Industrial Application

Medical

Robotics

Agriculture

Automobile

Industry 4.0

CENTRE ACTIVITIES

- **Training Programs** — Students / Professionals
- **Consultancies**
- **Internships**
- **Webinar**
- **Workshops** — Inhouse / Onsite
- **Industrial Projects** — Proof of Concept/ Prototyping

The perfect balance
between theory and practice ...

30 : 70

CONTACT INFORMATION

AKGEC-FABLAB

AKGEC SKILLS FOUNDATION
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Training | **Consultancy** | **Research**

Training on Embedded System & IOT

FABLab
Ajay Kumar Garg Engineering College

AKGEC SKILLS FOUNDATION

AKGEC-Skills is an initiative promoted by AKGEC & NSDC, Ministry of Skill Development & Entrepreneurship. The objective of this initiative is to encourage skill development for youth to increase productivity of the existing workforce and align the training and certification needs of the country's youth. AKGEC SKILLS works to promote training, education and upskilling activities in the fields of Industrial Automation, Robotics and Advance Manufacturing processes. Under this initiative nine state of art centres are operational. These centres have been set up in collaboration with several key Industry Partners including SIEMENS, BOSCH Rexroth, KUKA Robotics, Mitsubishi Electric, Fronius, Schmalz, CARL Zeiss and Pepperl+Fuchs .

About AKGEC FABLAB

A Fabrication Laboratory is a technical prototyping platform for innovation and invention which aims at providing stimulus for students and serves as a platform for learning and innovation. Fab Lab Foundation program began as collaboration between the Grassroots Invention Group and the Center for Bits and Atoms at the Media Lab in the Massachusetts Institute of Technology (MIT). The Fab Lab also becomes a medium for connecting to a global community of learners, Educators, Technologies, Researchers and Innovators-essentially becoming a self-sustaining global knowledge sharing network. It also have global network of nearly 2000 local labs across the world. A fabrication Laboratory (FABLAB) is a technical prototyping platform for learning and innovation. It is a small scale workshop offering Digital Fabrication which empowers students and other users to create smart devices for themselves which can be tailored to local or personal needs. At a time when engineering is supposedly losing its shine because of degradation in educational standard, AKG Engineering College shines out at a savior with its visionary approach and state of art engineering excellence

About Course

Embedded System & IoT is a one week program, which teaches principles and basics of Embedded System & IoT applications. This Course demystifies the internal working of the Micro-controllers, Development Boards and its Peripherals. Coding for the Peripherals STEP-BY-STEP and Developing embedded hardware and software completely from scratch by extracting maximum information from Datasheets, Reference manuals, specs, etc. Embedded Systems and IoT course would be including intense Hands-on sessions with Arduino, Raspberry Pi, Linux OS, RTOS and Open Source Web services.

- Introduction to Embedded System & IoT
- Microcontroller Arduino, Node MCU and Raspberry Pi.
- Programming with Advanced C / Embedded C and Python Language.
- Communication Module GSM, Bluetooth,Wi-Fi
- SMTP Protocol.
- TCP/IP Protocol.
- HTTP Protocol.
- ADC Interfacing.
- Camera Interfacing with Raspberry Pi.
- Ultrasonic Sensor, PIR Sensor and LDR sensor.
- Project Development.

Highlights

Implementation	:	Theory & Practice
Language	:	English
Duration	:	40 Hrs / 1 Week
Prerequisite	:	Engineers, B.Tech pursuing Students
Training Location	:	AKGEC-NI Advance Lab
Certification Partner	:	AKGEC-FABLAB

Course Outcome

- Students will be demonstrated the knowledge of various device used for of Embedded System & IoT and their application.
- Students will learn terms, history, functions and principle of embedded sensor components in this Embedded System & IoT technologies course.
- Controllers, Processors, Communication and Protocols are also examined.