



# DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

## MARIAN ENGINEERING COLLEGE

### *Department Brochure*

#### Vision

Emerge as a center for quality education and research, to grow in pace with the rapidly changing technologies and create Electronics and Communication Engineers capable of accepting new challenges for the service of mankind.

#### Mission

- ▶ Impart quality education based on the curriculum, contemporary technologies, value based education that helps students groom into a highly competent Electronics and Communication Engineer.
- ▶ Constantly motivate students and faculty members to generate ideas and accept the challenges to provide solution for social needs and to endow competent professionals to undertake research and developmental activities.
- ▶ Promote academic growth for students by encouraging post-graduate and research programs.

#### Program Educational Objectives

- PEO I:** Become proficient engineers with mastery on fundamental, contemporary and advanced concepts, problem solving, programming and design capabilities for successful career or higher studies or research.
- PEO-II:** Function effectively in the world of rapidly changing technologies in the broad context of electronics and communication engineering, to develop new products and technologies in service to mankind, using their skills in ethical and professional manner.
- PEO- III:** Obtain or make progress towards professional licensure, have good communication skills, practice professional ethics, team- work, make progress towards leadership roles and engage in life-long learning.

#### Program Specific Outcomes

- PSO1:** An ability to apply the principles and basic concepts in Electronics and Communication in the design and implementation of complex systems by conducting Innovative Experiments.
- PSO2:** To facilitate industrial exposure, conferences and technical fests to motivate for research activities, competitive examinations and mould successful Entrepreneurs.

#### About the Department

The Department of Electronics and communication of Marian Engineering College was started in 2001 with 60 as intake. Since its introduction, the Dept. has been successful in training more than about 1000 students to become Electronic Engineers of high capability and credibility and to attain B.Tech degree of Kerala University. Several of them are serving in the capacity of eminent Electronic Engineers all throughout the world. This has become possible due to the sincere efforts of many dedicated staff members of the Department. Majority of them have more than a decade of service as teachers. Sustainability and sincerity of staff members paved the way for attaining good results in the Kerala university examinations, including few high ranks in it. In placements also ECE department excelled and the alumni students are in the top positions of many industries and research institutions. We, the staff members of ECE Department, Marian Engineering College promise that we will continue our sincere efforts and with the blessings of almighty God, will achieve more prosperity and success in the coming years also

# DEPARTMENT HIGHLIGHTS

Experienced Faculty with more than 10 years of experience.

Staff List	Designation	Years of Experience
Ms. Vinita B Elza	HOD	20 years
Ms. Ramola Joy P.	Asso. Professor	18 years
Ms. Subha P S	Asso. Professor	22 years
Dr. M. Manoj	Professor	19 years
Mr. Evankumar G	Asst. Professor	15 years
Mr. Glastin Y. V	Asst. Professor	19 years
Ms. Simi M S	Asst. Professor	16 years
Ms. Nurul Hidayah	Asst. Professor	17 years
Ms. Dhanya Mathew	Asst. Professor	14 years
Ms. Minnu Jayan C	Asst. Professor	15 years
Ms. Sreena V G	Asst. Professor	17 years
Ms. Sony S	Asst. Professor	12 years
Ms. Ann Mathew	Asst. Professor	12 years
Ms. Hema S. Mahesh	Asst. Professor	11 years
Ms. Mary Sunitha	Asst. Professor	15 years
Ms. Preetha S L	Asst. Professor	14 years

## Marian Centre of Excellence in AI & ML

Department of ECE established the 'Centre of Excellence (CoE) in AI&ML' in the year 2021-22. The centre functions for enhancing skillset of students in the field of AI & ML. Around 100 students registered in the centre and are undergoing training. The training programs are conducted by the following Companies UST and Accubits.

### I) MoU with UST

CoE signed MoU with UST, a multinational company in the year 2021. Based on this MoU UST trains the students, give internship opportunities and priority in their recruitment process.



MoU Signed by UST with Marian Center of Excellence on 16-9-2021

### Details of Activities with UST

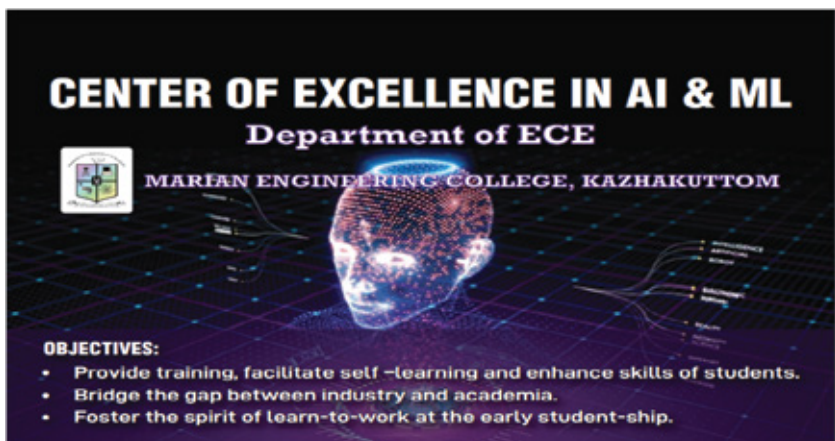
• CoE collaborated with UST for implementing a workable plan through which the vast interest of CoE can be achieved. MoU was signed between Marian and UST on 16.09.2021 for framing the activities in a tangible manner. 43 students registered for the program which will be implemented in four stages. As a part of the program a team of 43 students visited UST campus on 12.05.2022.

