



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

www.sathyabama.ac.in

School of Electrical and Electronics

Department of Electrical and Electronics Engineering

Value Added Courses (2023-2024)

S. No.	Title	Event Dates	No of Students Enrolled	No of Students Completed
1.	Arduino and Tinkercad Mastery: From Simulation to Real-World Implementation	29.01.2024 to 10.02.2024	36	36

Course1: Arduino and Tinkercad Mastery: From Simulation to Real-World Implementation



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SCHOOL OF ELECTRICAL AND ELECTRONICS
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

organizes
Value Added Course
on

Arduino and Tinkercad Mastery

From simulation to Real - world Implementation



SCAN ME

<https://forms.gle/bscck6bf2aJ72317>

Date : 29.01.2024 to 10.02.2024 || Last Date of Registration | 09.01.2024

Chief Patrons: Dr. Mariazeena Johnson, Chancellor Dr. Marie Johnson, President Mr. J. Arul Selvan, Vice President Ms. Maria Bernadette Tamilarasi, Vice President Ms. Maria Catherine Jayapriya, Vice President Patrons: Dr.T.Sasipraba, Vice Chancellor	Conveners: Dr.N.M.Nandhitha, Dean EE Dr. S. Radhika, HOD EEE Co Conveners: Dr. M Kavitha, Asso. Professor, EEE Dr. M.Pushpavalli, Asst. Professor, EEE Dr.P.Sivagami, Asst.Professor, EEE	Student Organisers: Mohan V, III EEE. Periyar Selvan N, III EEE. Rajesh G, III EEE. Sasikumar K, III EEE. Prethish Rajasekaran, III EEE. Abay vama ,IV EEE. Partheepan J, II ECE. Prithviraj R, I ECE.
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About Sathyabama Institute of Science and Technology

Sathyabama is a prestigious institution which excels in the fields of Engineering, Science and Technology for more than three successful decades. It offers multi-disciplinary academic programmes in various fields of Engineering, Science, Technology, law, Dental Science, Pharmacy, Nursing, Management, Arts and Science and Allied Health Sciences. It is established under Sec.3 of UGC Act, 1956 and is been Accredited with 'A++' Grade by the National Accreditation and Assessment council. The Institution has a team of dynamic and outstanding faculty, innovative pedagogical practices, state of the art infrastructure and world class Research facilities.

About EEE department

Department of Electrical and Electronics Engineering was established in the year 1992 to offer UG Program in Electrical and Electronics Engineering. Having consistently grown in terms of competence and expertise in the field of Electrical and Electronics Engineering, the department is also offering Post Graduate Program in Power Electronics and Industrial Drives and Doctoral Research programs from 2002. The department is accredited by National Board of Accreditation (NBA).

VALUE ADDED COURSE

CONTENT :

Unit 1: Introduction to Arduino and Tinkercad Simulation 4 Hrs
Overview of Arduino platform and its applications -Introduction to Tinkercad for Arduino simulation- Basic components and simulation tools in Tinkercad

Unit 2: Getting Started with Tinkercad Circuits and Basic Coding 5 Hrs
Creating and simulating basic circuits in Tinkercad -Writing and simulating simple Arduino code-Understanding the connection between code and simulation- Arduino with Tricolor LED and Push button-Arduino with LCD -Display counter using Arduino -Seven Segment Display

Unit 3: Intermediate Tinkercad Projects: Sensor Integration 6 Hrs
Simulating sensor inputs in Tinkercad ; Ultrasonic sensor – Temperature Sensor- Gas sensor- IR sensor-Pulse Width Modulation- Control a DC Motor Speed and Direction -Wireless Connectivity to Arduino- Gas Leakage Detection (Gas sensor) with GSM Module -Home Automation- Password based Door Locking System

Unit 4: Transition to Hardware: Setting Up Your Arduino Kit 8 Hrs
Basics of breadboarding and wiring - Overview of essential hardware components (Arduino board, sensors, actuators) – Human Detection (PIR motion Sensor)- Gas Leakage Detection (Gas sensor)- Obstacle Detection (IR sensor) – Temperature measurement using DHT 11 sensor

Unit 5: Hardware Implementation Projects 9 Hrs
Building real-world Arduino projects using physical components - Gas Leakage Detection (Gas sensor) with GSM Module- Blind Stick - Obstacle Arm Rover- Drone Rover –Street light fault detection-Home Automation- Tyre Pressure Measurement-IOT based smart pulse oximeter-Soil moisture detection system- Health Monitoring system

COURSE OUTCOMES:

CO1: Understand Arduino Fundamentals
CO2: Apply Tinkercad Simulation for diverse applications.
CO3: Analyze the function of Sensors and Actuators Virtually
CO4: Evaluate the Simulation output through Hardware Implementation
CO5: Design hardware projects incorporating various sensors
CO6: Develop prototype for real time application using Arduino

Participants List: Arduino and Tinkercad Mastery: From Simulation to Real-World Implementation

S.No	RollNo.	Name of the Student
1.	42140004	BHARATHI B
2.	42140006	DIVYA C
3.	42140007	M.DIVYA DHARSHINI
4.	42140008	DIVYA P
5.	42140017	LAKSHMI MEGHANA MAKANA
6.	42140018	MEENA ROSHINI.S
7.	42140019	MOHAMED MUFEEZ
8.	42140020	MOHANASURUTHI S
9.	42140023	MUKILA BAMA A
10.	42140025	MURALIDHARAN.R
11.	42140029	PEMULA DIVYA
12.	42140033	K.M.RAHUL
13.	42140041	SRIRAM K
14.	42140042	M.SRI SUBRITHA
15.	42140043	S.SRITHAR BALU
16.	42140045	SUBHAMADHESH R
17.	42140046	SUJITH T
18.	42140049	B.THIRISHA
19.	42140050	S.THIRUVENI
20.	42140051	UMASANKARI V
21.	42140053	VINOPRIYA C
22.	42140055	M. VISHNU PRIYA
23.	42140059	SANTHOSH.K
24.	42140061	A. AKSHAYA KAMAKSHI
25.	42140065	KATHIRAVAN.B
26.	42140066	KIRUTHIKA T
27.	42140070	SHANKAR V
28.	42140072	VIKASS S
29.	42140075	HARICHANDRAN S
30.	42140703	KRISHNA PRAKASH.N
31.	42140034	RAJARAJESWARI M
32.	42140032	V.PRIYANAGA
33.	42140074	E. SANJAI KUMAR
34.	42140079	ARCHANA D
35.	42140064	HARIHARAN PA
36.	42140054	VISHAL SHARON M



Signature of the HOD

Course Outcomes for the Course: Arduino and Tinkercad Mastery: From Simulation to Real-World Implementation

CO1: Understand Arduino Fundamentals

CO2: Apply Tinkercad Simulation for diverse applications.

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Jeppiar Nagar, Ragive Gandhi Salai, Chennai - 600119

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School of Electrical and Electronics
Department of Electrical and Electronics Engineering

Value Added Course Completion Certificate

This is to ~~Certify~~ that

BHARATHI B

42140004

of B.E. EEE, actively took part in the Value Added Course titled "~~Arduino~~ and ~~Tinkercad~~ Mastery: From Simulation to Real-World Implementation" organized by the Department of Electrical and Electronics Engineering at ~~Sathyabama~~ Institute of Science and Technology, held from 29.01.2024 to 10.02.2024.

S. Radhika

WOD/ Department of EEE
Dr. S. ~~Radhika~~

ML

Dean/ School of EE
Dr. N. M. ~~Manobalan~~



Certificate ID: 1