academic Year: 2020-2021

Batch 2017-2021

Semester: VIII

Name of the Activity	: Certificate Course
Title of the Activity	: Research Paper Writing
Place of the Activity	: Dept. of EEE (Online)
	Mangalam College of Engineering.
	Ettumanoor.
	https://meet.google.com/jsp-wuse-uao
No. of Participants	: 41
No. of Qualified	: 41
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

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Consolidated Report for the Certificate Course - ETAP FAMILIARISATION

Academic Year: 2020-2021

Batch 2017-2021

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	: 41
No. of Qualified	: 31
Name & Designation of Expert	· : Mrs.Shoma Mani, AP/EEE
Objective of the Activity	To create understanding of the power system components.To perform modelling and Load flow analysis of a power system using ETAP.To perform short circuit analysis on a small power system
Outcome of the Activity	: Students understood how to do load flow analysis, short circuit analysis and cable sizing of conductors.

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Consolidated Report for the Certificate Course - Solar Power Plant Design

Academic Year: 2020-2021

Batch 2017-2021

Semester: VIII

Nome of the Autor	
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 (Online)
•	Mangalam College of
*	Engineering.Ettumanoor.
	. https://meet.google.com/uao-eswu-wsp
No. of Participants	: 20
No. of Qualified	: 20
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

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

Arduino

Academic Year: 2020-2021

Batch 2019-2023

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 (Online)
	Mangalam College of
	Engineering.Ettumanoor.
	https://meet.google.com/uoa-wesu-vbt
No. of Participants	: 24
No. of Qualified	: 24
Name & Designation of Expert	: Ms. Neebasabu, AP/EEE
Objective of the Activity	To expose the students to the basic concept andto 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

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Consolidated Report for the Certificate Course - Proteus PCB Designing

Academic Year: 2020-2021

Batch 2018-2022

Year: III/V Semester

Name of the Activity	
	: Certificate Course
Title of the Activity	
The of the Activity	: Proteus PCB Designing
Staff Incharges	
	: Ms. NeebaSabu, AP/EEE
Place of the Activity	: Dent of EEE (O II)
	. Dept. of EEE (Online)
	Mangalam College of
	Engineering.Ettumanoor.
No. of Participants	: 18
No. of Oualified	10
	: 18
Name & Designation of Expert	· Ms. Nache Call A D / The
0	. Mis. NeedaSabu, AP/EEE
Objective of the Activity	This program is 1 is in
•	students canable to the line of the students canable to the line of the students canable to the students of th
	projects PCP up to design their own
Outcome of the Activity	Studente un foindustrial grade
· · · · · · · · · · · · · · · · · · ·	convertors were able to design basic
	networks in Determined their controlling
	networks in Proteus

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Consolidated Report for the Certificate Course - LaTex for Beginners

Academic Year: 2020-2021

Batch 2019-2023

Year: II/III Semester

Name of the Activity	: Certificate Course
Title of the Activity	: LaTex for Beginners
Place of the Activity	: Dept. of EEE (Online)
	Mangalam College of
	Engineering.Ettumanoor.
No. of Participants	: 24
No. of Qualified	: 24
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 andto 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

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$Consolidated Report for the Certificate Course-\ Construction\ Site Electrical System Design$

AcademicYear:2020-2021

Batch 2019-

2023Year:IV/VIII Semester

Name of the Activity	:CertificateCourse
Titleofthe Activity	:ConstructionSiteElectricalSystemD
	esign
PlaceoftheActivity	: Dept.ofEEE(Online)
	MangalamCollege of Engineering.
· ·	Ettumanoor.https://meet.google.com/u
·	oa-wesu-vbt
No.ofParticipants	:21
No.ofQualified	:21
Name&DesignationofExpert	: DrVijayakumari CK
ObjectiveoftheActivity	To expose the students to the
-	basicconcepts construction site
	electricalsystemdesignandhelpthemtolear
	n
	abouthowanelectricalsystemcan
	bedesignforanyconstructionsite
OutcomeoftheActivity	:Studentsunderstoodhowtodesignanelect
	ricalsystemforanyconstructionsite

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Consolidated Report for the Add-on Course – Energy Management AcademicYear:2020-2021 Batch 2018-2022

Year: III/VISemester

Name of the Activity	: Add-on Course
Title of the Activity	: Energy Management
Staff Incharges	: Mr. Phejil K Paul, AP/EEE
Place of the Activity	: Dept. of EEE (Online)
	Mangalam College of Engineering.
	Ettumanoor.
	https://meet.google.com/cqa-rres-vtt
No. of Participants	: 18
No. of Qualified	: 18
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 sustained in the student's sustained by the student's sustained by the student's studen
	about assessing the energy efficiency, energyauditingandenergymanagement.
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
	optimize the energy consumption in an
	organization.
	studentslearnedenergyauditmethodsto
	control to save energy expenditure.
	FU

