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EMBEDDED SYSTEM & INTERNET OF THINGS -IOT COURSE DETAILS AND SYLLABUS

NAME OF THE PROGRAMME	NAME OF THE PROGRAMME	DURATION
Certificate in Embedded and internet of things	Certificate Programmer	240 hours

COURSE CURRICULUM

Chapter 1. Introduction to Embedded Systems

- ✓ Anatomy of Embedded Systems
- ✓ Introduction to Open Source platform
- ✓ Introduction of Electronic Components
- ✓ Introduction to Sensors
- ✓ Introduction to Computational Devices

Chapter 2. Introduction of Electronic Components

- ✓ What is Electronic Component?
- ✓ History of Electronic Component
- ✓ Various Electronic Component
- ✓ How to use Electronic Component

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Kerala Branch Office

10-15/823, Ground Floor, Mudavurpara,
Vedivechancoil-Post, Trivandrum - 695 001.

TamilNadu Head Office

#131-5J, 1st Floor, Bharath Lodge Building,
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Chapter 3. Introduction to Sensors

- ✓ Components
- ✓ Application of what is Sensor?
- ✓ Various Basic Industrial Sensors-IR- Analog Sensor
- ✓ IR Digital Sensor
- ✓ Colour IR _TSOP Sensor
- ✓ Light Sensor
- ✓ Sound Sensor
- ✓ DTMF Module
- ✓ Selection of Sensor
- ✓ Basic working Technique of Sensor
- ✓ Application of Sensor
- ✓ How to Interface Sensor
- ✓ How to Design Analog/Digital Sensors



Chapter 4. Introduction to Computational Devices

- ✓ What is Computational Device?
- ✓ Transistor
- ✓ Logic Gates
- ✓ Microprocessor
- ✓ Microcontroller
- ✓ Difference B/W Various Computational Devices
- ✓ Application of various Computational Devices

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- ✓ Selection of Computational Device
- ✓ How to use Various Computation Device

Chapter 6. Interfacing to Actuator

- ✓ What is Actuator?

Chapter 7. How to work on Educational & Engineering Level Actuator

- ✓ DC Motor
- ✓ DC Geared Motor
- ✓ Stepper Motor
- ✓ Servo Motor

Chapter 8. Introduction to Driving System/Locomotion

- ✓ What is Driving System?
- ✓ Various Types of Driving System
- ✓ Why need Driving System

Chapter 9. How to Drive Motor

- ✓ H-Bridge Motor Drive
- ✓ Advanced Motor Driver

Chapter 10. Introduction to Programming Languages

- ✓ Various programming Languages

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- ✓ Selection of programming Language
- ✓ Need of Flow Diagram
- ✓ How to write First "LEDBLINKING" Code in Embedded C
- ✓ Why always First "LEDBLINKING"
- ✓ Code? Practice on various LED Pattern
- ✓ Debugging of Error Program

Chapter 11. Introduction to Analog to Digital Converter (ADC)

- ✓ ADC, How it works???
- ✓ Different Mode and Registers of ADC
- ✓ Programming ADC

EMBEDDED SYSTEM AND IOT COURSES CAREER OPTIONS AND JOB PROSPECTS

If you are person who wants to know how systems work and learn more about hardware, then an MS in **Embedded Systems** is the **better** choice but if you wish to work on software and building architecture for algorithms, then computer science is the way to go. Both courses will provide plenty of **career** opportunities. Job Employment: according to the top tech 14 skills in **demand** 2019, Internet Of Things(IoT), Machine Learning and Artificial Intelligence (AI) which are core fields in **embedded** systems are one of the most highly paid jobs. **Embedded engineers** are currently in high **demand**.

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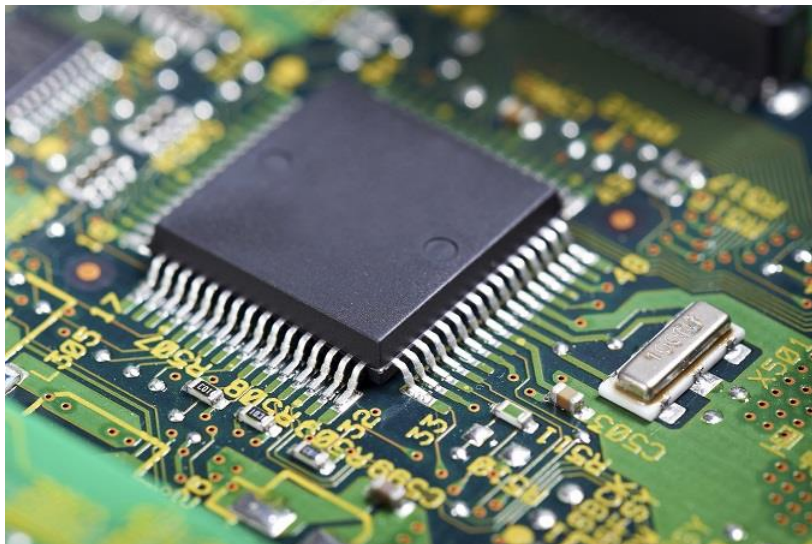




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FUTURE SCOPE OF EMBEDDED SYSTEMS

Embedded System is the future. Every industry needs some artificial intelligence into it and artificial intelligence can be given by **embedded systems** only. No electronic product is without **embedded systems** in the market. **Embedded Software Engineers** are generally responsible for developing and implementing **software** of **embedded** devices and systems. In addition, they may be responsible for analyzing and monitoring the efficiency and stability of the system.



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