• First stage of UST- Foundation Program level 1 was over by March 2022.

• Second stage of UST- Foundation Program level 2 was initiated in the month of May 2022.

### Industry Sponsored Lab

An R & D lab in the field of AI & Robotics was implemented as a part of association with UST and 50% amount was sponsored by them. Sanction was accorded and an amount of Rs Two Lakhs got transferred in the month of May 2022.



Industrial Visit to UST on 12th May 2022



• Faculty and Students of Marian Centre of Excellence in AI & ML-UST group visited UST Campus, Technopark Phase II, on 12th May 2022. The team visited Founders Hall of UST for a session on "UST overview" by Mr. SthanuThambi. After that a Campus Tour is arranged to Infinity Lab and other facilities of UST. Students got an idea on various activities taking place there. Students got motivated through the interactive session with the industrialists of UST. They got an insight on what industry expects from them after graduation and how they should mould themselves for the same.

### II) MoU with Accubits Inc.

CoE signed MoU with Accubits Inc., a pioneer organisation predominantly working in the field of AI & ML. They are conducting ACCUBITS FELLOWSHIP PROGRAM for our students. Two first year students were given Job offers at Accubits through the CoE.

### Details of Activities through Accubits Inc.

Initially, the interested students undertook a test and top 20 students were selected for the program. The students have been introduced to various fundamental concepts of mathematics, basic machine learning, neural networks and artificial intelligence.

Session 1: Introduction to Machine Learning and Artificial Intelligence

Speaker: Mr. Nithin, Mr. Charush

Session 2: Machine Learning: Linear Regression

Speaker: Mr. RaoofNoushad, AI Team, Accubits.

Session 3: Machine Learning: Clustering

Speaker: Mr. Jubin Jose, AI Team, Accubits.

Session 4: Machine Learning: CNN

Session 5: Machine Learning: Sentiment Analysis

Speaker: Mr. Gokul S Jain, AI Engineer, Accubits.

The sessions have been well organized and students are eager to learn as well.

### Project- Earn While You Learn

Department of ECE and IEDC-MEC Signed an MoU with GATIK GREENERGY Pvt. Ltd., a Bangalore based Electronic product design company, on 26-11-2021 through which a project 'EARN WHILE YOU LEARN' was started to enhance practical electronics skill to students of ECE through live projects. They trained the students in practical electronics, and were given an opportunity to design and manufacture some electronic products for the company. 20 pre-final year students underwent a one week internship at the company in January 2022.

Students registered 15 start-up companies which will undertake outsourced works in product fabrication.



MoU signed between Department of ECE, IEDC-MEC and GatikGreenenergy



2 Day Workshop (Offline Training) for the Student Team members of GATIK on 26th and 27th November, 2021.



### FUNDED PROJECTS SANCTIONED BY KCSTE and CERD from 2020 to 2022

• Projects sanctioned by KTU under the Department of Electronics (2016-2020 ECE) :

Blind Spot Detection in motorcycles –by Mr.Evan Kumar G (AP,ECE) and team -amount Rs 9220/-

Special Companion for speech impaired - by Ms.HemaS.Mahesh AP,ECE ) and team - amount Rs 10,000/-

Automatic Uplifting of pedestrian crossing platform on roads- by Ms.Sreena V.G (AP,ECE ) and team- amount Rs 10,000/-

• Projects Proposals Sanctioned by KSCSTE for funding (2017-2021 ECE):

Solar Trash Collector with Water Purifier –by Ms. Vinitha B Elza (Asso.Prof., ECE) and team- amount Rs 10,000/-

Smart Consumer Alert App – by Ms.MinnuJayan (AP,ECE ) and team – amount Rs 15,000/-

Smart Assistive Device for Speech Impaired- by Ms.Dhanya Mathew (AP, ECE) and team – amount Rs 10,000/-

Remote Health Monitoring for Covid-19 - by Ms. NurulHidaya (AP,ECE) and team - amount Rs 8500/-

• Projects Proposals Sanctioned by CERD for funding (2017-2021 ECE):  
Smart Assistive Device For Speech Impaired Using Silent Sound Technology

- by Ms.Dhanya Mathew (AP, ECE) and team – amount Rs 10,000/-

• Projects Proposals Sanctioned by CERD for funding (2018-2022 ECE):  
Braille Printer –by Ms. Subha P S (Asso.Prof., ECE) and team- amount Rs 10,000/-

### OUTREACH TRAINING TO SCHOOL STUDENTS BY ECE STUDENTS



36 students of ECE from S1, S3 and S5 were trained for a week from 29th November to 3rd December, 2021 by the final year students of ECE for the Outreach program to Schools.