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Consolidated Report for the Certificate Course –Electrical CAD for Beginners

Academic Year: 2020-2021

Batch 2017-2021

Year: IV/VII Semester

Name of the Activity	: Certificate Course
Title of the Activity	: Electrical CAD for Beginners
Staff In charges	: Ms. Krupa Ann Kurian, AP/EEE
Place of the Activity	: Dept. of EEE (Online)
	Mangalam College of
	Engineering.Ettumanoor.
No. of Participants	:41
No. of Qualified	: 41
Name & Designation of Expert	: Ms. Krupa Ann Kurian, AP/EEE
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

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Consolidated Report for the Certificate Course – Hyperbolic Functions

Academic Year: 2020-2021

Batch 2020-2024

Year/ Semester: I/I

Name of the Activity	
Name of the Activity	: Certificate Course
Title of the Activity	: Hyperbolic Functions
Staff Incharges	: Ms. Sheena Bhaskar, AP/BSH
	: Dept. of BSH (Google meet)
Place of the Activity	Mangalam College of Engineering.
	Ettumanoor
No. of Participants	: 24
No. of Qualified	: 24
Name & Designation of Expert	: Ms. Sheena Bhaskar, 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.

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Consolidated Report for the Certificate Course - Mathematical Reasoning

Academic Year: 2020-2021

Batch:2020-2024

Year: I/I Semester

Name of the Activity	Certificate Course
Title of the Activity	Mathematical Reasoning
Staff In charge	Mr Jain P George / BSH
Place of the Activity	Google Meet
No. of Participants	22
No. of Qualified	18
Name & Designation of Expert	Mr Jain P George / BSH
Objective of the Activity	Students need to gear up and prepare for a future that will depend solely on mathematics. Build mathematical critical thinking and logical reasoning
Outcome of the Activity	Solve practical problems using appropriate mathematical techniques. Students will use proportional reasoning to solve problems that require ratios, rates, proportions, and scaling.

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Consolidated Report for the Certificate Course - LaTex

Academic Year : 2020-2021

Batch 2020-2024

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	Google Meet
No. of Participants	25
No. of Qualified	20
Name & Designation of Export	
Name & Designation of Expert	Ms. Sheen E M, AP/BSH
Objective of the Activity	
objective of the Netwicky	concepts described by the basic
	importance and the and its
	knowledge of L
	language of Latex typesetting
Outcome of the Activity	Students understood how to a
•	report and thesis must
	typesetting knowledge

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Consolidated Report for the Certificate Course - SOIL ANALYSIS

Academic Year: 2020-2021

Batch:2020-2024

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	Google Meet
No. of Participants	20
No. of Qualified	18
Name & Designation of Expert	Ms.Reshma Chandran / 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
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Consolidated Report for the Certificate Course - ART OF PUBLIC SPEAKING

Academic Year: 2020-2021

Batch 2020-2024

Year/ Semester: I/I

Name of the Activity	: Certificate Course
Title of the Activity	: ART OF PUBLIC SPEAKING
Staff Inchange	· · · · · · · · · · · · · · · · · · ·
Stall Incharges	Ms. Aksa Robert AP/BSH
Place of the Activity	: Google meet
No. of Participants	: 22
No. of Qualified	: 22
Name & Designation of Expert	Ms. Aksa Robert/BSH
Objective of the Activity	To create understanding of public speaking
	and familiarize the art of public speaking with students.
Outcome of the Activity	Students understood how to perform public speaking confidently

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Consolidated Report for the Certificate Course - Student Professional Development

Program

Academic Year: 2020-2021

Batch 2020-2024

Year/ Semester: I/I

Name of the Activity	: Certificate Course	
Title of the Activity	: Student Professional Development Program	
Staff Incharges	: Ms. Akhila K Jose, AP/BSH	
Place of the Activity	: Google meet	
No. of Participants	: 25	
No. of Qualified	:21	
Name & Designation of Expert	: Ms. Akhila K Jose, AP/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 activation	
	professional networks. Understand and plan for first	
	educational pursuits Acquire and develop Que Que in the	ANG
	Skills and Personality development skill	WGINEER
	Skins, and reisonality development skins.	jor .
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Registered Office: Mangalam Cor	mplex, P.B No.3, S.H Mount, Kottayam, Kerala-686006, Ph:+91-481-2563024	



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Consolidated Report for the Certificate Course - Multiplexing

Academic Year: 2020-2021

Batch 2020-2024

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	: Google meet
No. of Participants	: 25
No. of Qualified	: 21
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.

