: In Association with



PRESENTS

# ROBOTICS FOR ENGINEERS

# 100% career Oriented Courses

Robotics is branch of Mechanical Engineering, Electrical Engineering Computer Science & Electronics that deals with Design, Construction, Operation and application of ROBOTS

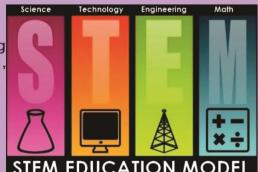
# Hot Categories in our Robotic Training:

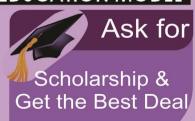
- Artificial Intelligence Based Robots



Robotics is for Engineers & Students who are Passionate for

- **Electronics & Electricals**
- **Mechanics Orientation**
- Artificial Intelligence
- Scientific Enthusiasts
- **Communication Engineers**
- **Creative Architects**
- **Future Scientists!**





# ADRES - Advanced Diploma in Robotics & Embedded **Systems Special Career Course**

#### **ELECTRONICS**

- Electronics Foundation
- Electricals Foundation
- Logical Circuits
- Integrated Circuits
- Circuit Designing
- Sensors Interfacing
- PCB Designing
- PROTEUS
- Eagle CAD

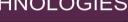
## EMBEDDED HW

- Hardware Conmponents
- PROMS & EPROMS
- A/D Convertors
- Timers & Counters
- Micro Processors
- Microcontrollers
- Microcontrollers Architectures 2051 ■ PIC
- 8051
- ARM Cortex

#### PROGRAMMING FOR **ROBOTICS**

- **GUIs & CLIs**
- Flashing & Porting
- Enchanting & BYOBs
- Embedded C
- **MPLAB**
- Matlab
- SimuLink
- NI LabView
- Visual Studio
- Java 4 Lego

## **TECHNOLOGIES**





- Arduino
- Android
- Wireless & Bluetooth
- Kernal Designing
- **Boot Loaders**
- Zigbee & Xbee
- GSM, GPS, MEMS Etc.



Bluetooth

and many more.

LabVIEW







# Junior Scientist Combo (1&2) Birds View of the Course

- Mindstorms
- NXT G
- Theme Designing
- Creative Designing

**JS - 1** 

# JS - 2(HW)

- Hardware Components
- Microcontrollers
- Circute Designing Sensors Interfacing
- Programming for **Embedded Systems**
- GUIs & CLIs
- PROMS & EPROMS
- Flashing & Porting

**JS - 2(SW)** 

## JS-2 (Open Source Boards)

- Arduino
- Beagle Board
- Freeduno
- MSP430

#### JS-1 Mindstorms

- Creative Architecture
- Various Locomotors application
- Working with Sensors
- Programming in NXT-G

Graphical Programming Languages

 NXT-G, Lab view, Matlab, Enchanting

Command line interface programming

- RobotC
- BrickCC
- NI Labview

**Development Boards** 

Arduino, Beagle bone, Freeduino

## Robotic Embedded Systems Coverage (Controllers)

- 8051
- Arm
- PIC
- Cortex

#### Activities

- Soldering
- Resistor color coding
- Capacitor identifications
- PCB making
- Transistors identification
- DiodesRegulators

#### **Projects**

- NXT- Multi Sensor Bot with
- Bluetooth
- Classical line follower
- Home security system
- Arduino Sun Follower

#### Basic Electronics Coverage

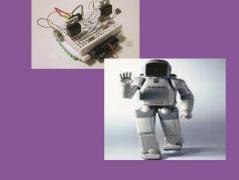
- Working with 555 timers
- comparators
- Op-amps
- Transistors
- Switching circuits

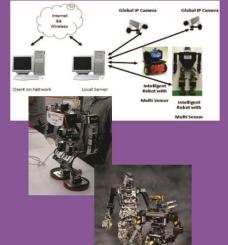
# Microcontroller 8051

- Microprocessor vs. Microcontroller
- CISC vs. RISC
- Architectute of 8051
- Description of memory organization
- SFR's and their basic functionality
- •Low level programming concepts
- Developing, Building and Designing ALP's
- Middle Level Programming Cross compiler
- Embedded C Implementation
- On-chip Peripherals
- External Interfaces
- •LED's. Swtiches (Momentory type,
- •toggle type)
- Seven segment display
- Internal multiplexing, External
- multiplexing
- ●LCD (4bit, 8bit, Busy flag, custom
- •character generator)
- Keypad Matrix
- Sensor Interfacing
- IR Sensor
- Touch Sensor • Gas Sensor
- PIR Sensor
- Fire Sensor
- Flex Sensor Sound
- LDR Sensor
- Prtocols L2C (EEPROM), SPI (EEPROM)
- KEIL's RTX51 Tiny/Pumpkin's and many more.....

