

Embedded Brochure



indicus
Technology

Basic Embedded Course



Basics of Analog and Digital Circuits; ,

Introduction to Electronics and components such as Resistors, Capacitors, Inductors, Transistors, MOSFETs.

Working on Circuits and making of Basic circuits on Breadboard;

Basics of Op-Amps and amplifiers;

Working on some basic IC's like LM555, LM741, OR-NOR-AND Gates;

RISC/CISC Architecture;

Types of Memories;

Introduction to 8-bit microcontrollers;

Introduction of Embedded C language;

Introduction of Embedded Systems;

Introduction about compilers, cross compilers & debugger;

Installation of Development tools;

Programming of general purpose Input/Outputs;

Beginning with LED blinking and pattern generation;

Using header files and making of own header files;

Perfect Delay generation and pulse generation;

Introduction of Motor Drivers and Amplification of Controller signals;

Switch interface and avoiding of debounce delays;

Keypad interfacing;

Introduction to Simulations on PC and uses of different simulation software;

Projects and workouts;



■ Advanced Embedded Course

- Advanced C language Practice;
- Structures, Unions Programming and its use;
- Pointers, string conversions and ASCII conversion;
- 16x2 LCD interfacing;
- UART Programming and using library;
 - Handling UART transmission/Reception for data processing;
 - Interfacing with PC using USB<->UART converters and PC Software;
 - Wireless Communication using RF Transceivers;
- Interrupt Programming;
- ADC conversion and Programming;
 - Temperature sensors;
 - Light sensors;
 - Line sensors;
 - Current Sensors;
- Timers/Counters Programming;
 - Measuring distance with Ultrasonic sensors;
 - Generating Accurate Time delays;
 - Measuring Frequency of Input signals;
- Watchdog Timer Programming;
- EEPROM Programming;
- PWM Module;
 - Generating custom frequency using PWM;
 - Speed Control of Motor using L293D;
 - LED Brightness control using PWM;
 - Device controlling using PWM signals;
 - Servo motors Programming;
- SPI Protocol, Programming and Interfacing;
- I2C Protocol, Programming and Interfacing;

■ Expert Embedded Course

- Interfacing with Accelerometers;
- Interfacing with RTC DS1307;
- Pointers, string conversions and ASCII conversion;
- Interfacing with Wireless Modules – CC2500;
- Interfacing with SD Card;
- Interfacing with GPS modules;
- Interfacing with GSM Modules;
- Interfacing with Bluetooth Modules;
- Interfacing with Current Sensors;
- Schematic and PCB design up to 4-Layer;
- Introduction to Linux;
- Installing dual OS and configuring Linux;