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Detailed Explanation of Course

Batch: 2020-2024

Academic Year: 2020-2021

Year: I/II Semester

The main objective of the course is to provide the students with a solid foundation in auto detailing and make them understand the various coating applications, interior, headlight restoring.

The course was offered for first year mechanical students of Mangalam college of engineering. The course was designed with five modules and course was conducted from 16.01.2021 to 20.03. 2021.Certicate 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
45	45	45	45

Course Coordinator

HOD/ME

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Certificate Course - Foundation in Mechanical CAD

Detailed explanation about the course

Academic Year: 2020-2021

Batch 2017-2021

Year: VII & VIII Semester

Department of Mechanical Engineering organized a certificate course on Foundation in Mechanical CAD for the Final Year B. Tech students (2017-2021 Batch) from 29th July 2020 to 8th August 2020. A total of 55 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
55	55	55	55

Course Coordinator

HOD / ME

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Certificate Course - HVAC

Detailed explanation about the course

Academic Year: 2020-2021

Batch 2017-2021

Year: IV & VII Semester

Department of Mechanical Engineering organized a certificate coarse on HVAC for the 7th sementer B. Tech students (2017-2021 batch) from 17th September 2020 to 16th October 2020: A total of 48 students were enrolled for the coarse. 30 lecture hours were provided during the coarse as per carriculam. A multiple choice based examination was conducted for the enrolled students at the end of the coarse. Certificates were provided for the participants after successful completion of the coarse.

Course Coordinator

HOD / ME

J ENGINEERIN.



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Certificate course: piping and pipeline

Detailed Explanation of Course

Academic Year:2020-2021

Batch :2017-2021

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 08.02.2021 to 12.02.2021.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
54	54	54	54

Course Coordinator

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HOD/ME

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Certificate course: Non destructive Testing

Detailed Explanation of Course

Academic Year: 2020-2021

Batch :2017-2021

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 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 11.01.2021 to 16.01.2021.Certicate 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
44	44	44	44

Course Coordinator

HOD/ME

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Certificate Course - 3D Printing Technology

Detailed explanation about the course

Academic Year: 2020-2021 Year: II & III Semester

Batch 2019-2023

Department of Mechanical Engineering organized a certificate course on **3D** Printing **Technology** for the 3rd semester B. Tech students (2019-2023 batch) from 1st August 2020 to 31st October 2020. A total of 52 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

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1.	Academic Year	: 2020-21
2.	Tile 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	:24-09-2020to 28/09/2020
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

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1.	Academic Year	: 2020-21
2.	Tile of the Course	Quality Health and Safety in Built Environment
3.	Objective of the Course	The main objective of the course was to provide the students with a solid foundation in handling the health and safety of workers in a construction site
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	:12-10-2020to 16/10/2020
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. Anjana Baby (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

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1.	Academic Year	: 2020-21
2.	Tile of the Course	Intelligent Transport System
3.	Objective of the Course	The main objective of the course was to provide the students with a solid foundation in advanced technologies in transportation planning and traffic system planning
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S3 Students
7.	Date and Duration of the Course	:02-11-2020to 06-11-2020
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. Vaishnav V K (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

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1.	Academic Year	: 2020-21
2.	Tile of the Course	Soil Classification and characterization
3.	Objective of the Course	The main objective of the course is to provide the students a knowledge on characteristics and engineering properties of different types of soil
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S5 Students
7.	Date and Duration of the Course	:04/1/2021to 08/01/2021
8.	Proposed Timing	: 9.00 AM to 05.00 PM (6 hours per day)
9.	No of Hours Required	: 30 Hours
10.	Internal Resources	: MsVilbin Varghese(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

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1.	Academic Year	: 2020-21
2.	Tile of the Course	Training on Auto Cad 2D & 3D
3.	Objective of the Course	The main objective of the course was to provide the students with a concrete foundation in 2D and 3D structural drawings
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7. `	Date and Duration of the Course	:12-04-2021to 16-04-2021
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

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1.	Academic Year	: 2020-21
2.	Tile 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 drafting.
4.	Prerequisite	: Nil
5.	Requirement	: Seminar Hall
6.	Beneficiary	: S7 Students
7.	Date and Duration of the Course	:20-03-2021to 24-03-2021
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

ANGALAM COLLEGE OF ENGINEERING