# **CONTENTS - ARDUINO**

- The Basics of programming your Arduino
- Just enough Electronics to be Dangerous
- How to make your Aurduino Respond to
- How to communicate to your computer with the Arduino
- How to Build Teleporters, Levilating Fortresses and Nuclear Reactors and many more.....





# PIC MICROCONTROLLER

- PIC Architecture & Programming
- PIC i/o port programming
- PIC Programming in C
- PIC 18 Hardware connection and rom loader
- PIC 18 timers programming
- Interrupt Programming
- External EPROM and 12C USD and HID class
- and many more.....





# Enter to the World of Robotics

OUR Training and Courses will be categorized in the following models





Career Courses

**Individual Models** 

# ROBOTIC COMBO PACKS

- Junior Scientist Combo
- Robo Wizards
- Android & Aurdino -The Great Robo Combo
- and many more..



# Embedded S/W for Choice

- microC & MP Lab
- **ROBOTC & NXT-G**
- Arduino IDE
- **AVR Studio**
- **MATLAB**
- Keil
- **Android Platform**



# SHORT TERM ROBOTIC **COURSES**

- Gesture Controlled Bot with Arduino
- Line & Light Follower Bot
- Surveillance Robot with GSM Technology
- Terrain bot with Voice Control
- Computer controlled pick and place bot
- Zigbee controlled Robot with video Transmission
- Smoke and gas Detection Domestic Robot
- Hexapod Robot with Obstacle Detection
- Hovecraft with Remote Operation
- **IC** Engines

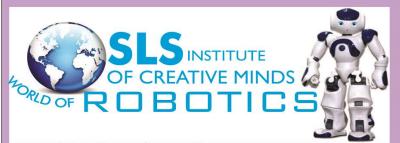
# LONG TERM COURSES

- Android Technology
- Mobile Controlled Robots
- Arduino In & Out
- Android The Future Power
- Web Based Robotic Controlling and many more....







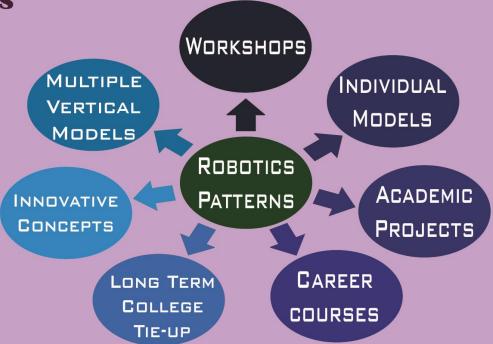


At SLS ICM, we deliver Practical Oriented Training with Latest updates and with Futuristic vision, which also helps them a lot in their JOB Hunt in Future. We make an engineer student believe he can become a Scientist! And this is the perfect dose!

# **Robotics for:**

- Engineers (EEE, EIE, Mech, CS, IT, ES etc.)
- Hobbyists Passionate for Robotics
- Robotic Enthusiasts Creative Architects
- Career Seekers & Job Hunters
- Future Scientists





### **ENTER THE WORLD OF ROBOTICS AT**

## **SLS INSTITUTE OF CREATIVE MINDS**

NO. 544, 4TH MAIN, NGEF LAYOUT, SADANANDA NAGAR, BANGALORE - 560038 PH: 080-25383777, 9900547950, 9900547942 EMAIL: BGL.EAST@ACADEMYOFROBOTICS.NET WWW.ACADEMYOFROBOTICS.COM

At **SLS ICM**, You get exactly what you require FOR YOUR CAREER with much more quality,

Futuristic Technology and Skill sets