The Outreach Team of ECE and clips of their training sessions



# STATE OF ART SYSTEMS

Where does the industry Stand?



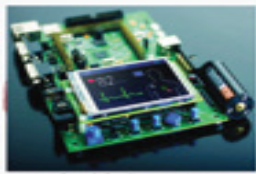
Optic Fiber Cabling



VLSI



Signals and Systems



Embedded System

**CORE AREAS OF COMPETENCIES REQUIRED BY THE OUTSIDE WORLD**



Radio Communications



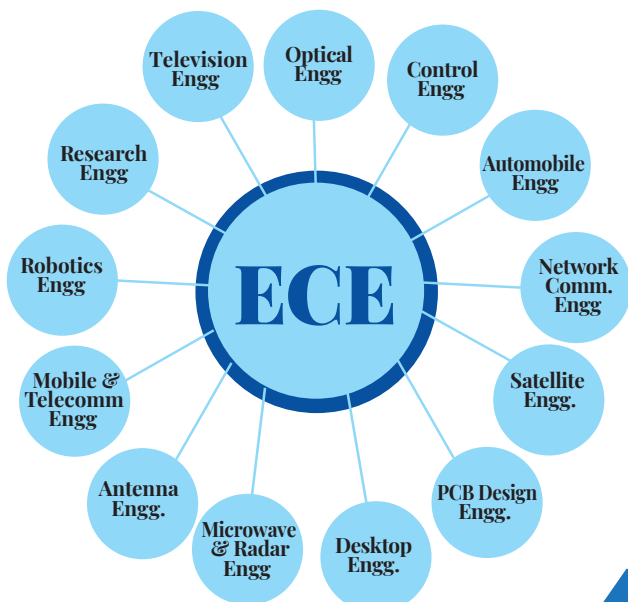
Data Centers

## INTEGRALS

Networking	Power Electronics & Instrumentation
Solid State Devices	VLSI
Electronic Circuits	Antenna and Wave Systems
Signals and Systems	Embedded Systems
Analog Integrated Circuits	Microwave and Radar
Computer Organization	Optical Communication
Digital Signal Processing	Control Systems
Electromagnetic Sytems	Nano Electronics
Processors and Controllers	Secured Communications

## CAREER CHOICES

Some of the important positions that ECE Engineers can serve



Why is Electronics & Communication Engineering

## THE RIGHT CHOICE ?

Electronics and Communication Engineering is a promising growth-driven stream, an adequate knowledge in the field when amalgamated with specific skill set, qualifies the individual for a wide range of entry-level openings

- Electronics and Communication engineers, expertise in managing large scale research, conceptualizing, designing, developing and testing of the electronic equipment used in latest communication devices and other handy technological equipment, such as smartphones, tablets, processors, smart wrist watches, smart LED TV's, etc.

## THIS HAS ONLY LED TO THE SURGE IN THE DEMAND OF ELECTRONICS & COMMUNICATION ENGINEER.

- Skills of ECE engineers in planning, executing the testing process, framing of the system layouts, and delivering the end product in an impeccable way enhance their market value.

- This means that as an aspiring student of ECE, candidates need to ensure they select the right course in Electronics & Communication Engineering, in which they have interest and which offers better career options in the future.

## FUTURE SCOPES OF ELECTRONICS & COMMUNICATION ENGINEER

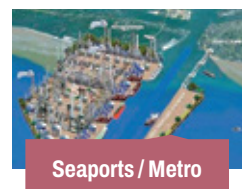
### Market Sectors



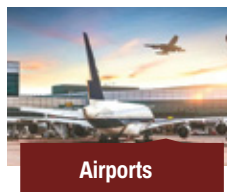
Oil & Gas



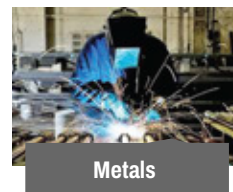
District Cooling



Seaports / Metro



Airports



Metals



Infrastructure & Real Estate

### Government Sector Jobs

DRDO	ISRO	BEL	BARC	NPCIL	PETROLEUM
BSNL	KSEB	PRASAR BHARATI	KELTRON	ER & DCI	MTNL
INDIAN RAILWAYS	AIR	DELHI METRO RAIL CORPORATION	PHILIPS ELECTRONICS	BHARAT HEAVY ELECTRICALS LIMITED	OIL & NATURAL GAS CORPORATION